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PAPER III · VOLUME TWO

MD and DNB psychiatry, theory revision

Speciality Psychiatry

ADHD, Learning and Communication

ADHD and the disorders of learning and communication, in a volume of their own: recognising them, telling them apart, and treating them.

Dr. Wilfred D'souza · Dr. Niharika Reddy

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WEAVE SPRINT · PAPER III

Speciality Psychiatry

THE WEAVE SPRINT SERIES

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First compiled 2026. Free to read, share and print for study.

The clinical content is written for doctors and doctors in training. It is a study and revision aid, not a substitute for current guidelines or clinical judgement. Verify doses and thresholds against the current references and your local protocols before any clinical use.

For every resident who has ever sat up the night before,
afraid it will not be enough.

ACKNOWLEDGEMENT

A word of thanks

I want to begin by thanking something I cannot quite name. Call it whatever you like. I have never been certain what to call it, and I have stopped needing to be. There is a part of this work that does not feel like mine. The line that arrives before I have thought of it, the connection I did not plan, the steadiness on a morning I had no reason to be steady. I only hold the pen. Something moves through the holding, and I have learned to thank it without asking it for a name.

Someone once asked me why I give all of this away. Why hand out the notes I sat up making, to the very people sitting the same exam beside me. It is a fair question. If I had kept them, I would probably have scored a few marks more than the next person, and I might have been thought of as the better student. I have turned that over honestly, and I have decided it is a small thing to want. What I get instead, by putting the work in your hands, is the chance to take a little of the fear out of a great many nights. That trade is not close. Easing that fear is not a detour on the way to becoming a good psychiatrist. It is the thing itself. I did not come here to be the best student in the room. I came here to be a good psychiatrist.

And to Niharika, who reads everything first and knows when to be honest and when to wait; and to the residents who study from these pages and write back with the corrections and the questions: thank you. The book is better for you, and so am I.

Dr. Wilfred D'souza

Foreword

This second volume is given to attention and to what attention problems get confused with. ADHD rarely arrives alone: a child who cannot attend may also be unable to read, or to speak in the way the classroom expects, and the work of the chapter is separating those questions before treating any of them.

The notes were written to be understood, not just revised. Each chapter is a full account of its subject, from the mechanism up to the point the exam tests, so that you can read to learn the first time and read to recall every time after. Where a fact is worth holding exactly, it is marked. Where a mistake is easy to make, it is named before you make it. The colour code on the next pages tells your eye what kind of fact it is looking at before your mind has to decide, and after a few pages it stops being a key you consult and becomes a sense you carry.

Read it in order if you are meeting the material, or open it anywhere if you are returning to it. The contents at the front and the index at the back both jump to the page you want. However you use it, the hope held in these pages is plain: that one ordered, trustworthy place to study from makes the work a little lighter, and that you walk into the hall steadier than you would have otherwise.

HOW TO USE THIS BOOK

The colour memory code

Every note in this volume speaks one visual language, so once you learn it in the first chapter you read the rest without thinking about it.

Concept and rule	The core idea and the principle that follows from it. When a line is petrol, it is the thing to understand, and the thing worth being able to state.
Key number	A figure to hold exactly: a dose, a threshold, a prevalence, a cut-off. Amber means memorise this number, not just the shape of it.
Trap	The mistake the exam is waiting for. When a line is coral, it is warning you off an error that looks right until it costs you the mark.

Hold this is the single line from a topic you must carry out of it. **Good to remember** gathers, for each named thing, what it is, when it matters, and the one number or formula worth keeping. Both help a tired brain find the centre of a dense page fast.

The contents at the front is clickable, and so is the index at the back: every entry jumps to its page. Read to learn once, and to recall as often as you need.

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PART III

III

ADHD and Specific Learning and Communication Disorders

ADHD and the disorders of learning and communication: recognising them, telling them apart, and treating them.

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02 Recognising ADHD: assessment, scales, comorbidity and differential

03 Treating ADHD

04 ADHD beyond childhood and its outcome

05 Specific learning disorder

06 Communication and motor disorders

07 Discriminate, apply and consolidate

PAPER III

ADHD & specific learning/communication disorders

Six bands . one complete notes document

ADHD: the concept, the criteria and the mechanism

1 · The neurodevelopmental frame

Why this chapter matters clinically. A child described as inattentive, restless, struggling at school, difficult to understand, or unable to keep up may be presenting with a disorder, an environmental mismatch, a response to distress, a developmental difference, or more than one of these at once. The useful question is therefore not simply whether a symptom can be recognised. It is whether a coherent developmental pattern is affecting the child's participation in ordinary life, and what evidence is needed before that pattern is named. This chapter provides the framework for approaching attention-deficit/hyperactivity disorder, specific learning disorder, communication disorders and selected motor disorders without turning a referral complaint into a premature conclusion.

These conditions are grouped because they frequently enter clinical care through the same doors: concern from home, a report from school, conflict around work, behavioural escalation, or a child's growing sense of failure. Their mechanisms, diagnostic boundaries and interventions are not interchangeable. A good clinician holds both truths at once: the presenting difficulties need to be understood together, while each possible disorder must be assessed on its own terms. The chapter therefore moves from recognition to assessment, then to management and longer-term planning, while keeping the child's actual functioning at the centre.

Child	Family	School	Clinic
DEVELOPMENTAL CONTEXT	DAILY FUNCTIONING	PARTICIPATION DEMANDS	INTEGRATED FORMULATION

1.1 A shared neurodevelopmental frame

A **neurodevelopmental frame** asks how a child acquires and uses capacities over time, rather than treating each behaviour as a free-standing symptom. Attention, activity regulation, communication, motor coordination and academic skill are expressed in relation to the tasks a child is expected to manage. The same observable difficulty can have a different meaning when the demand changes, when support is added, or when the child moves from a familiar setting to one that makes the weakness more visible. This is why a chapter on these disorders must begin with development and function, not with a checklist.

The frame also protects against a false split between biology and context. A developmental vulnerability does not make family life, teaching conditions, language exposure, sleep, adversity, peer experience, or emotional state irrelevant. Conversely, the presence of contextual stress does not by itself explain away a persistent developmental difficulty. Clinical work is the disciplined

task of deciding which influences are central, which are amplifiers, and which are consequences of the child's struggle. A child who is repeatedly corrected, excluded, or unable to demonstrate competence may understandably become anxious, angry, avoidant or demoralised. Those reactions deserve care, but they should not obscure the developmental question that brought the child to attention.

A **developmental expectation** is therefore a clinical comparator, not a demand for uniformity. Children develop unevenly. Strength in one area does not cancel a marked problem in another, and a difficulty does not define the whole child. The clinician looks for a pattern that has enough persistence, breadth and consequence to require explanation. The formal diagnostic discussion later in the chapter supplies the criteria for particular disorders. The orientation point is more basic: diagnosis is an act of pattern recognition constrained by evidence, not a label attached to inconvenience.

RULE **Start with development in context, then decide whether a disorder best explains the pattern.** The referral label is a hypothesis. It becomes clinically useful only after the child's capacities, demands, supports and impairment have been considered together.

1.2 From complaint to clinical question

Referral language is usually compressed. "Not listening," "poor concentration," "slow work," "bad handwriting," "talks too much," "does not speak clearly," or "cannot sit" are observations made by an adult under pressure. They are worth taking seriously, but none is a diagnosis. Each must be translated into a clinical question: What exactly happens? In which tasks? What precedes it? What follows it? What can the child do when the task, setting, support or motivation changes? This translation prevents the clinic from inheriting the assumptions already embedded in a referral.

The key distinction is between a behaviour and a **functional impairment**. Behaviour is what another person sees. Impairment concerns what the child cannot reliably do, participate in, learn, communicate, organise, or sustain in the situations that matter. A child may be conspicuous yet functioning adequately, or quiet yet carrying a substantial burden that is visible only in lost learning, exhausted family routines, social withdrawal, or a fragile sense of competence. Asking about function makes assessment fairer to both children: the child whose activity is disruptive and the child whose difficulty is hidden because it causes little trouble for adults.

Clinical questions should also distinguish capacity from performance. A child may understand an instruction but fail to hold it in mind long enough to act on it. Another may remain engaged but lack the academic skill the task assumes. Another may have the skill but become overwhelmed by language, motor demands, anxiety, sensory discomfort, conflict, or fear of error. The chapter's later sections sort these possibilities systematically. At orientation, the discipline is to resist collapsing all failed performance into a single explanatory category.

- Describe the behaviour before interpreting its cause.
- Identify the task and demand in which the difficulty becomes visible.

- Ask what the difficulty costs the child in participation and relationships.

CLINICAL QUESTION	PURPOSE	WHAT MAY CHANGE THE INTERPRETATION
What is the observed difficulty?	Separates description from explanation.	The task, the adult response and the child's own account.
Where does it occur?	Locates the demand on the child.	Structure, language, pace, familiarity and available support.
What is the functional cost?	Establishes why the concern matters clinically.	Participation, learning, relationships and self-concept.
When does performance improve?	Identifies strengths and possible supports.	Interest, reduced load, clearer communication or adapted expectations.

GOOD TO REMEMBER

The stated referral problem and the clinical target are often different. A family may seek help for disruptive evenings, while the most useful formulation concerns an unrecognised learning or communication burden that makes each school-related demand a conflict.

1.3 The logic of cross-setting formulation

A **cross-setting formulation** asks whether a difficulty is present across the child's life and, if it is not, what the pattern of variation means. Home and school are not duplicate testing sites. They make different demands, provide different structure, reward different behaviours and tolerate different levels of support. A child can appear settled in one setting because an adult has quietly adapted the environment, because the task is intrinsically engaging, or because the child has withdrawn from challenge. A difficulty that is most apparent in a particular setting is not thereby unreal. It may tell the clinician where demands and vulnerabilities meet.

This is the reason collateral information is indispensable. The caregiver sees routines, transitions, play, sleep-related strain and the emotional aftermath of demanding days. School staff see sustained group demands, pace, written work, peer comparison and the supports already being improvised. The child can describe effort, embarrassment, boredom, worry, confusion, unfairness and the private strategies used to cope. Each account is partial. The clinician's job is not to award one informant the status of truth, but to integrate accounts into an explanation that can survive contact with the child's everyday life.

An **informant discrepancy** is often data rather than noise. If adults disagree, explore the conditions under which they observe the child. The disagreement may reveal a highly structured classroom, a home routine with little academic load, a language mismatch, different thresholds for concern, or a relational pattern that changes behaviour. It can also reveal that an adult has seen a meaningful change over time while another is describing a longer baseline. Prematurely averaging such accounts destroys the very clinical information that makes formulation possible.

PITFALL

Do not convert a school report into a diagnostic verdict. Educational observations are essential evidence, but they are observations made within a particular curriculum, classroom culture and set of available supports. They need to be placed alongside history, direct clinical work and the child's own account.

1.4 ADHD within the chapter's map

ADHD is approached here as a developmental disorder of regulation whose diagnosis requires more than recognising a lively child or a poor worker. The diagnostic section addresses the formal structure of the diagnosis. The clinical-features section gives the lived expression of its core symptom domains. Epidemiology, sex differences, mechanisms and neurobiology are then considered separately so that the reader does not mistake a statistical association or a mechanistic model for a diagnostic criterion.

This separation is deliberate. In practice, attentional and behavioural complaints commonly travel with other difficulties. A child may have problems with academic acquisition, language, mood, anxiety, sleep, behaviour, tics, family stress or school fit. Sometimes these are concurrent conditions; sometimes they are competing explanations; sometimes they are consequences of repeated failure. The assessment and differential sections show how to sort this without treating every overlap as proof of comorbidity. Management follows only after that work, because an intervention should be matched to the formulation rather than to the loudest symptom.

The reader should keep an **ecological formulation** in view. It links the child's regulatory style to actual environments: an unstructured transition, a long verbal instruction, independent written work, a crowded classroom, an inconsistent routine, or a conflictual homework interaction. This does not reduce ADHD to an environmental problem. It ensures that clinical recommendations alter the conditions in which impairment occurs, instead of relying solely on exhorting the child to try harder. Medication, behavioural support, parent work, school intervention and psychosocial care each have a place only when they address a defined part of the formulation.

TRAP **Do not diagnose ADHD from a complaint of poor attention alone.** Attention can be disrupted by many developmental, emotional, medical, educational and relational processes. The clinical task is to establish the full pattern and then test alternatives, not to rename a common complaint.

1.5 Why learning, communication and motor concerns sit beside ADHD

Academic underperformance can be the consequence of difficulty regulating attention and effort, but it can also arise because a child has not acquired a particular academic skill in the expected way. This distinction matters because a child who repeatedly fails at a task may look inattentive, avoidant or oppositional even when the primary obstacle lies in learning. Conversely, a child with ADHD may underperform inconsistently despite having the relevant skill. The chapter later defines and assesses specific learning disorder, while the discrimination section brings the relevant possibilities into direct comparison. At this stage, the clinician should retain the question rather than force an early choice.

Communication difficulties can similarly alter the apparent meaning of behaviour. A child who cannot efficiently understand, formulate or express language may disengage from verbal teaching, respond slowly, interrupt, rely on action rather than words, or become distressed during rapid social exchanges. Motor coordination difficulties may make written tasks, self-care routines, games or classroom production disproportionately effortful. The communication and motor sections describe these disorders in their own right. In an initial formulation, their importance is that they can shape performance, self-esteem, relationships and behavioural presentation.

This is not an argument for indiscriminate diagnostic multiplication. It is an argument for **diagnostic humility**. A clinician should be able to say what is known, what remains to be clarified, what needs collateral evidence, and what support is justified even before every boundary question is settled. Children do not need to wait for conceptual perfection before adults reduce avoidable strain. At the same time, an accommodation should not be used as a substitute for careful assessment when persistent impairment needs explanation.

- Consider whether the task is exposing a regulation difficulty, a skill deficit, a communication barrier, a motor burden, or a combination.
- Ask whether avoidance is protective behaviour in the face of repeated failure.
- Separate immediate support needs from the longer diagnostic enquiry.

1.6 The child as participant, not a collection of deficits

Good developmental psychiatry does not ask only what is wrong. It asks where the child can participate, who understands the child well, what the child enjoys, what supports already work, and how the current difficulty has affected identity. A **strengths-based formulation** is not a reassuring add-on. It improves diagnostic accuracy because it shows the conditions under which abilities emerge. It also changes management: a plan that ignores interests, relationships and existing competence is unlikely to be sustained.

Listen directly to the child whenever communication and developmental level allow. Adults often report observable disruption more readily than internal experience. The child may describe constant effort to keep up, shame about reading aloud, fear of being called on, exhaustion after school, anger at being misunderstood, or relief when a particular adult gives help without humiliation. Such accounts do not independently establish a diagnosis, but they reveal the burden of impairment and the meaning of interventions. They also protect against plans designed for adult convenience that worsen the child's exclusion.

Family work begins with explanation, not blame. Caregivers may be exhausted, divided about what is happening, worried about labels, or understandably sceptical after receiving conflicting advice. Teachers may feel they have already tried every practical adjustment available to them. The clinician's role is to replace moral language with a shared working model: identify the difficulty, identify the demand, identify the support, and review what changes. This preserves accountability without implying that the child's struggle is wilful or that adults caused it by insufficient effort.

IN INDIA

School information may come from settings that differ markedly in teaching language, class routines, resources, assessment style and access to remedial support. Ask what the child is being asked to do in that particular school before treating academic performance as a stable measure of ability. A useful plan must be intelligible to caregivers and feasible for the educational setting, not merely ideal on paper.

1.7 Working across systems without losing the formulation

These disorders sit at the boundary of home, school and health care. Each system has a legitimate concern, but each also sees a different slice of the problem. The clinic must avoid becoming an isolated site that issues labels without understanding the child's day-to-day ecology. Equally, it must not hand all responsibility back to school or family with vague advice to be more patient. A useful **longitudinal formulation** is revised as the child's demands, supports and difficulties change. It records not simply what diagnosis was considered, but why the current explanation remains the best fit.

Coordination is most helpful when recommendations are concrete and linked to a stated functional problem. "Support attention" is too vague to guide anyone. A better plan identifies the demand that breaks down, the environmental modification or skill support being tried, the adult who can implement it, and the sign that it is helping. Later sections of the chapter give disorder-specific approaches. The orienting principle is that recommendations should be testable in ordinary life. If they cannot be implemented or reviewed, they are not yet a clinical plan.

The same principle applies to referral. Speech and language input, educational assessment, occupational support, paediatric review, psychological intervention or specialist psychiatric management may each be appropriate depending on the formulation. Referral should answer a question, not merely distribute responsibility. The broader assessment battery and service approach are set out in the Child psychiatry: assessment, treatment, services and protection notes. Developmental history should be interpreted alongside the Normal child development and milestones notes, while conditions that lie outside this chapter's main focus are addressed in the Child behavioural, emotional and other disorders notes and the Intellectual disability and autism spectrum disorder notes.

1.8 A practical route through the chapter

Use the chapter in the order a careful assessment unfolds. Begin with the concept and diagnostic boundaries of ADHD, then learn the clinical pattern well enough to recognise it without overcalling it. Move next to comprehensive assessment, rating scales, co-occurring conditions and differential diagnosis. Treatment sections should then be read as components of a formulation-led plan rather than as an isolated drug list or a menu of generic advice. The later discussion of adolescence, adulthood and outcomes keeps the initial consultation connected to the child's future functioning.

The specific learning disorder material follows the same logic: definition before assessment, assessment before remediation, and educational provisions after the clinical basis is clear.

Communication and motor disorders require the same restraint. Learn the boundaries of each disorder, then ask how that disorder changes a child's participation and what intervention is realistic. The closing discrimination and vignette material is intended to consolidate clinical reasoning, not to reward pattern matching based on a few memorable clues.

MNEMONIC

MAP: Meaning, Across settings, Participation

Use **M**eaning to translate a complaint into a clinical question; ask what is seen **A**cross settings and why it varies; then judge the effect on **P**articipation. MAP is a guardrail against both premature diagnosis and dismissing a child whose difficulty is real but quiet.

Formulate the child in context before naming the disorder, and let the diagnosis lead to support that changes participation.

2 · Diagnostic criteria of ADHD (DSM-5 presentations, ICD-11 hyperkinetic disorder)

Why the criteria matter. Attention-deficit/hyperactivity disorder is not diagnosed by recognising a lively child, a poorly organised student, or an adult who reports distractibility. The diagnostic task is to decide whether a developmentally inappropriate pattern has persisted, is evident beyond a single relationship or environment, produces impairment, and is not better accounted for by another condition. The criteria make that judgment reproducible. They also protect against the opposite errors of dismissing clinically important inattention because overt overactivity is absent, and labelling a situational response as a neurodevelopmental disorder.

For the postgraduate candidate, ADHD criteria are best learnt as a sequence rather than as a loose symptom list: establish the relevant symptom pattern, establish persistence, establish developmental onset, establish pervasiveness, establish impairment, and then consider exclusionary explanations. The symptom descriptions themselves are discussed with the core clinical features. This section concerns the diagnostic architecture: what must be shown before the label is applied, how the current **presentation** is specified, and why the older term **hyperkinetic disorder** should not be used as though it were simply a synonym.

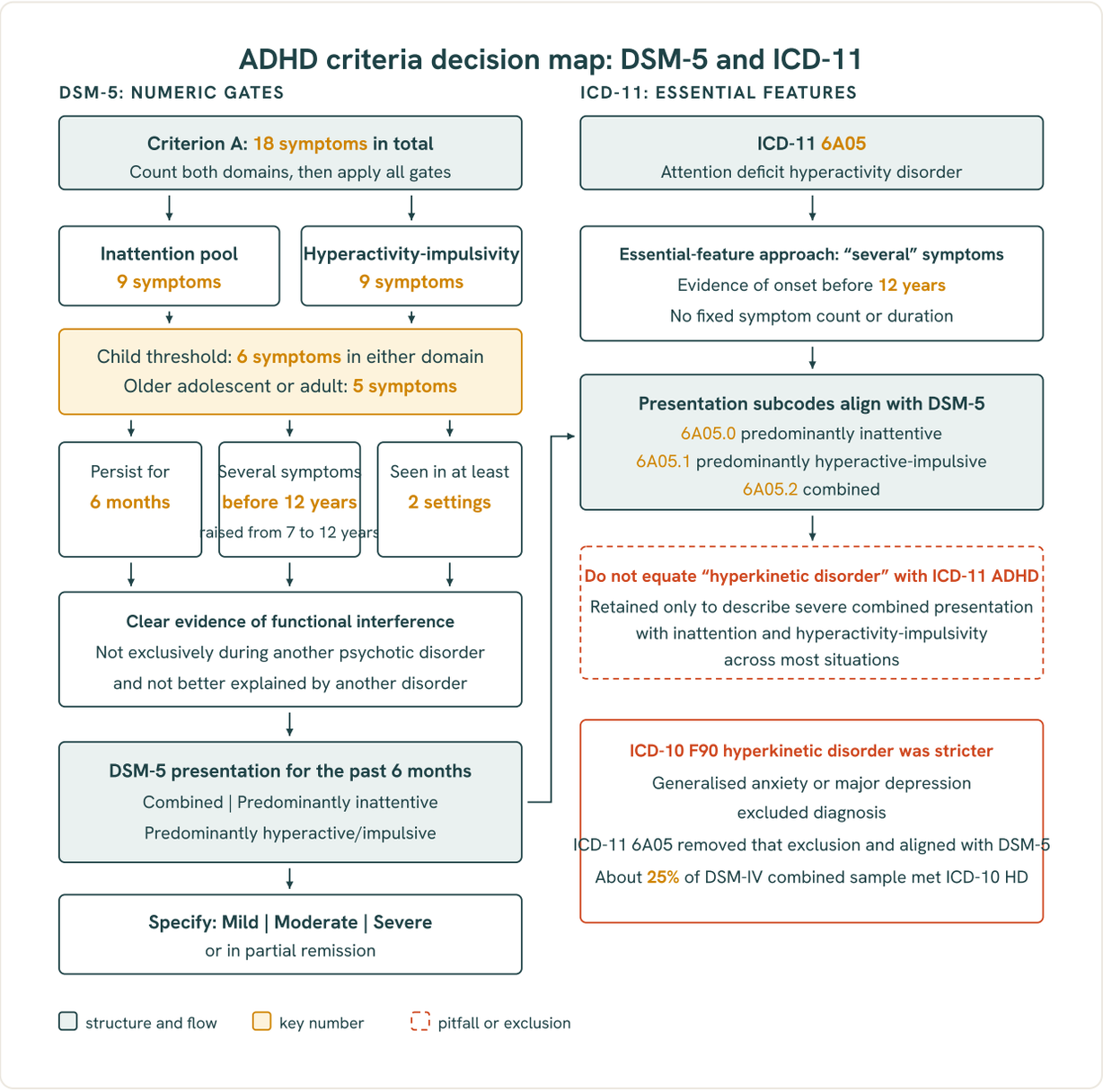


Fig 22.1. DSM-5 ADHD presentation thresholds and gates contrasted with ICD-11 ADHD essential features and the narrower ICD-10 hyperkinetic-disorder legacy.

2.1 The diagnostic task: pattern plus consequence

ADHD diagnosis begins with a pattern of symptoms drawn from the inattention list and the hyperactivity-impulsivity list. Neither list is a personality inventory. Each item has to represent a behaviour that is persistent, clinically meaningful, and incongruent with the person's developmental level. A symptom count without clinical interpretation is therefore insufficient. Conversely, a persuasive clinical narrative cannot substitute for the required structure of the criteria.

The two lists are deliberately balanced in their construction. The inattention list contains 9 symptoms, and the hyperactivity-impulsivity list contains 9 symptoms. Together they make up the full diagnostic set of 18 symptoms. This matters because the clinician should ask separately about each domain rather than use a global impression such as "attention problems" or "overactive behaviour". A person may meet the required pattern through one domain, or through both; the later presentation specifier communicates that distribution.

9	9	6	5
INATTENTION ITEMS	HYPERACTIVITY-IMPULSIVITY ITEMS	CHILDHOOD THRESHOLD	OLDER-AGE THRESHOLD

In children, the threshold is **at least 6 symptoms** from the inattention list when that domain is being met, and at least 6 symptoms from the hyperactivity-impulsivity list when that domain is being met. For older adolescents and adults, the threshold in either relevant domain is at least 5 symptoms. The change acknowledges that the same disorder need not appear as a childhood-level tally of overt behaviours throughout later life. It does not mean that a lower count alone establishes the diagnosis. The other diagnostic requirements retain their force.

RULE **ADHD is diagnosed from a structured pattern of symptoms with demonstrable developmental and functional significance, not from a single striking behaviour.** The count opens the diagnostic question; persistence, onset, setting and impairment determine whether the threshold has clinical meaning.

There is a useful discipline in recording the evidence alongside each domain. State which symptoms are supported, where they occur, who observed them, and how they interfere with the person's responsibilities or relationships. This makes the formulation auditable and prevents an apparently precise number from concealing vague evidence. It also leaves room for a later review if the pattern changes, collateral information changes the picture, or another disorder proves to be the better explanation.

- Separate the evidence for the inattention domain from the evidence for the hyperactivity-impulsivity domain.
- Record concrete examples rather than relying on a global adjective such as "careless" or "restless".
- Identify the settings in which the pattern is evident and the functional consequence in each.
- State any competing explanation that remains clinically plausible and why it is or is not primary.

2.2 Persistence and developmental appropriateness

The symptom pattern must have persisted for **at least 6 months**. This requirement distinguishes an enduring pattern from a transient deterioration during a stressful school term, a disrupted home environment, a medical illness, or an episode of another mental disorder. Duration is not a clerical detail. It asks whether the behaviour has acquired the stability expected of a disorder rather than remaining an understandable response to circumstances.

Persistence must be read together with developmental appropriateness. A behaviour can be inconvenient to adults and still be ordinary for a particular developmental stage. The clinical question is whether the frequency, intensity, and consequences are out of keeping with what is expected for that individual's developmental level. The question is comparative, but it is not a demand for a false precision. The resident should integrate the developmental history with reports from daily settings and avoid treating a single complaint as evidence of pervasive

pathology. The Normal child development and milestones notes provide the wider developmental frame needed for that comparison.

This criterion is also a guard against retrospective simplification. A family may recall a recent escalation more readily than a long-standing, lower-grade pattern. Conversely, a current crisis may make every past act of restlessness seem diagnostic. The appropriate approach is to reconstruct the course carefully, ask for concrete examples from earlier periods, and separate chronic traits from changes in intensity. The criteria require persistence of symptoms, but clinical reasoning must still decide whether the account is coherent and whether the behaviours have the same meaning across contexts.

TRAP **Do not convert a period of poor concentration into ADHD merely because it has lasted for the minimum duration.** The duration criterion confirms persistence; it does not establish developmental inappropriateness, pervasiveness, impairment, or diagnostic primacy.

In practice, this distinction is especially important when school demands have changed or when conflict, sleep disruption, emotional distress, substance use, or illness has altered functioning. Such factors may coexist with ADHD, amplify its expression, or account for the presentation altogether. They should be explored as explanations, not treated as inconvenient exceptions to a symptom tally. The full child psychiatric assessment battery and services are set out in the Child psychiatry: assessment, treatment, services and protection notes.

2.3 Developmental onset

The criteria require that several inattentive or hyperactive-impulsive symptoms were present before **12 years**. The wording is important. It does not require a complete diagnosis before that point, nor does it require that the disorder was recognised at the time. It requires credible evidence that several relevant symptoms had already emerged in the developmental period. This distinction is clinically useful because many people reach assessment only after educational, occupational, or relational demands reveal the functional cost of a long-standing vulnerability.

Developmental onset is a test of continuity, not a demand for perfect recall. Retrospective reports may be incomplete, coloured by current distress, or limited by absent records. A careful clinician therefore looks for convergence: the person's account, family recollection, old school comments where available, and a developmental narrative that makes sense across settings. If the evidence is weak, the uncertainty should be acknowledged rather than covered by a confident label. The criterion is designed to preserve the neurodevelopmental identity of ADHD while allowing the ordinary reality that recognition can be delayed.

The present onset requirement is a broader developmental threshold than the earlier DSM formulation. It should not be misread as permission to dispense with developmental evidence. The criterion still asks whether the history supports symptoms in the developmental period, rather than whether current impairment can be given a retrospective label.

Do not mistake later impairment for later onset. A person may have managed adequately while demands were modest and then struggle when independent organisation, sustained work, or

complex role responsibilities increase. That change in visibility can be real without implying that the underlying symptoms began only then. At the same time, a genuinely new attentional syndrome requires a broader search for psychiatric, medical, sleep-related, substance-related, and situational explanations. The diagnosis should follow the developmental history, not rescue an attractive explanation for a recent decline.

GOOD TO REMEMBER

When evidence from the early developmental period is uncertain, document both the supporting history and its limits. Diagnostic confidence should track the quality of the onset evidence rather than the examiner's wish to make the record look decisive.

2.4 Pervasiveness, impairment and exclusion

Symptoms must be present in **at least 2 settings**. This is the **pervasiveness** requirement. It prevents the diagnosis from being based solely on a conflictual classroom, an unstructured workplace, one difficult relationship, or one setting whose demands are mismatched to the person. The settings need not be identical in their demands or in the exact behaviour they reveal. What matters is that the underlying pattern is evident beyond a single local explanation.

Pervasiveness is not a mechanical search for the same symptom in every place. Different environments expose different demands on attention, activity regulation and impulse control. A quiet child may struggle most when tasks require sustained self-organisation; another may show overt difficulty chiefly where waiting, turn-taking, or behavioural restraint is required. The clinician's task is to identify whether these observations cohere as manifestations of the same pattern, while remaining alert to setting-specific stressors that explain them better.

There must also be clear evidence that symptoms interfere with, or reduce the quality of, social, academic, or occupational functioning. This is the **functional impairment** requirement. The diagnosis is not a reward for endorsing enough familiar behaviours. It is a clinical conclusion that the pattern matters in the person's life. Impairment may involve underachievement, missed responsibilities, relationship strain, unsafe impulsive acts, or a disproportionate effort required to maintain ordinary functioning. The precise form of impairment varies with age, role and environmental support.

Finally, the presentation must not occur exclusively during a psychotic disorder and must not be better explained by another mental disorder. This exclusion requirement obliges the clinician to consider whether the apparent ADHD symptoms belong instead to an alternative syndrome, or whether they are secondary to another disorder. It does not turn differential diagnosis into a ritual list. The central question is explanatory priority: does ADHD best account for the enduring, cross-situational developmental pattern and its impairment? The differential diagnosis of ADHD is addressed in the later differential section of this chapter.

PITFALL

School difficulty alone is not proof of pervasiveness or impairment due to ADHD. The clinical error is to let one setting define the disorder before asking whether the pattern is present elsewhere and whether another explanation better accounts for the difficulty.

2.5 Presentations, severity and course language

DSM uses the term presentation rather than a fixed subtype because the balance of symptoms can change over time. The recognised presentations are **combined, predominantly inattentive, and predominantly hyperactive/impulsive**. The current presentation is determined by which symptom-domain requirements have been met over the recent period. This terminology is clinically preferable to implying that each person has an immutable biological category. It describes the current configuration of the diagnostic evidence, while the underlying developmental history may be broader and more changeable.

The combined presentation is used when the requirements are met in both domains. Predominantly inattentive presentation is used when the inattention requirement is met but the hyperactivity-impulsivity requirement is not, and the converse applies to predominantly hyperactive/impulsive presentation. The labels should not be used to infer personality, intelligence, prognosis, family functioning, or treatment response. They are descriptive specifiers, not complete formulations. The lived phenomenology of the symptom domains belongs to the clinical-features section of this chapter.

Current severity is specified as **mild, moderate, or severe**. Severity should communicate the burden represented by the symptom load, the intensity of symptoms, and the degree of functional impairment. It is not a substitute for a formulation and should never obscure a major environmental stressor, coexisting condition, or protective support. The criteria also permit the course description of partial remission when the full current requirements are no longer met but clinically relevant difficulties remain. Such language helps the record explain the current state without erasing the earlier course.

MNEMONIC

Pattern - Persistence - Past - Places - Performance - Primary explanation

Use this as a recall spine for the criteria: identify the symptom pattern, confirm persistence, establish developmental onset, demonstrate more than one setting, show functional consequence, and consider whether another disorder is the primary explanation.

ADHD requires a developmentally inappropriate, persistent symptom pattern with developmental onset, cross-setting evidence, functional impairment, and no better explanation.

2.6 ICD-11 ADHD and the meaning of hyperkinetic disorder

In ICD-11, attention deficit hyperactivity disorder is coded 6A05 and sits within neurodevelopmental disorders. Its clinical organisation aligns closely with the presentation-based approach: 6A05.0 denotes predominantly inattentive presentation, 6A05.1 predominantly hyperactive-impulsive presentation, and 6A05.2 combined presentation. The shared language helps when records move between classification systems, but the diagnostic descriptions should not be assumed to be word-for-word interchangeable.

CLINICAL QUESTION	DSM APPROACH	ICD-11 APPROACH
Symptom threshold	Uses a specified count from each listed domain.	Uses several symptoms rather than a fixed tally.
Duration	Requires a stated period of persistence.	Describes essential features without a fixed duration rule.
Developmental onset	Uses a stated developmental threshold.	Seeks evidence of significant symptoms before the same developmental threshold.
Presentation language	Specifies the current presentation.	Uses corresponding clinical-presentation specifiers.
Hyperkinetic disorder	Does not use it as the principal category.	Reserves it as a descriptor for a more severe combined pattern.

The important difference is that ICD-11 describes essential features rather than applying the DSM machinery of a fixed symptom count and stated duration. The **essential-features approach** requires clinical judgment rather than arithmetic substitution. Nevertheless, ICD-11 asks for evidence of significant symptoms before 12 years. A clinician should therefore avoid the simplistic claim that one system is merely "strict" and the other merely "loose". They organise the evidence differently, while both require a developmental, impairing and pervasive pattern.

Within ICD-11, hyperkinetic disorder is retained to describe a severe combined presentation, with marked inattention and hyperactivity-impulsivity evident across most situations. It is not the primary name for the whole category. This distinction is clinically and examination-relevant: calling every person with ADHD "hyperkinetic" imports an older and narrower clinical image, particularly when overt motor activity is not the dominant current presentation.

IN INDIA

When preparing a clinical record, referral letter, or certification-related document, state the classification system being used and write the full diagnostic formulation rather than relying on a legacy label alone. This reduces ambiguity when services, schools, and clinicians use different diagnostic vocabularies.

2.7 The older ICD-10 category: why the distinction persists

The historical ICD-10 category of **hyperkinetic disorder**, coded F90, was more restrictive than the current ICD-11 ADHD category. It excluded the diagnosis when generalised anxiety or major depression was present. ICD-11 removed that exclusion and brought its category closer to the

DSM approach. The practical lesson is not that comorbidity should be assumed, but that the presence of another disorder does not automatically settle the question against ADHD. Each syndrome must be evaluated on its own evidence and explanatory value.

The earlier stringency had visible consequences. In a comparison of children meeting the combined ADHD pattern, only **about 25%** also met the ICD-10 hyperkinetic-disorder threshold. This figure should be used as an illustration of diagnostic narrowness, not as a prevalence estimate and not as a shortcut for individual diagnosis. It explains why older literature, older records, and older teaching may appear to describe a more uniformly severe and overtly hyperactive group than current ADHD classifications do.

For a resident, the safe wording is precise: ICD-11 names the overall category attention deficit hyperactivity disorder; hyperkinetic disorder denotes a severe combined pattern within that framework; and the former ICD-10 category was narrower. This protects the reader from treating nomenclature as mere semantics. Classification language changes the threshold for whom a service identifies, the populations represented in older studies, and the continuity of a person's clinical record.

3 · Clinical features and core symptom domains

The clinical task is to recognise a pattern, not to count a collection of irritating behaviours. Attention-deficit/hyperactivity disorder is expressed through **three** interacting symptom domains: **inattention**, **hyperactivity** and **impulsivity**. They are useful clinical lenses rather than labels to be applied to any child who is busy, forgetful, or impatient. The marks lie in recognising how these domains work together in everyday activity. The formal diagnostic framework addresses threshold questions. This section addresses the lived picture: what the domains look like, how they change in their outward form, and why a brief apparently reassuring encounter can mislead.

The domains often travel together, but they should be described separately before they are assembled into a formulation. That discipline prevents a familiar error: calling every difficulty with schoolwork "poor attention", or calling every interruption "hyperactivity". A careful phenomenological account makes the later diagnostic judgement more defensible and gives parents and teachers language for observations that otherwise seem unrelated.

Inattention	Hyperactivity	Impulsivity
ENGAGEMENT AND ORGANISATION	ACTIVITY REGULATION	PAUSE BEFORE ACTION

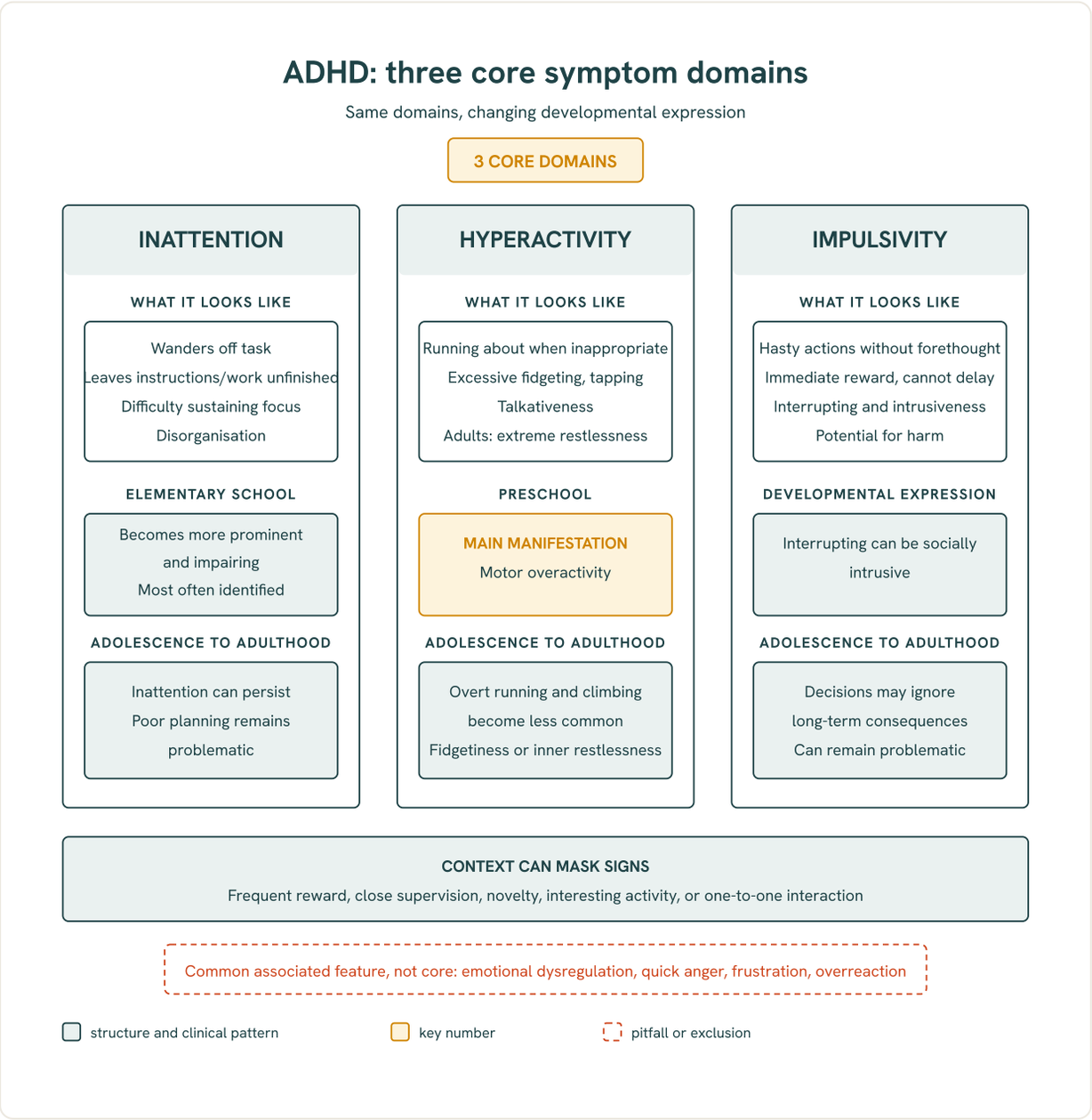


Fig 22.2. ADHD has three core symptom domains whose observable expression changes from preschool through adulthood.

3.1 The clinical architecture of the symptom domains

The domains overlap in ordinary life because a person must sustain attention, regulate activity, and pause before responding during the same task. A child who leaves a written exercise unfinished may have lost the task set, been pulled away by an attractive stimulus, become restless while seated, or answered before reading the instruction. The surface event is one event; the clinical work is to identify the process that repeatedly produces it. This is why a useful history preserves sequence and context instead of accepting an umbrella description such as “does not study”.

Phenomenology means staying close to the observable pattern and to the person's experience of it. It asks what occurs just before the task is abandoned, what happens while demands are sustained, and what follows an interruption or rash response. It does not require a moral explanation. In particular, the central symptoms should not be translated into laziness, poor

upbringing, or deliberate opposition. Such translations close enquiry prematurely and make the informant defend either the child or the family rather than describe the difficulty.

The distinction between activity and impulse is especially useful. Hyperactivity concerns the regulation of movement and verbal output. Impulsivity concerns the failure to insert a sufficient pause between urge and action. A person may be physically restless yet wait appropriately, or may sit quietly while repeatedly blurting, intruding, buying, deciding, or acting before considering the likely result. Clinically, the domains remain separable and can have different consequences and examples.

RULE **Describe the domain first, then infer its effect.** A behaviour becomes clinically informative when it is linked to the attentional, activity-regulation, or response-inhibition process that repeatedly precedes it.

This formulation also protects against circular reasoning. “He cannot complete work because he has ADHD” is not a description. It merely repeats the conclusion in another form. “He begins work, drifts from it, misses parts of the instruction, and has difficulty organising the steps needed to return” is a clinical description. The latter allows competing explanations to be considered later without making this section into a differential-diagnosis exercise.

3.2 Inattention: failure to keep the task online

Inattention is not simply an absence of attention. It is a difficulty in regulating attention in relation to a task, especially when the task demands sustained engagement, orderly follow-through, and retention of its goal. The person may begin with genuine intention and adequate comprehension, yet **wander off task**, lose the thread of what is being done, or shift to a more immediately available stimulus. The result may be mistaken for lack of effort because the work is visibly incomplete, even though the difficulty arose while trying to maintain the task rather than from a decision to refuse it.

The ordinary presentation can include **disorganisation**: misplaced materials, an unclear sequence of work, trouble keeping track of multiple instructions, or a chaotic transition between activities. It can also include a pattern of initiating work but failing to follow through. The important clinical distinction is that the person may understand the instruction and wish to comply, yet not maintain the task sufficiently to complete it. This is different from a strategic refusal, and it is different from not understanding what has been asked.

- Difficulty sustaining focus can leave an otherwise ordinary task only partly processed.
- Following an instruction may break down at the stage of carrying it through, rather than at the stage of hearing it.
- Work may be left unfinished after the person has moved away from the original task.

At the desk, this domain is often visible in the pathway rather than the final product. A notebook with gaps tells little by itself. Ask whether the child loses place while copying, starts before the full instruction is heard, repeatedly requires redirection, abandons one component for another, or cannot reconstruct where the task was left. The same pathway can appear outside academic work:

routine preparation, household responsibilities, conversation, and paperwork all require a goal to remain active while distractions compete.

GOOD TO REMEMBER

"Can focus on preferred activities" does not by itself negate an inattentive presentation. The useful question is how reliably attention is regulated when a task is repetitive, delayed in reward, or requires self-organisation.

Inattention should therefore be recorded in action language: loses track, does not return, omits a step, needs the task restated, or cannot organise the next move. This makes the account falsifiable. It also avoids collapsing a symptom domain into an academic outcome. Academic difficulty may be the consequence that brings the family to care, but the clinical domain is the repeated difficulty in sustaining and directing attention.

3.3 Hyperactivity: activity out of proportion to the setting

Hyperactivity involves **movement that is excessive for the setting**. Its significance lies in the mismatch between activity and context, not in whether a child is energetic or enjoys play. It may be expressed through running about when remaining nearby is expected, leaving a place repeatedly, conspicuous fidgeting, tapping, or a level of talking that disrupts the shared activity. The clinical description should specify what was expected in that setting and why the observed activity was difficult to regulate.

Movement may be small and continuous rather than dramatic. Feet may move beneath a desk, hands may tap or manipulate objects, and speech may fill pauses that others can tolerate. Such behaviour is easily dismissed as a habit if its cost is not explored. The relevant questions are whether it repeatedly disrupts work, disturbs others, makes waiting difficult, or continues despite a clear environmental cue to settle. The same person may appear calm in a stimulating or closely structured interaction and much less regulated when independent stillness is required.

It is useful to separate the observation from its social interpretation. "Running around" is an observation. "Naughty" is an interpretation. The first can be placed beside other data and tested against setting. The second is often a frustrated adult's shorthand, and it may obscure both the child's difficulty and the demands that provoke it. A respectful account also asks the person what the body state feels like, rather than assuming that outward movement is chosen for attention or disruption.

TRAP **Do not equate high energy with hyperactivity.** The symptom is dysregulated activity in a situation where that degree of movement is inappropriate, not a temperament judgement about an active child.

With development, the external form can become less obvious. The clinician should not require running or climbing in order to recognise the activity domain. In later developmental periods, overt activity may become **fidgetiness** or an internal experience of restlessness and impatience.

The change in form matters because informants often report that the person has "grown out of hyperactivity" when the visible expression has simply become more contained.

3.4 Impulsivity: action before adequate forethought

Impulsivity refers to **acting before enough thought has been given** to the situation. The central problem is not merely speed. It is a reduced capacity to pause long enough to consider information, social boundaries, likely consequences, or the possibility of waiting. The action may be minor and frequent, such as interrupting before another person has finished. It may also carry greater risk when a decision is made without allowing long-term consequences to influence the immediate response.

A useful formulation distinguishes impulse from intention. A child who calls out may genuinely know the answer and genuinely want to participate; the difficulty is waiting for the appropriate turn. A young person who agrees, spends, leaves, or reacts quickly may later recognise the consequence clearly; the difficulty was insufficient delay at the point of decision. This is why retrospective remorse does not exclude impulsivity. It may instead reveal the gap between what the person values after the event and what could be brought to bear in the moment.

- Interrupting can express social intrusiveness rather than simple enthusiasm.
- A strong pull toward immediate reward can make delay difficult to tolerate.
- Actions taken without adequate forethought may create potential for harm.

Why it matters clinically. Impulsivity often creates the most visible interpersonal consequences because it enters other people's space: it cuts across conversation, queues, shared rules, and family routines. Yet it should not be reduced to rudeness. The clinical account asks what the person did, what opportunity there was to pause, what consequence was foreseeable, and whether the same rapid-response pattern appears elsewhere. This preserves accountability without treating the symptom as a character defect.

MNEMONIC

Focus - Activity - Response

Use this simple spine when eliciting the domains: how the person keeps **focus** on a task, regulates **activity** to the setting, and pauses before a **response**.

3.5 Development changes the form, not the need for description

Symptom domains must be read through developmental demands. In the preschool period, the activity domain is usually the most conspicuous feature. This is clinically awkward because active movement is also common in ordinary early development. The task is therefore not to pathologise exuberance, but to notice whether activity is persistently difficult to contain when the setting requires containment and whether it creates a recurring burden for the child or those around the child.

As school demands become more sustained and organised, the inattentive domain comes to the foreground and creates clearer difficulty, and ADHD is often identified during the elementary-

school period. The developmental shift is intelligible: a setting that requires listening through instructions, maintaining place in work, organising materials, and completing sequences exposes failures of task regulation more clearly than a setting built around brief, adult-led activity. The change is not proof that inattention suddenly began. It may be that the demand has made an existing vulnerability visible.

DEVELOPMENTAL CONTEXT	CLINICAL EMPHASIS	HOW TO HEAR THE ACCOUNT
Preschool	Activity is the feature most likely to stand out.	Ask whether movement can be regulated when regulation is expected.
Elementary school	Difficulties in sustaining and organising attention become clearer.	Trace the pathway from instruction to completed work.
Adolescence	The large visible forms of activity recede.	Ask about fidgetiness, restlessness, impatience, and rash responding.

In adolescence, obvious running or climbing becomes less common and activity may be confined to fidgetiness or an **inner feeling of restlessness**. This is a change in presentation, not a licence to stop asking about the activity domain. The clinician should use the informant's developmental language rather than forcing childhood examples onto a person whose difficulty is now experienced more privately.

IN INDIA

In an Indian clinical record, preserve an everyday phrase such as “does not sit”, “forgets instructions”, or “answers without waiting”, then translate it into an observed sequence before attaching a symptom-domain label. This prevents a culturally familiar complaint from being mistaken for a complete clinical formulation.

3.6 Context dependence: why the consultation may look deceptively calm

Context-dependent expression is a central clinical fact. Signs may be minimal or absent when there is frequent reward, close supervision, novelty, an especially interesting activity, or a **one-to-one** interaction. This is not inconsistency in the pejorative sense. It shows that external structure, immediate reinforcement, and intrinsic engagement can temporarily carry regulatory work that the person struggles to sustain alone.

Office observation must therefore be interpreted modestly. A brief interaction is novel, adult-led, and often personally engaging. It may provide rapid feedback and a clear structure. A child who sits appropriately during it has demonstrated that regulation is possible under those conditions; the observation does not settle how regulation functions during ordinary demands. Conversely, a restless encounter should also be understood in its setting, rather than treated as a self-explanatory demonstration of the disorder.

PITFALL

A calm, cooperative consultation can become falsely reassuring when it is allowed to outweigh a consistent history of difficulty in less structured settings. Observation is valuable, but it is one context among several.

The same principle improves clinical conversations with families. Rather than treating apparently good performance during a preferred activity as a contradiction, ask what is different there: who is nearby, how quickly reward arrives, whether the activity is new, how much structure is supplied, and what happens when the task becomes routine. The answer may show why the family has experienced the behaviour as selective or puzzling without implying that the difficulty is fabricated.

3.7 Emotional reactivity as an associated clinical feature

Emotional dysregulation and emotional impulsivity are commonly encountered alongside ADHD. The person may be quick to anger, easily frustrated, and overreactive. These experiences deserve careful description because they can dominate the family's account and shape peer, school, and household consequences. They are not, however, an additional core diagnostic domain. Treating them as one blurs the boundary between the required symptom architecture and a clinically important associated feature.

The link with impulsivity is clinically intuitive: when delay, frustration, or interruption is difficult to tolerate, emotion may be expressed quickly and at high intensity. That explanation should remain a hypothesis in the individual case, not a shortcut that dismisses other contributors to distress. Describe triggers, sequence, recovery, and impact. Then decide whether the emotional pattern is best understood as associated reactivity, as part of another condition, or as both. The assessment and comorbidity sections take up those broader questions.

For bedside practice, the aim is a coherent narrative: the person loses the task, becomes active when stillness is required, responds before sufficient pause, and may react intensely when blocked or frustrated. Such a narrative is more useful than a symptom tally because it tells the clinician where everyday impairment is likely to arise and where apparent exceptions may be generated by context.

ADHD is recognised clinically by the patterned regulation of attention, activity, and response, interpreted in developmental context rather than by any single behaviour.

4 · Epidemiology and sex differences in ADHD

Epidemiology is not a decorative preface to diagnosis. It tells the clinician what a reported frequency can and cannot mean, and it explains why a child who is struggling may be missed when local expectations have been shaped by a narrow stereotype. In attention-deficit/hyperactivity disorder, the useful question is not whether a survey produces a definitive figure. It is whether the population examined, the route by which participants were identified, and the diagnostic method used make that figure applicable to the clinical question at hand.

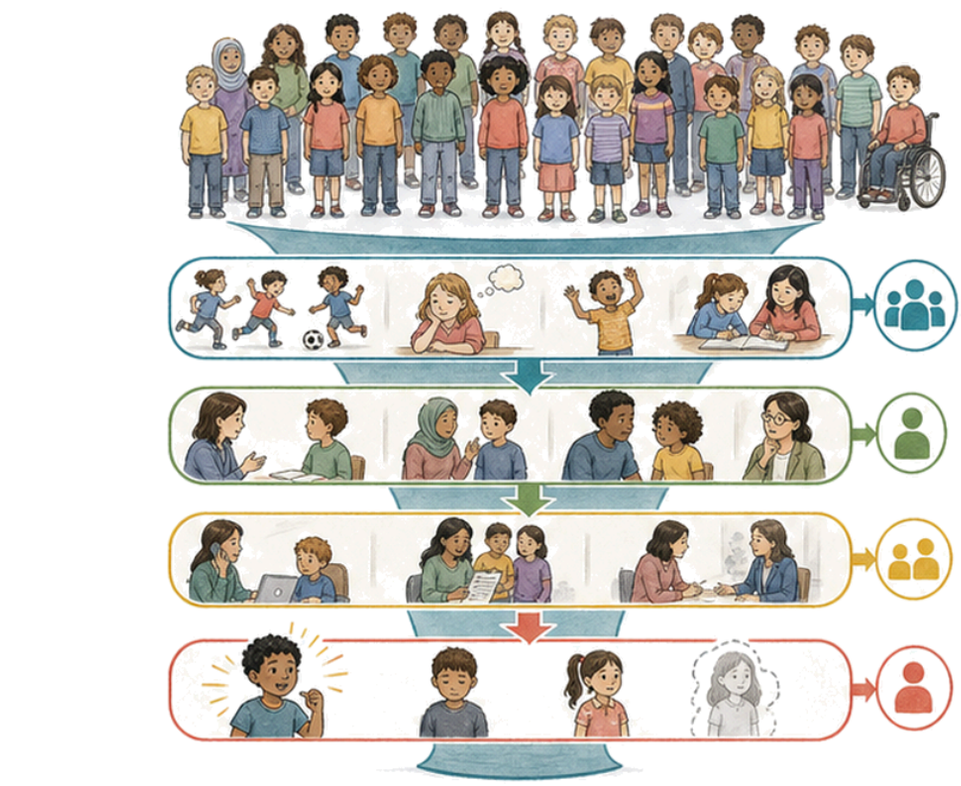


Fig 22.3 Observed ADHD caseloads pass through filters of presentation, recognition, access and referral. Disruptive behaviour is noticed earlier than quieter organisational or attentional difficulty, so clinic sex ratios cannot be read as population prevalence.

The epidemiological account also has a corrective function. ADHD is encountered across cultural settings and across the lifespan, but referral pathways do not select people neutrally. Behaviours that disrupt a classroom usually attract attention sooner than quieter difficulties with organisation or sustained mental effort. Sex differences in the observed caseload must therefore be read alongside sex differences in presentation and recognition. For a postgraduate answer, report the estimate, then explain the method and the clinical implication. That sequence demonstrates epidemiological reasoning rather than recital.

4.1 What prevalence means in ADHD

Population prevalence is the proportion of a defined population that meets the relevant diagnostic standard at the time and in the setting studied. It is not the same as the proportion already attending a clinic, receiving treatment, identified by a school, or labelled in administrative records. Each of those groups has passed through filters of recognition, help-seeking, access,

referral, and assessment. Their frequencies may be clinically useful, but they cannot simply be substituted for a community estimate.

For children worldwide, the current manual reports a frequency of **about 7.2%**. This is best used as an orienting benchmark, not as a shortcut to diagnosis in an individual child. A diagnosis still depends on the clinical assessment described elsewhere in this chapter. Prevalence provides a prior expectation that the condition is common enough to be actively considered when the presentation fits; it never converts an isolated complaint of distractibility or activity into a disorder.

In adults, the corresponding cross-national estimate is **about 2.5%**. This figure establishes that ADHD remains relevant beyond child services, while detailed adult presentation, persistence, and transition are addressed in the adult ADHD section of this chapter. The practical point here is modest but important: an epidemiological estimate should not be misread as either a developmental prognosis for an individual or a statement that every person identified in childhood will have the same clinical course.

7.2%	2.5%	2:1	1.6:1
WORLDWIDE CHILDHOOD ESTIMATE	ADULT ESTIMATE	CHILD MALE:FEMALE RATIO	ADULT MALE:FEMALE RATIO

RULE **Read every ADHD prevalence figure as an estimate produced by a particular method in a particular population.** The number is the beginning of interpretation, not its conclusion.

4.2 Why published estimates differ

A **cross-national range** is expected when studies do not use the same sampling frame or diagnostic process. Across nations, reported childhood and adolescent frequencies range from **0.1% to 10.2%**. A range of this width should prompt scrutiny of method before claims are made about culture, parenting, schools, or biology. The critical issue is comparability: are investigators asking the same question of populations selected in the same way and deciding caseness through an equivalent procedure?

Several features can shift the observed estimate without necessarily altering the underlying occurrence of ADHD. A survey based in schools begins with children who are present and observable in that setting. A community survey must locate families and achieve participation outside it. A clinic sample begins after referral, which is itself shaped by local awareness, resources, and the threshold at which difficulty is considered to require help. The informants available, the extent of collateral information, and the distinction between screening symptoms and a diagnostic assessment also influence who is counted. These are not technical footnotes. They determine whether figures from different studies can be compared at all.

It is also worth distinguishing measurement from service visibility. A community may have few recorded diagnoses because assessment is difficult to obtain, because school concerns do not reach health services, or because families frame the difficulty in non-medical terms. The inverse problem can occur where referral systems are highly responsive to classroom concerns. Neither

pattern can be interpreted without knowing the pathway from difficulty to identification. Epidemiology is strongest when it makes this pathway visible rather than concealing it behind a single headline percentage.

Diagnostic procedure has a particularly large effect. A symptom questionnaire can identify children who warrant fuller assessment, but it is not identical to a clinical diagnosis. Conversely, a restrictive procedure may miss children whose impairment is less visible to the informant or whose difficulties are interpreted through another frame. The examiner should therefore avoid treating a low estimate as proof that a disorder is rare, or a high estimate as proof of overdiagnosis, without first examining how the estimate was generated.

- Ask who was sampled and who was left outside the sampling frame.
- Ask whether the setting selected children before assessment.
- Ask how symptoms, impairment, and alternative explanations were evaluated.
- Ask whether the reported figure is a screening yield, a clinical rate, or a population estimate.

This discipline protects against a familiar error in viva discussion: explaining a numerical difference immediately as a cultural difference. Culture matters to recognition, report, and service access, but a difference between studies may be methodological before it is cultural. The answer should retain that uncertainty rather than inventing a causal story the data have not established.

MNEMONIC

MAP the estimate

Method asks how diagnosis was made; **A**scertainment asks how participants entered the study; **P**opulation asks who the result represents. Use this before comparing figures from different reports.

4.3 Culture, setting, and interpretation

The appropriate inference from the available international evidence is **cross-cultural comparability**: ADHD is seen broadly across cultures, and regional variation in reported prevalence is better understood primarily through diagnostic procedures and study methodology than as evidence of genuine regional differences in occurrence. This matters because the idea that ADHD is restricted to a particular cultural setting can lower diagnostic vigilance and make families feel that a formulation is imported rather than clinically grounded.

At the same time, cross-cultural comparability does not authorise cultural blindness. The clinician still has to establish what a behaviour means within the child's home, school, language, and daily demands. A child's difficulties can be obscured when educational expectations are inconsistent or when a family has had little opportunity to describe concerns in mental-health language. They can also be amplified when the referral is driven by a conflict with a particular environment. Epidemiology supports the possibility of ADHD; it does not replace contextual formulation.

IN INDIA

The **pooled estimate in Indian children** is **about 63.2 per 1000**. This is useful evidence against dismissing ADHD as uncommon in Indian practice. It should not be used as a local clinic target or as a substitute for a full developmental, educational, and psychiatric assessment. Differences between school-based and community-based estimates are especially instructive because they show how the place of recruitment changes the population being counted.

INDIAN STUDY CONTEXT	POOLED ESTIMATE	HOW TO USE THE FINDING
Children overall	About 63.2 per 1000	A broad pooled reference, not an individual diagnostic threshold.
School-based studies	About 75.1 per 1000	Interpret in light of school selection and school visibility of difficulty.
Community-based studies	About 18.6 per 1000	Interpret in light of household sampling and participation outside schools.

The lower community-based pooled estimate than the school-based pooled estimate is a methodological lesson, not a contradiction requiring a single winner. Schools concentrate observation of task demands and may make concerns more visible; community sampling reaches a differently selected population. Neither setting alone captures every child whose needs deserve attention. In clinical work, school information remains essential, but it is part of assessment rather than a population survey in miniature.

PITFALL

Do not compare a school-derived figure with a community-derived figure as though they measure identical populations. The apparent difference may arise before the assessment begins, through the route by which children entered the study.

4.4 Sex ratio is a finding, not a diagnostic rule

In the general child population, the male:female ratio is **about 2:1**. In the general adult population it narrows to about 1.6:1. These ratios describe observed population distributions. They do not mean that ADHD is a male disorder, that a female patient requires a different standard of evidence, or that a ratio can decide the probability of diagnosis for an individual.

The distinction between population and clinic is particularly important here. Referral services are shaped by whether concerns have been noticed, how they have been understood, and whether help has been sought. A clinic ratio can therefore reflect both underlying distribution and the selection pressures that precede referral. It should not be presented as a direct estimate of the frequency in the general population. Similarly, a clinician should not lower suspicion simply because a patient does not resemble the locally familiar referral pattern.

The change in the reported ratio across age groups invites thoughtful interpretation but does not, by itself, tell us why it occurs. A complete explanation could involve differences in recognition,

referral, symptom expression, service contact, or other features of study design. The epidemiological data in this section establish the pattern of ratios; they do not license a simple causal account. In a written answer, separating observation from explanation is a mark of clinical maturity.

TRAP **Do not turn a sex ratio into an exclusion criterion.** The ratio describes groups. Diagnosis concerns the individual's symptoms, impairment, developmental context, and differential diagnosis.

4.5 Female presentation and under-recognition

Females are more likely than males to present chiefly with **inattentive features**. This statement has direct clinical consequences. Difficulties that are less outwardly disruptive can be interpreted as poor motivation, anxiety, low confidence, or a personality style rather than as possible ADHD. The error is not that these alternative formulations never apply. The error is failing to consider ADHD because the presentation does not match an expectation built around conspicuous overactivity or impulsive behaviour.

Under-recognition is not solved by applying a lower threshold to girls and women. It is solved by asking a better question and gathering better evidence. Explore whether the reported concentration, organisation, task completion, and regulation difficulties are persistent, present in relevant settings, impairing, and better explained by another condition or circumstance. Seek collateral wherever feasible, and ask how the demands of school, work, family life, and social roles have exposed or concealed the difficulty. The core symptom domains and the formal diagnostic approach are set out in the relevant sections of this chapter.

Questions should be phrased so that a patient is not required to recognise their experience as ADHD before it can be described. Ask for situations in which work was abandoned despite intention, responsibilities were managed only through elaborate reminders, or attention failed under ordinary demands. Then ask what happened when external structure was removed. Such enquiry is not a symptom checklist in disguise. It is a way to understand function, context, and adaptation before deciding whether the broader diagnostic formulation is supported.

A less disruptive presentation may produce a quiet trajectory of burden. A patient can compensate by overpreparing, avoiding demanding tasks, relying heavily on relatives, or restricting opportunities. Such adaptation can make impairment harder to see in a brief consultation. It should not be mistaken for absence of impairment. The task is to identify the cost of maintaining functioning as well as the visible failures of functioning, while avoiding retrospective certainty where the history is unclear.

Why it matters clinically. Sex-sensitive assessment improves accuracy in both directions. It reduces missed ADHD in patients whose difficulties have been normalised or misattributed, and it guards against premature attribution when another formulation better accounts for the presentation. A careful history should neither presume ADHD from a stereotype nor exclude it because of one.

GOOD TO REMEMBER

When a patient reports a long history of effortful organisation or concentration without a disruptive referral history, ask what supports, avoidance strategies, and role demands have kept the difficulty out of view. The absence of a dramatic school narrative is not, by itself, reassuring.

4.6 From epidemiology to clinical judgement

Epidemiological data should change the clinician's calibration, not replace clinical judgement. A common condition deserves active consideration in an appropriate presentation; it does not deserve automatic attribution. The same discipline applies to sex differences. They should broaden the clinician's recognition of possible presentations, but should not encourage speculative diagnosis without evidence of clinically meaningful difficulty and a careful differential diagnosis.

In practice, keep separate the question of how often ADHD is identified in a population sampled by a given method, the question of who may have been missed or preferentially included before assessment, and the question of whether the individual in front of the clinician meets the required clinical formulation after relevant alternatives have been considered. Conflating these questions creates both overdiagnosis and under-recognition. Keeping them separate makes prevalence genuinely useful.

Documentation benefits from the same clarity. When recording epidemiological information, state whether it is a population benchmark, a school-based finding, a community estimate, or a service figure. When recording sex-related considerations, describe the observed presentation and the assessment undertaken rather than writing a stereotype as though it were an explanation. This produces records that are easier for colleagues, families, and future services to interpret.

For the examination candidate, an epidemiology answer should move from broad frequency to heterogeneity, then to clinical consequence. State the worldwide and Indian evidence where relevant, explain why estimates vary across settings, give the child and adult sex ratios, and finish with the implication that inattentive presentations in females may be under-recognised. Avoid expanding this section into diagnostic criteria, neurobiology, comorbidity, or treatment. Those topics require their own evidence and their own clinical reasoning.

Prevalence describes populations; careful assessment decides diagnosis, and sex differences should widen recognition rather than narrow it.

4.7 A concise examination framework

A high-quality short answer can be organised around interpretation. Begin with the worldwide childhood estimate and the adult estimate, making clear that these are population figures. Next, note the wide cross-national range and state that differing diagnostic procedures and methodology account for much of the apparent regional variation. Then add the Indian pooled figure and the contrast between school-based and community-based studies to show that setting

changes estimates. End with the male:female ratios and the greater likelihood of inattentive presentation among females.

The final sentence should carry the clinical point: prevalence and ratios should guide recognition and service planning, but they do not diagnose an individual. This ending prevents a fact-heavy answer from becoming detached from patient care. It also avoids opposite errors: using epidemiology to minimise ADHD in a setting where it is under-recognised, and using a familiar epidemiological figure as a substitute for careful assessment.

5 · Etiology and neurobiology (genetics, dopamine-noradrenaline, executive dysfunction)

Why it matters clinically. ADHD is best understood as a developmental disorder of regulation, not as a failure of will, parenting, or intelligence. Its aetiology is therefore neither a discrete lesion nor an isolated adverse experience. The useful clinical question is not "what caused this child's ADHD?" but how inherited liability, brain development and context have combined to produce the present pattern of impairment. This formulation gives the clinician a coherent explanation for families while keeping diagnosis anchored in clinical assessment.

The biology is examined because it explains several otherwise puzzling features: clustering within families, variation in the balance of inattentive and hyperactive-impulsive difficulties, inconsistent performance across settings, and the characteristic difficulty in converting intention into organised action. It also prevents common errors: genetic evidence must not be mistaken for genetic determinism, and a brain-based account must not be used to erase the child's environment, strengths, or need for practical support.

about 74%	about 76%	20 to 25%	3 to 5 years
HERITABILITY ESTIMATE	TWIN-STUDY VARIANCE	FIRST-DEGREE RISK	MATURATIONAL DELAY

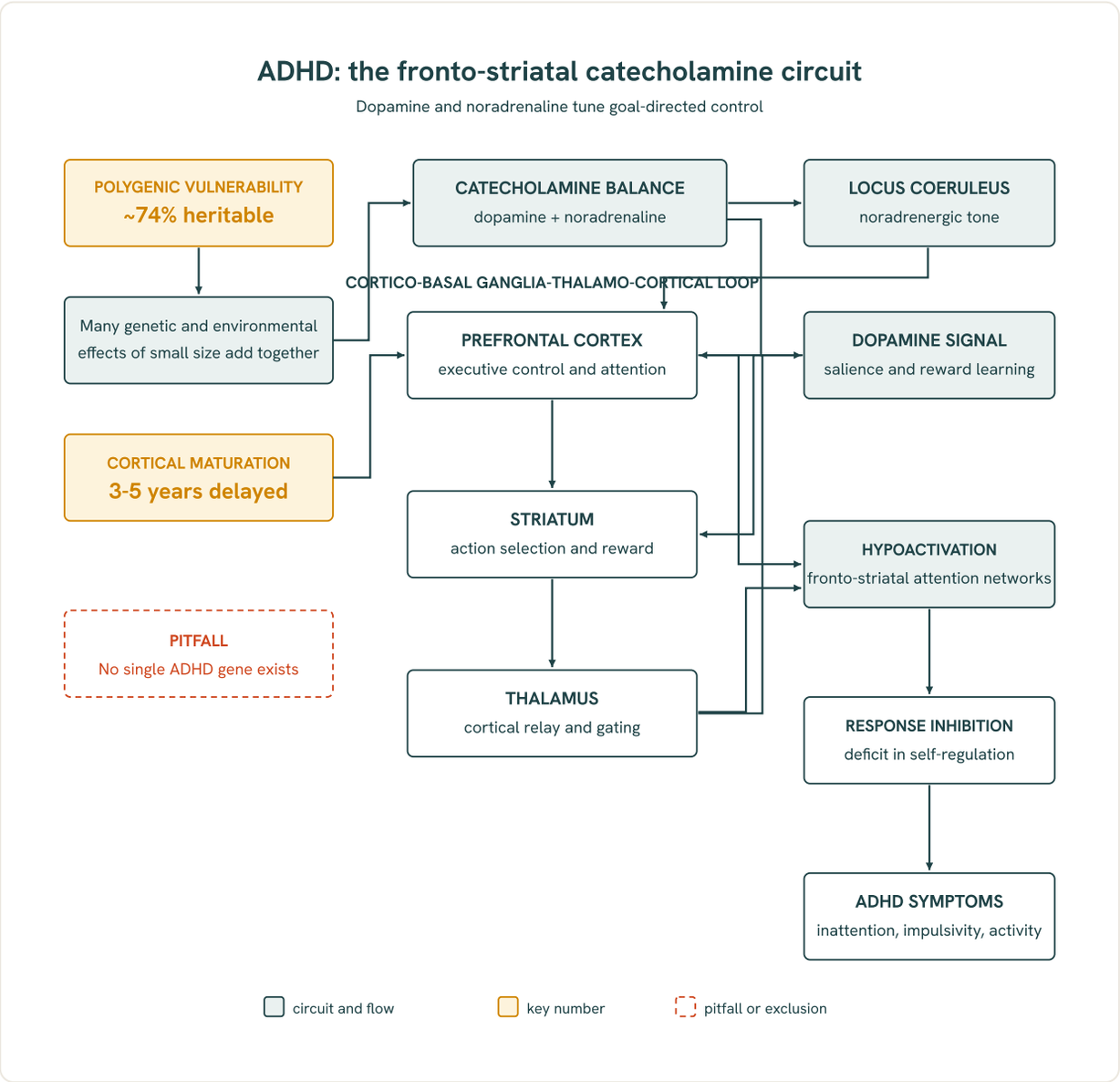


Fig 22.4. Fronto-striatal dopamine and noradrenaline circuit in ADHD.

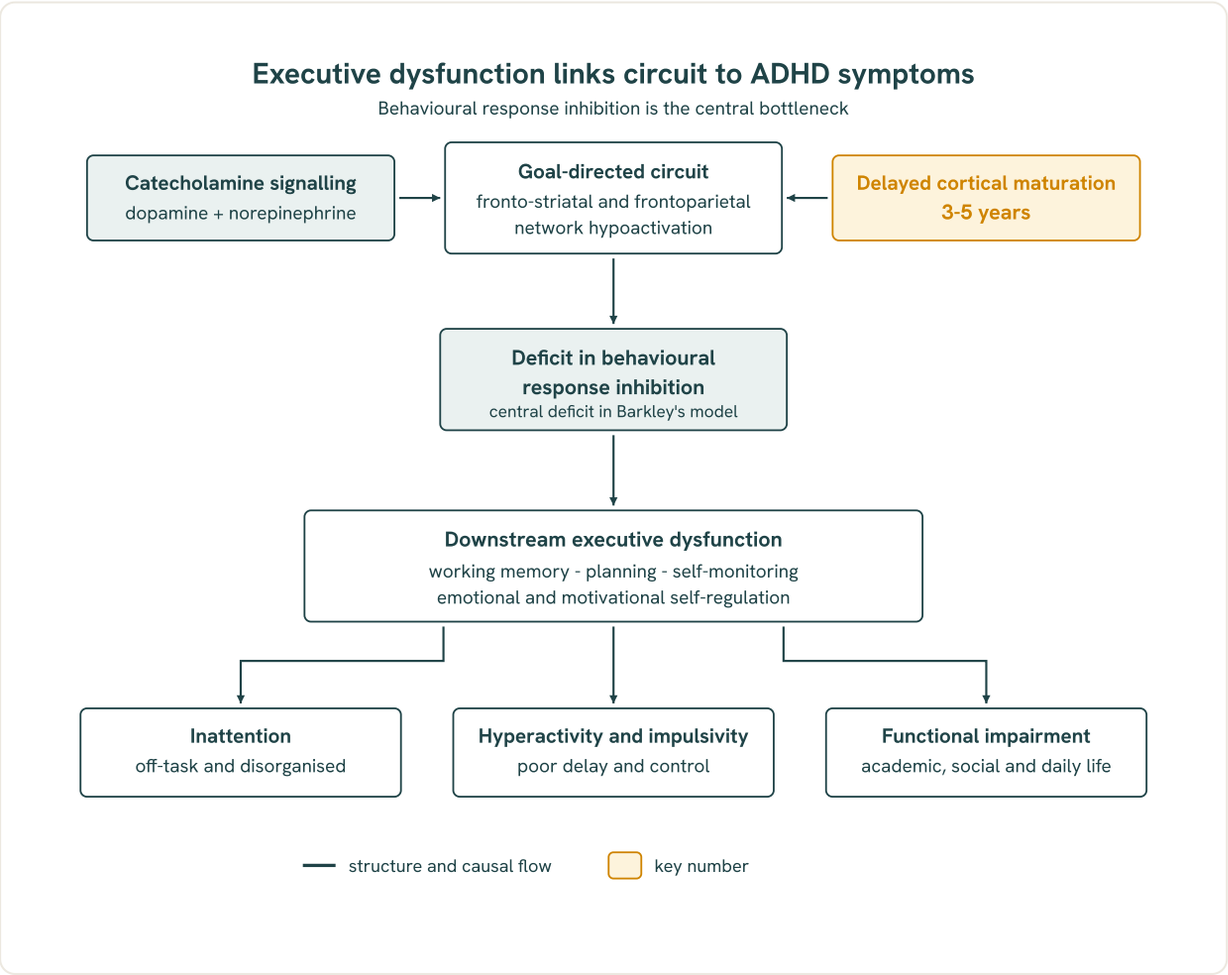


Fig 22.5. Executive dysfunction as the mechanism linking circuit-level dysfunction to core ADHD symptoms.

5.1 A multifactorial model, not a single cause

ADHD is a **multifactorial vulnerability**: multiple inherited and environmental influences of small effect can converge in an individual. This is a more accurate model than searching for a decisive biological abnormality. The causal pathways are heterogeneous. Children may meet the same clinical diagnosis through partly different combinations of familial liability, developmental exposures, neural organisation and compensatory strengths.

This matters for formulation. A family history can make an inherited contribution plausible, while a prenatal or early developmental history can identify circumstances relevant to vulnerability. Neither alone establishes the diagnosis, explains every current difficulty, or tells the clinician what a particular child will become. The phenotype is the clinical end point of development, not a direct read-out of a gene or an exposure.

RULE **Heritability describes variation in a population; it does not measure how inevitable ADHD is for an individual child.** It supports a substantial inherited contribution while leaving room for developmental context, individual differences and change over time.

For the same reason, a high heritability estimate does not license blame directed at a parent. It is compatible with shared family traits, with parents who have developed effective adaptations, and with a child whose support needs are different from those of relatives. The clinician should use

biological explanation to reduce moral judgement, not to convert a complex developmental problem into fatalism.

At the bedside, the formulation can be kept orderly without pretending to be exhaustive:

- identify the developmental pattern and current functional difficulty;
- ask whether familial liability is likely to be relevant;
- consider developmental circumstances that may have added vulnerability; and
- look for the present demands and supports that determine how severely the difficulty is expressed.

This sequence is deliberately formulation-led rather than cause-hunting. It acknowledges uncertainty honestly. It also gives the family a practical narrative: some contributors cannot be changed, but the child's current environment, routines and supports can be altered. A neurobiological explanation earns its place only when it makes this conversation clearer and less blaming.

5.2 What family and twin evidence establishes

Family aggregation and twin research provide the strongest starting point for the genetic account. The DSM estimate is displayed in the evidence strip above. Across family, twin and adoption designs, the reported heritability index ranges from **0.6 to 0.98**. Such estimates indicate that inherited differences make an important contribution to variation in ADHD in the populations studied; they do not identify an individual cause.

The pattern within twin pairs makes the inference intuitively clear. Reported concordance is **MZ 59-92%; DZ 29-42%**, with the more genetically similar pairs showing greater concordance. The twin-study estimate of genetic contribution is displayed in the evidence strip. The residual difference within genetically similar pairs is clinically important. It cautions against treating genes as a complete explanation and directs attention to development and context.

The first-degree relative estimate is displayed in the evidence strip. In practice, this means that the history should be taken broadly. Ask about lifelong distractibility, disorganisation, impulsive decisions, school difficulties and coping styles in close relatives, rather than asking only whether a relative carries a diagnostic label. A parent's account of childhood experience may illuminate the family context, but it must never substitute for an assessment of the child.

Evidence of familiality answers a population question: whether inherited factors contribute meaningfully to variation in the condition. It does not answer the individual question of why one sibling is more impaired than another, why a child has difficulties in one setting but not another, or whether a current school problem is due to ADHD. Those questions require the longitudinal, contextual assessment described elsewhere in the chapter. This distinction protects the clinician from making a statistical association carry more clinical meaning than it can bear.

GOOD TO REMEMBER

Family history has complementary uses: it strengthens the developmental formulation and it helps identify practical supports within the family. It is not a diagnostic shortcut, and it should not be presented as proof that a child cannot improve.

5.3 Polygenic architecture and candidate-gene findings

ADHD is **polygenic**; there is no single ADHD gene. Candidate-gene work has concentrated on systems relevant to catecholamine signalling and synaptic regulation. The **DAT1 (dopamine transporter gene)** has been associated with ADHD, particularly with hyperactive-impulsive or combined clinical presentations. Its biological interest lies in its relation to synaptic dopamine reuptake, which offers a plausible bridge between molecular variation and regulation of neural signalling.

Another repeatedly studied candidate is the **DRD4 seven-repeat allele**, linked in this literature with novelty seeking, impulsivity and the inattentive subtype. Other reported candidates include **DRD5, DBH, COMT, SNAP25, SLC6A2 and ADRA2A**. These names are useful for understanding why dopamine, noradrenaline and synaptic processes recur in mechanistic accounts. They are not a clinically actionable genetic panel for routine diagnosis.

The candidate-gene story also teaches an important scientific lesson. Many early associations have not been consistently reproduced. Known candidate genes account for below **5%** of genetic variation. Broad genomic association work identified **12 independent loci**, reinforcing the conclusion that liability is distributed across many variants of small effect rather than concentrated in one explanatory gene.

For an examination answer, distinguish levels of evidence. Family and twin findings support heritability. Molecular findings ask which biological pathways may carry part of that liability. Neither level reduces ADHD to a Mendelian disorder, and neither makes molecular testing a replacement for phenomenology, developmental history and impairment. This distinction is often more valuable than memorising a long list of gene symbols.

TRAP **Do not answer "DAT1 causes ADHD" or "DRD4 is the ADHD gene."** Candidate associations are part of a distributed liability model. The exam-safe conclusion is polygenic vulnerability, with individual variants contributing limited and sometimes inconsistently replicated effects.

LEVEL OF EXPLANATION	WHAT IT CONTRIBUTES	CLINICAL INFERENCE
Familial liability	Explains aggregation across relatives	Take a developmental family history without assuming destiny
Polygenic variation	Distributes liability across many small effects	Do not seek a diagnostic gene
Neural signalling	Links molecular systems to regulation of behaviour	Use it to explain mechanisms, not to label a child biologically
Developmental context	Shapes vulnerability and adaptation	Build a formulation that remains individualised

5.4 Dopamine, noradrenaline and state regulation

The central neurotransmitter account concerns **dopamine and norepinephrine (noradrenaline), with epinephrine**, within a broader catecholamine imbalance. These systems are relevant because efficient attention and purposeful behaviour require the brain to regulate salience, arousal, effort and response selection according to the demands of the moment. A child may know what should be done yet fail to sustain the regulated state required to do it consistently.

Dopamine is especially helpful as a conceptual link to reinforcement, motivation and the selection of responses; noradrenergic signalling is helpful as a link to alertness and the allocation of attention. These are not separate boxes. They work within connected circuits, so an apparent problem of "motivation" may actually reflect inefficient regulation of attention, timing and response control. This helps the clinician move beyond the simplistic contrast between "can do" and "will not do."

The important idea is state regulation. Effective performance depends on bringing attention and effort to the task, maintaining them despite distraction, and readjusting when the task changes. Catecholamine-linked systems are plausible contributors to these transitions. When they are inefficient, the child's output may fluctuate sharply with task structure, novelty, feedback and competing stimulation. Such fluctuation can look oppositional or careless if the clinician observes only the finished work rather than the regulatory demands imposed by the situation.

This account should not be used to collapse all difficulties of attention into ADHD. Attention can be disrupted by many developmental, emotional, cognitive and environmental conditions. The neurobiological model explains why ADHD is a plausible formulation after diagnostic work has been done; it does not establish the diagnosis before that work.

A proposed noradrenergic mechanism is reduced inhibition of **locus coeruleus neurons**. This could account for inattention, cognitive difficulty and gross motor activity by impairing the regulation of arousal and attention. The wording is deliberately mechanistic rather than deterministic: the finding is a model of how a symptom pattern may arise, not a laboratory test that confirms the disorder in an individual patient.

IN INDIA

When families ask whether ADHD is "chemical" or "because of upbringing," avoid forcing a false choice. Explain that biology and developmental context jointly shape vulnerability, then return to the child's observable impairment and the supports that can be put in place at home and school.

5.5 Circuit-level account and cortical development

The circuit model locates ADHD in **cortico-basal ganglia-thalamo-cortical (fronto-striatal) circuitry**. Hypoactivation has been reported in frontostriatal, frontoparietal and ventral attention networks. These systems support goal-directed executive processes and decision making. The clinical relevance is that regulation requires a coordinated network: maintaining a

goal, filtering competing input, selecting a response, monitoring its consequence and adjusting course are connected operations.

Network language is preferable to a crude “frontal-lobe deficit” formulation. It explains why ADHD can affect the organisation of behaviour across tasks without implying a fixed global intellectual deficit. It also explains why performance may improve markedly when structure, novelty, immediate feedback or external scaffolding reduces the regulatory load. Such variability is not evidence that the difficulty is fabricated; it is often the clinical signature of context-sensitive control.

Developmental imaging work describes the maturational delay displayed in the evidence strip, particularly in frontal and temporal regions. This should be read as a developmental timing account. It does not mean that every child follows one anatomical timetable, nor does it permit prediction of outcome from a scan. The useful inference is that symptoms arise during an evolving developmental process, which is consistent with the importance of developmental history and longitudinal review.

Important safeguards apply when interpreting circuit findings. Group-level differences do not create a diagnostic signature for an individual, and a network description is not an excuse to overlook psychosocial formulation. Neural systems operate in a child who is learning, relating, sleeping, attending school and responding to expectations. A mature formulation holds both levels in view without falsely setting them against each other.

PITFALL

Do not present group-level circuit findings as though they explain an individual child completely. They are useful for formulation, but they do not replace careful clinical reasoning about that child’s developmental history, context and impairment.

5.6 Executive dysfunction: the clinical bridge from circuit to behaviour

The most clinically useful bridge from neural systems to daily impairment is **behavioural (response) inhibition**. In the executive-function model, a central weakness in pausing or withholding an immediate response has downstream effects on self-regulation and executive functioning. The point is not that every person with ADHD is constantly disinhibited. Rather, when rapid response, delay, distraction or competing reward increases demand, the person may have less reliable capacity to stop, hold a goal in mind and choose a more adaptive next action.

Executive functions are therefore best conceptualised as control processes that allow behaviour to be organised over time. They include maintaining task goals, monitoring performance, shifting strategy, resisting a dominant response and regulating effort. The accompanying figure can be used to connect the neural network account with this control problem. It should not be confused with the descriptive account of core symptoms, which is covered separately in the clinical-features section of this chapter.

This model makes sense of the everyday paradox of an able child who starts with intention but does not complete work, gives a quick answer before considering alternatives, or needs repeated

external prompts to return to a task. The difficulty is often not lack of knowledge of the rule. It is inefficient use of the internal control processes required to apply that rule at the relevant moment. External organisation can therefore be therapeutic because it temporarily supplies structure that the child cannot yet generate reliably.

Executive dysfunction is a mechanism, not a synonym for the diagnosis. The clinician should not infer it from an isolated messy notebook, an isolated impulsive act or a parent's understandable frustration. Its explanatory value lies in a coherent pattern across contexts and over time: the child repeatedly struggles to regulate action when independent planning, sustained monitoring or delayed response is required. The model then guides a practical question: which external prompts, routines and task structures reduce the control load enough for the child to show existing competence?

MNEMONIC

PAUSE

Pause the response, **A**im at the goal, **U**pdate the plan, **S**can for competing input, **E**xecute deliberately. This is a memory aid for the executive-control sequence, not a diagnostic checklist.

5.7 Environmental contributors and a usable formulation

Environmental associations include **very low birth weight, prematurity, prenatal smoking exposure, in-utero alcohol and lead exposure**. These should be approached as contributors to vulnerability, not as a list of proven causes for every patient. The distinction matters both scientifically and ethically. Retrospective history can identify a relevant developmental context, but it cannot establish that one exposure caused one child's ADHD.

In a clinical history, exposures should be recorded accurately and without accusation. The question is whether they contribute to the developmental formulation, not whether a parent can be assigned responsibility for a disorder that has complex origins. It is equally important not to let an exposure history eclipse evidence of familial liability or current contextual stressors. The biological and environmental strands are most useful when they are integrated rather than made to compete.

A good formulation brings levels together. Start with familial and developmental vulnerability; consider whether attentional arousal, reward sensitivity and response regulation offer a plausible mechanism; then identify current contexts that expose or buffer the executive-control difficulty. This produces practical, non-blaming language: the child has a difficulty regulating behaviour across demands, and the environment can either overload that system or make success more likely.

Mechanism should guide empathy and intervention planning, not become an explanation that eclipses the child. Ask what demands are being placed on self-regulation, what supports already work, and where the mismatch between capacity and expectation is greatest. For the wider assessment framework, see the Child psychiatry: assessment, treatment, services and protection

notes. For developmental context outside ADHD, see the Normal child development and milestones notes.

ADHD is a multifactorial, polygenic developmental disorder in which catecholamine-linked control networks and executive dysfunction help explain the clinical phenotype.

Recognising ADHD: assessment, scales, comorbidity and differential

6 · Comprehensive assessment of ADHD (history, school reports, observation)

Assessment is the diagnostic intervention before treatment is considered. A convincing assessment of ADHD does not arise from a child's behaviour in the consulting room, a single checklist, or an anxious parent's account taken in isolation. It is a deliberate reconstruction of patterns over time, across demands and relationships, followed by an appraisal of their consequences. The task is not to decide whether the child is lively, distractible, or difficult on a particular afternoon. It is to decide whether the reported pattern is developmentally inappropriate, persistent in the child's ordinary life, and sufficiently impairing to require a clinical formulation.

The assessment has a diagnostic purpose and a formulation purpose. It establishes whether ADHD is the best account of the presenting difficulties, and it identifies the factors that will change the meaning of those difficulties for this child and family. A good assessment makes the later management plan more precise because it has already mapped the child's strengths, the settings in which problems emerge, the adults who can observe change, and the obstacles that may be mistaken for the disorder itself.

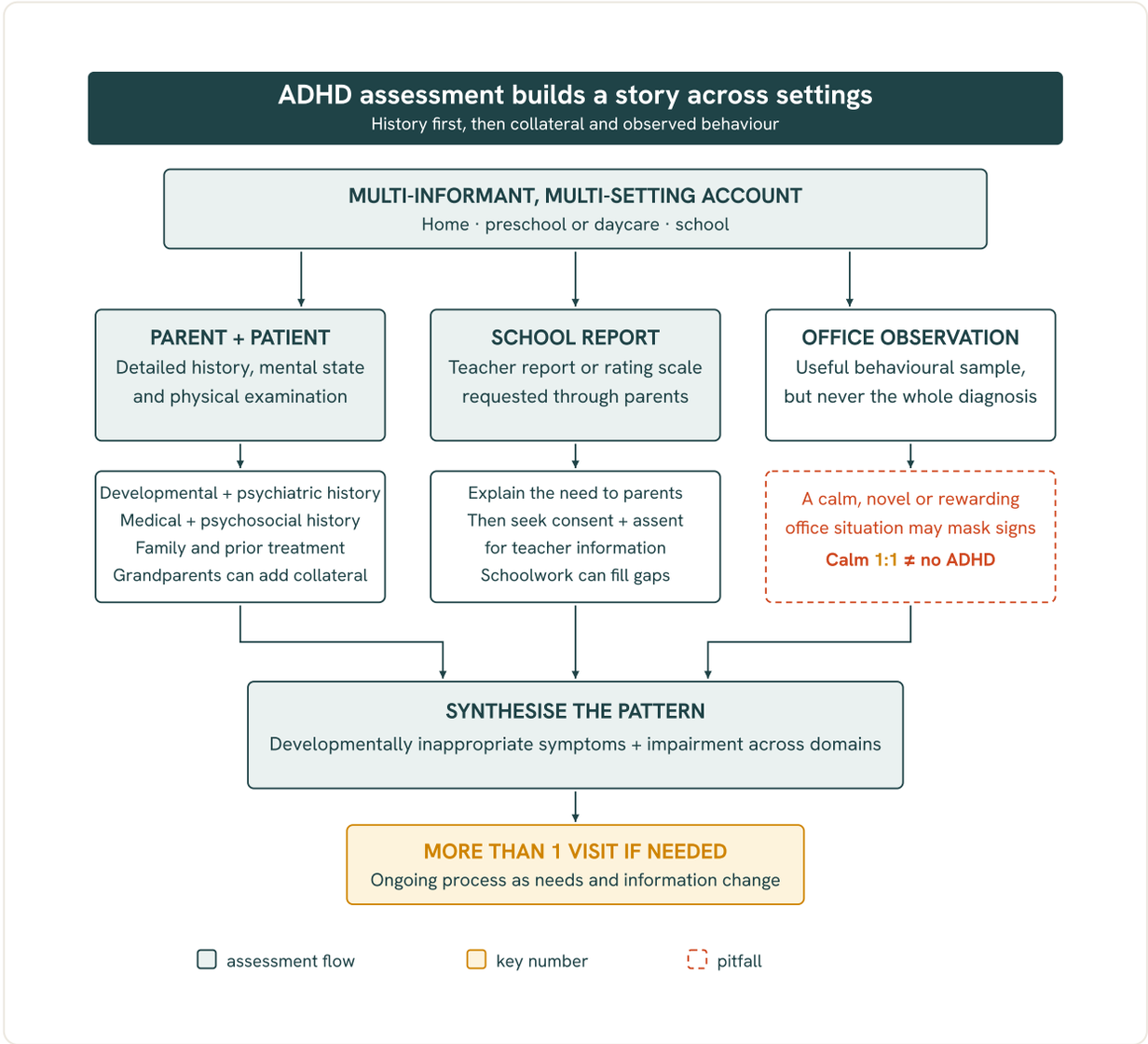


Fig 22.6. ADHD assessment pathway: history-led, multi-informant evidence across settings.

6.1 Architecture of a comprehensive assessment

A **comprehensive ADHD assessment** rests on detailed history, mental state examination, and physical examination. These are not separate bureaucratic stations. Each corrects a limitation in the others: history supplies the longitudinal and contextual picture, the examination tests the immediate clinical impression and alternative explanations, and physical assessment detects medical issues that may alter interpretation or subsequent care.

The **three** pillars should be gathered with a single clinical question in mind: what does the child actually do, where does it occur, what demand exposes it, who is affected, and what follows? This turns global labels such as “not listening” or “very naughty” into observable, comparable information. It also prevents the clinician from treating every report of poor work, conflict, or restlessness as if it carried the same diagnostic weight.

- Describe the behaviour in concrete terms before naming it.
- Place it in the setting and demand in which it occurs.
- Establish the consequence for the child and the people around them.
- Record what remains uncertain and needs corroboration.

History	School	Observation
PATTERN OVER TIME	ORDINARY PERFORMANCE	CLINICAL CONTEXT

RULE **ADHD assessment is a synthesis of converging accounts, not a verdict from a single encounter.** The clinical interview remains the organising method: it decides what needs corroboration, where information is missing, and whether apparent agreement between informants reflects the same behaviour in comparable circumstances.

Use the assessment to construct a formulation rather than merely to fill a diagnostic template. Begin with the presenting concern in the family's own language, then translate it into concrete examples. Ask what has already been tried, what has helped, and what has worsened the problem. This sequence preserves rapport and produces information that can later be shared with parents and school without implying blame. It also reveals whether the referral question is diagnostic uncertainty, functional decline, conflict around expectations, concern about safety, or a request for documentation.

6.2 Multi-informant and multi-setting enquiry

The core strategy is **multi-informant assessment** across settings. Parents or caregivers know the child's routine, transitions, sleep, self-care, conflict, and unstructured time. Teachers witness performance under group instruction, sustained work, peer demands, rules, and academic expectations. The child's own account may clarify internal experience, efforts to compensate, distress, and the meaning attached to repeated criticism. These accounts are complementary rather than competitors in a courtroom.

A **caregiver history** is central because ADHD is diagnosed primarily through history and caregiver report; a brief office sample is rarely adequate to detect the relevant pattern. Ask each informant for examples rather than asking only whether a symptom is present. "What happens when homework begins?" is usually more useful than "Is attention poor?" The first question elicits sequence, triggers, adult responses, and consequences. The second often elicits an interpretation already shaped by frustration or stigma.

Discrepancies deserve curiosity, not premature resolution. A child who appears settled in one environment may be supported by a structure, a relationship, or a task that reduces the relevant demand. Conversely, a report of difficulty in one setting may point to a contextual mismatch, a learning demand, peer difficulty, or a relational strain that needs separate assessment. The clinician should identify what is different about the setting before deciding what the discrepancy means. Agreement is helpful; carefully understood disagreement can be even more informative.

MNEMONIC

Listen, Locate, Link, Look again

Listen for concrete examples; **locate** them in ordinary settings; **link** them to their functional effects; and **look again** when accounts conflict. This is an interviewing spine, not a diagnostic shortcut.

IN INDIA

Collateral need not be restricted to parents. In joint or extended households, **extended-family collateral**, including from grandparents, may add a useful account of routines and behaviour. The clinician should still establish who has regular, direct knowledge of the child rather than treating kinship alone as evidence of reliability.

Interview quality improves when the clinician makes the purpose of collateral explicit. Explain that the aim is to understand the child's functioning in ordinary environments, not to recruit adults to prove that the child is problematic. This framing reduces defensiveness and helps informants offer examples that include strengths, successful situations, and environmental supports. Collateral from other caregivers may be useful when it concerns a setting they know directly, but it should be recorded as an account rather than elevated automatically above the child's or parent's report.

6.3 History: developmental anchoring and clinical context

The history should establish the course of concerns, the situations in which they are most visible, the child's capacities, and the family's explanatory model. **Developmental and psychiatric history** is taken to support differential diagnosis and identify comorbidity. Its value lies in anchoring current concerns in the child's broader developmental trajectory, rather than interpreting behaviour only through the immediate school complaint. For developmental context beyond this focused assessment, consult the Normal child development and milestones notes.

The essential anchor is **developmental appropriateness**. Behaviour must be judged against the child's developmental level, not against an abstract expectation that every child of similar chronological age will behave identically. When intellectual subnormality is suspected, the relevant question is whether the difficulty is inappropriate for the child's mental age; this is why developmental history and a working impression of mental age belong in the assessment. The point is clinical fairness: a behaviour can be challenging for adults yet still be developmentally expected for that particular child.

Build the developmental account around function. Clarify communication, play, self-regulation, adaptive demands, and the child's response to routine changes or increasing expectations, without turning the history into a catalogue. Ask how the current concern differs from the child's usual style and whether it is experienced similarly by the child and adults. A timeline is useful when it links difficulties to transitions in demands or contexts, but it should not be mistaken for proof by itself. The history is an interpretive tool, not a chronology contest.

Medical history searches for comorbidity and identifies issues relevant to medication planning. It should include relevant physical disorders and a focused account of symptoms that may change the safety assessment. When pharmacotherapy may later be considered, obtain family history of ADHD and, specifically, family history of sudden cardiac death **under 40 years**. Baseline sleep and appetite are also worth recording because later change cannot be interpreted well if the starting state was never established.

The wider history includes prior interventions, substance-use history where relevant, psychosocial context, and family experience of the problem. It is tempting to regard family history as a confirmatory box to tick. Instead, treat it as a clue whose meaning is contextual. A history of relatives with ADHD can support the formulation, whereas absent affected relatives in the context of traumatic stress or a family history suggestive of a mimicking condition should prompt renewed diagnostic caution. The detailed differential is addressed elsewhere in this chapter; this is the moment to keep the differential open rather than to settle it too early.

GOOD TO REMEMBER

Baseline sleep, appetite, prior treatment, and family concerns are not "background." They make later follow-up interpretable and help distinguish a new treatment effect from a pre-existing difficulty or a changing environmental demand.

6.4 School reports and the educational record

School is usually the setting in which the gap between capacity and performance becomes most visible, but the school report must be requested and interpreted with care. A **teacher report** may be an unstructured account of observed behaviour or a teacher rating on a structured scale. It is sought through the parents after explaining why information from school is needed and obtaining consent and assent. The explanation matters: parents may fear stigma, blame, or adverse treatment of the child, and a request that feels like surveillance can damage collaboration.

Ask the teacher to describe the learning environment rather than simply to endorse a label. Useful observations concern how the child begins work, sustains it, responds to instruction, handles transitions, completes tasks, interacts with peers, and functions when supervision changes. Ask what appears to help, not only what fails. Schoolwork, notebooks, report cards, and patterns of incomplete or inconsistent work can provide a concrete record of the educational impact, but none is diagnostic in isolation. They need to be read alongside the developmental history and the child's opportunities to learn.

CLINICAL QUESTION	WHAT THE SCHOOL RECORD CAN CONTRIBUTE	HOW TO INTERPRET IT
Where does difficulty arise?	Examples from instruction, independent work, transitions, and peer situations	Locate the difficulty in a real demand rather than in a global judgement
How stable is the pattern?	Observations across routine school tasks and records over time	Compare patterns, not isolated incidents
What supports functioning?	Teacher accounts of structure, prompts, seating, reinforcement, or task format	Identify conditions under which impairment is reduced
What is the impact?	Work completion, classroom participation, relationships, and educational progress	Separate functional consequence from a diagnostic label
What remains uncertain?	Gaps, conflicting accounts, or records that lack context	Return to parent, child, and teacher for clarification

If parents remain reluctant to approach the school, do not convert reluctance into non-cooperation. Elicit the reasons, revisit consent, and make the best assessment possible from parent and child accounts together with schoolwork and report cards. The limitation should be documented honestly. A missing teacher report reduces one source of corroboration; it does not make thoughtful clinical assessment impossible.

Rating scales can help obtain structured teacher information and later monitor response. Their role is supportive; diagnostic judgement rests on clinical assessment. The selection, structure, and interpretation of specific rating scales are covered in the section on rating scales.

6.5 Observation, mental state and physical examination

Direct observation is useful when it is treated as a sample with a known context. The clinician can note engagement, activity level, communication, response to structure, separation from caregiver, frustration tolerance, and the fit between observed behaviour and the history. Observation may also show the child's competencies, which matter when explaining the formulation to family and school. It cannot, however, be allowed to overrule a carefully gathered longitudinal account merely because the interview was calm.

The office is a particularly poor place to infer absence of ADHD from absence of obvious signs. Features may be minimal or absent in **one-to-one** interaction, in a novel setting, under close supervision, with frequent rewards, or during especially engaging activity. These are not loopholes in assessment. They are reminders that behaviour is shaped by the demand and support available at the time it is observed.

TRAP **"The child sat quietly in my room, so the history must be wrong."** A short, structured, novel encounter may be far less demanding than the environments from which the referral arose. Use the observation to refine the formulation, not to dismiss collateral evidence.

The **mental state examination** is especially valuable because it can rule out another mental disorder that better explains the symptoms. It should be developmentally adapted and integrated with the interview rather than reduced to an adult-style checklist. Affect, thought content, anxiety, mood, perception, communication, insight appropriate to development, and risk are considered insofar as they clarify the presenting pattern. This is a screen for explanatory alternatives, not a duplicated teaching of the differential diagnosis.

The **physical examination** and medical history help rule out mimicking disorders and detect comorbid developmental coordination disorder. There are no diagnostic physical signs of ADHD. Abnormal findings therefore require their own clinical interpretation rather than being treated as evidence for ADHD. Examination also establishes a sensible baseline for care and may reveal a reason to broaden the assessment beyond the referral label.

PITFALL

Do not write “normal examination” as if it were a positive diagnostic test for ADHD. A normal examination narrows some concerns; it does not confirm the diagnosis. Equally, an abnormal finding should prompt explanation rather than diagnostic drift.

6.6 Impact, selective tests and the adolescent interview

Symptoms acquire clinical importance through their consequences. Assess **functional impairment** across academic, family, social, interpersonal, peer, and occupational domains as relevant, and ask how the difficulty affects the patient and caregivers. This prevents severity from being equated with how disruptive an adult finds the child. A quietly struggling child may have substantial educational or internal burden, while a highly visible behaviour may have limited impact once the context is understood.

Discuss impact concretely. What activities are avoided? What interactions repeatedly deteriorate? What does the child believe about their own abilities? What is the cost to caregivers in supervision, conflict, time, or distress? The answers guide priorities for follow-up and create a baseline against which meaningful improvement can be judged. They also make it easier to distinguish a symptom count from the lived burden that justifies intervention.

Routine psychological testing and specific physical investigations are not indicated solely to establish ADHD. Cognitive assessment is reserved for suspected intellectual subnormality, and investigations are selected when the history or examination indicates them. This restraint is good clinical method: testing should answer a question generated by the assessment, not substitute for the assessment that should have generated the question.

For older children and adolescents, make space for a **confidential adolescent interview** separate from parents. This acknowledges autonomy and confidentiality and creates an opportunity to elicit mood-related risk, substance use, and high-risk behaviour that may not emerge in a family interview. Explain the limits of confidentiality in language the young person can understand, and then return to shared discussion only to the extent that safety and care require.

6.7 Integrating and revisiting the formulation

End the first assessment by making the reasoning visible. Summarise the reported pattern, the settings represented, the degree and type of impairment, the corroborating evidence, the unresolved discrepancies, and the factors that require further assessment. This is more useful than a bare conclusion because it tells the family why a diagnosis is being considered and tells the clinician exactly what must be clarified at follow-up.

Assessment is not necessarily concluded in a single visit; it may require **at least** a further visit and remains an ongoing, multi-informant process across settings. Follow-up is not an administrative afterthought. New school information, changing demands, treatment response, and family circumstances can sharpen the formulation or reveal that an initial explanation was incomplete. The clinician should preserve uncertainty where the evidence is incomplete, rather than forcing a premature categorical answer.

> The diagnosis is made from a developmentally anchored, multi-setting history of impairment, interpreted with school collateral and examination - never from a quiet consulting-room encounter alone.

7 · Rating scales (Conners, Vanderbilt, SNAP-IV)

Rating scales make behaviour discussable across settings. They convert an informant's observations into a structured record, but they do not convert a questionnaire result into a diagnosis. Their proper contribution is to show which concerns are being endorsed, by whom, how much functioning is affected, and whether the pattern merits clinical synthesis with the history, collateral information and examination. A scale is therefore evidence from an informant, not a substitute for clinical judgement.

The marks in this area usually turn on a more precise distinction: the instruments share an ADHD focus but do not share the same raters, age bands, score metric, thresholds or reproduction permissions. Treating them as different versions of one test produces errors in both interpretation and documentation. The accompanying figure separates the instruments by the question each actually answers.

3	6 to 12	26
CONNERS RATER FORMS	VANDERBILT AGE BAND	SNAP-IV ITEMS

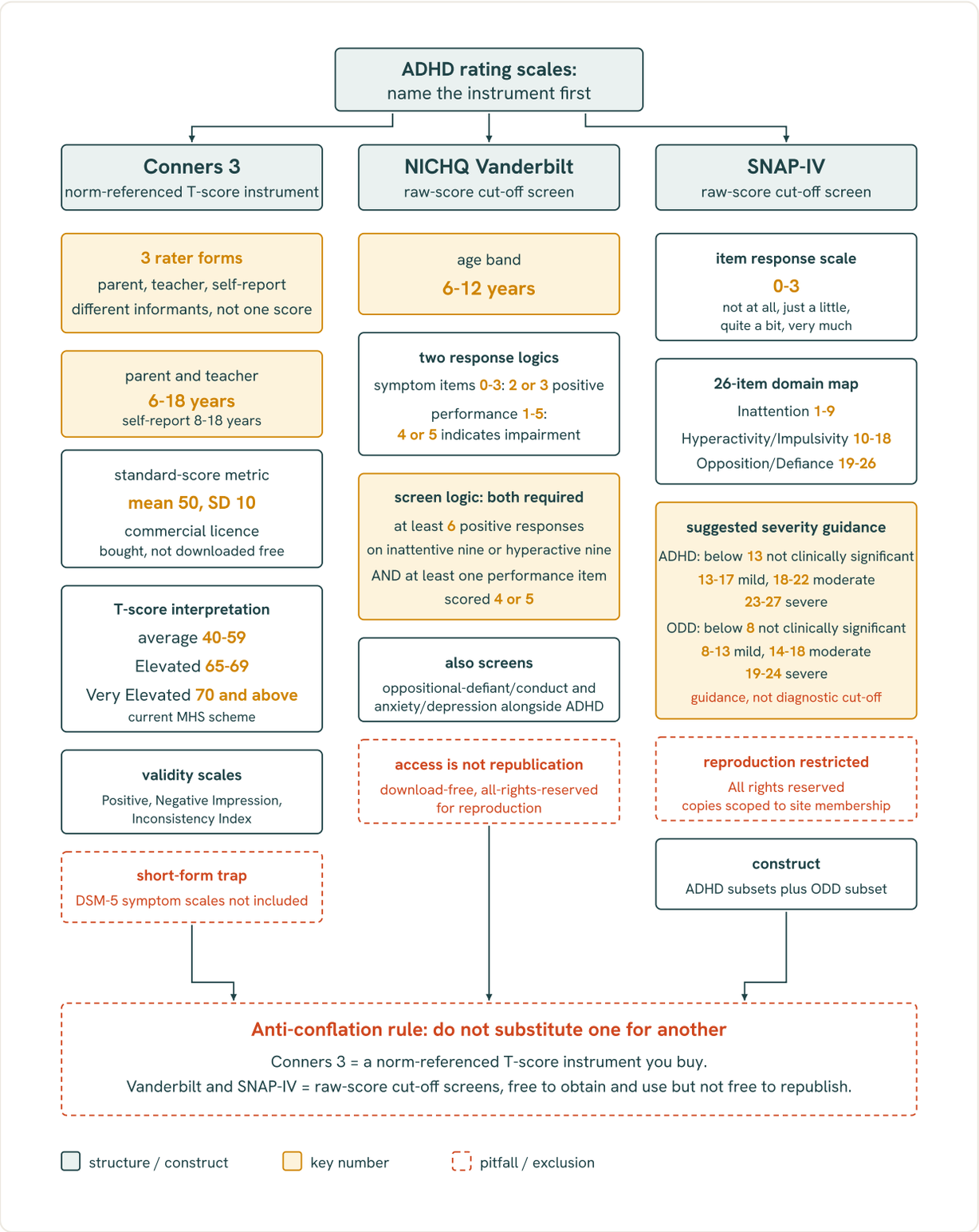


Fig 22.7. ADHD rating-scale split: match the instrument to its rater, age band, scoring construct and cut-off logic before interpreting it.

7.1 What a rating scale adds

A **rating scale** is a structured informant report. It is most useful when the clinician needs a disciplined account of behaviour in the contexts in which it is observed, rather than a retrospective global impression. The form does not observe the child directly. Its value lies in making the informant's frame visible: a teacher may describe demands in a classroom, a parent may describe routines and transitions, and the young person may add an account of internal

experience. Concordance may strengthen confidence in a pervasive difficulty; disagreement is information to explore, not a technical nuisance to average away.

Before choosing any form, decide what is needed from it. A clinician may need an age-appropriate informant report, a profile relative to a reference group, a transparent symptom-and-impairment screen, or a repeatable raw score for monitoring. These are different purposes. A high score may arise from genuine difficulty, context-specific strain, a rater's threshold for concern, misunderstanding of the item, or a response style that needs checking. Conversely, a modest score cannot erase a coherent clinical history. Scale data must be read with the informant's opportunity to observe the behaviour and the demands of that setting in mind.

RULE **Interpret the instrument that was completed, not the instrument you wish it had been.** Its rater, age range, score metric and threshold determine what its result can mean.

This principle also prevents a common shortcut: extracting a number from one scale and applying a cut-off remembered from another. The three named instruments are deliberately **not interchangeable**. Their scores carry meaning only within the rules of their own form and scoring system.

7.2 Conners 3: a norm-referenced profile

Conners 3 provides three rater forms: parent, teacher and self-report. The parent and teacher forms apply from 6 to 18 years; the self-report form applies from 8 to 18 years. This is clinically useful because different raters have access to different parts of the child's life. It does not license a mechanical vote-count. A discrepancy should lead to questions about setting demands, support, structure, relationships and the informant's actual observation window.

The important technical distinction is that it is a **norm-referenced T-score instrument**, supplied under a commercial licence rather than as a freely downloadable form. The score describes the respondent's report relative to the instrument's reference framework. It is not a raw symptom total that can be transferred into another scale's rules. The T-score metric has a mean of 50 and a standard deviation of 10. On the current interpretive scheme, 40 to 59 is the average band, 65 to 69 is Elevated, and 70 and above is Very Elevated.

These bands describe the position of a scale score, not a diagnostic verdict. An elevated profile should focus the interview: which reported behaviours are impairing, are they developmentally unexpected in that context, do they occur across relevant settings, and what alternative explanation might account for them? The result is most helpful when it sharpens questions rather than ends them. Equally, an average score should prompt review of who rated, what period they had in mind, and whether protective structure is masking difficulty in that setting.

Conners 3 also has **validity scales**: Positive Impression, Negative Impression and the Inconsistency Index. These are not accusations of dishonesty. They are prompts to consider whether the response pattern may be unusually favourable, unusually unfavourable or internally inconsistent. The correct response is clinical clarification, including a careful discussion with the informant, rather than discarding the person or treating the profile as self-explanatory.

The choice of form matters. In particular, the **short form** does not include the DSM-5 symptom scales. A short form may be appropriate for the limited question it was designed to answer, but it cannot be read as though it supplied information that it omits. This is a small technical detail with disproportionate consequences in a written answer and in a clinic note.

PITFALL

Do not call a Conners 3 result a "positive screen" and then apply a raw-score rule. Its clinical language is a norm-referenced profile and interpretive band. A high T-score signals a report that needs synthesis; it does not dispense with the rest of the assessment.

7.3 Vanderbilt: symptom screen with impairment built in

The **NICHQ Vanderbilt** scales are intended for children aged 6 to 12 years. Their practical attraction is transparency: the clinician can see the endorsed symptom responses, the associated performance ratings and the additional screening sections. Unlike a norm-referenced profile, this is a **raw-score cut-off screen**. It is free to obtain and use, but reproduction remains rights-protected; free access is not permission to republish the form in a handout, case sheet or digital product.

Its symptom items are **scored from 0 to 3, with 2 or 3 treated as positive responses**. Performance items are scored from 1 to 5, with 4 or 5 indicating impairment. This design teaches a useful clinical discipline: symptom endorsement and functional impact must be considered together. A behaviour may be frequent yet not show the impairment pattern required by the form's screening logic; impairment without the relevant symptom pattern requires a broader explanation.

For its ADHD screen, Vanderbilt requires **at least 6 positive responses in the inattentive nine or the hyperactive nine, or both, plus at least one performance item scored 4 or 5**. This is a form-specific decision rule, not a universal conversion key for other questionnaires. The phrase "or both" is important: a clinician should not force a report into a single neat category when the form records concerns in both symptom groupings.

The form also **screens oppositional-defiant/conduct and anxiety/depression concerns alongside ADHD**. These sections are an invitation to widen the interview, not a replacement for assessment of those conditions. They protect against the narrow habit of treating every difficulty in a child with attentional complaints as merely another expression of ADHD. A screen can identify a direction of inquiry; diagnosis requires the clinical work that follows.

GOOD TO REMEMBER

When using Vanderbilt results, document both sides of the screen: the symptom pattern and the performance information. This makes the reasoning visible and avoids the misleading shorthand of reporting only a symptom total.

7.4 SNAP-IV: transparent raw-score monitoring

SNAP-IV is another raw-score screen. Each item is **scored from 0 to 3: not at all, just a little, quite a bit or very much**. The response anchors are clinically helpful because they make the informant's judgement of frequency or intensity explicit. They do not establish a diagnosis by themselves, and a change in raw score should be interpreted alongside what has changed in the setting, the informant and everyday functioning.

The common form has 26 items, organised as items 1 to 9 for inattention, 10 to 18 for hyperactivity/impulsivity, and 19 to 26 for opposition/defiance. The domain labels can guide scoring and interpretation without reproducing protected item wording. In an answer, state the domains and the scoring structure rather than attempting to recite questionnaire items from memory. That approach is both safer and clinically more useful.

Suggested guidance for each ADHD subscale is **below 13 not clinically significant, 13 to 17 mild, 18 to 22 moderate and 23 to 27 severe**, from a possible total of 27. These are suggested severity bands, not a validated diagnostic cut-off. That distinction matters: a severity label may help describe a rating pattern or monitor it over time, but it should not be presented as proof that a diagnostic threshold has been met.

For the opposition/defiance subset, suggested guidance is **below 8 not clinically significant, 8 to 13 mild, 14 to 18 moderate and 19 to 24 severe**, from a possible total of 24. This section can bring disruptive interaction patterns to attention, but it does not establish a disorder in its own right. Where this screen is clinically salient, the relevant differential and comorbidity assessment belongs in the wider child psychiatric formulation and in the Child behavioural, emotional and other disorders notes.

SNAP-IV is a **raw-score screen with reproduction rights reserved**. It may be available for use, but copying it into an unapproved clinic template, online portal or teaching booklet is a separate permission question. The same distinction applies to Vanderbilt: availability to obtain is not a blanket republication licence.

7.5 The examination contrast: metric, logic and permissions

INSTRUMENT	WHAT THE SCORE REPRESENTS	INTERPRETIVE LOGIC	ACCESS AND REPRODUCTION
Conners 3	Norm-referenced T-score instrument	Interpret the profile and its T-score band in clinical context.	Commercially licensed and purchased
NICHQ Vanderbilt	Raw-score cut-off screen	Read symptom responses together with impairment.	Free to obtain and use, but not free to republish
SNAP-IV	Raw-score cut-off screen	Use its stated scoring guidance without converting it into a diagnostic proof.	Free to obtain and use, but not free to republish

The table captures the distinction worth writing before any detail. Conners 3 is the norm-referenced T-score instrument that is bought; Vanderbilt and SNAP-IV are raw-score screens that may be obtained and used without charge but may not be freely reproduced. This is not mere administration. The metric tells the clinician whether the output is a standard-score profile or a form-specific raw-score screen. The licence tells the clinician whether a familiar form may lawfully be copied into routine materials.

A norm-referenced score and a raw score answer different descriptive questions. A T-score locates a scale result on the instrument's standard-score metric; it is especially useful when the profile and its interpretive band are the clinical focus. A raw score preserves the form's own endorsed responses and scoring rule; it is especially useful when the clinician wants to see exactly how the rule was met and whether the form also requires evidence of impairment. Neither metric is intrinsically more diagnostic. The error is to pretend that they have the same denominator, the same reference frame or the same implication for clinical formulation.

For the same reason, do not compare a numerical change on one scale with a numerical change on another as though the amounts were equivalent. A change has meaning only against the metric, rater, context and scoring method that generated it. In follow-up, the most defensible comparison is usually within the same instrument and informant, with a narrative account of what changed in the child's daily functioning. If a different form is required, record the transition clearly rather than constructing a false trend line.

MNEMONIC

SCALE

Source of report, **C**onstruct measured, **A**ge range, **L**ogic of the score, **E**xceptions and permissions. Use this spine before interpreting any named scale.

TRAP **"All ADHD scales are screening tools, so their cut-offs are interchangeable" is wrong.** Similar subject matter does not make scores comparable. The instrument's own metric and decision logic must be retained.

7.6 Reading rater differences clinically

Rater difference is often where a scale becomes most valuable. The question is not which respondent is "correct" in the abstract, but what each report reveals about the interaction between the child and an environment. A child may appear settled in a highly structured setting and struggle where organisation is self-directed. Another may show difficulties mainly when tasks are boring, socially threatening, confusing or beyond current academic capacity. Such patterns should trigger contextual questions rather than an attempt to manufacture agreement.

- Check whether each rater has enough opportunity to observe the behaviour in the relevant context.
- Clarify the situations the rater used as a reference when responding to the form.
- Ask what supports, supervision or environmental adaptations were already in place.

- Explore whether a discrepancy reflects different demands rather than unreliable reporting.

This interpretive stance protects against two opposite errors. One is to dismiss a school report because the parent does not see the same pattern at home. The other is to accept a concordant report uncritically without asking whether the same developmental, emotional, academic, sensory or relational burden is producing the behaviour. Rating scales help organise the question. They cannot answer it in isolation.

The same caution applies to self-report. It can add a perspective that an adult observer cannot supply, particularly when effort, distress or internal distraction shape the reported problem. Yet self-report too is an informant account, affected by insight, language, current mood and the meaning the young person assigns to the questions. A mature interpretation neither privileges one respondent automatically nor averages away a clinically meaningful discrepancy. It places each response beside the context from which it came.

7.7 Documentation, repeat measurement and Indian practice

When a scale contributes to the record, document the instrument, informant, version used, date, scoring method, salient result and the clinical interpretation. Record whether the result was consistent with the rest of the assessment and what uncertainty remains. This is preferable to writing "ADHD scale positive", a phrase that erases the difference between a T-score profile, a symptom-and-impairment screen and a raw-score severity guide.

Repeat measurement can be useful when the same instrument, rater and scoring method are retained, because it makes change easier to follow. But it should not be mistaken for a simple outcome score. A shift may reflect a changed school context, a different respondent, altered expectations, a new stressor or better understanding of the questions. Clinical improvement must therefore be anchored in functioning and the account of the child and family, not only in a numerical movement.

IN INDIA

Clinic teams often build reusable parent and teacher packs. Keep the scoring sheet, consent process and clinical interpretation separate from the copyrighted instrument itself. Conners 3 requires commercial licensing; Vanderbilt and SNAP-IV may be obtained for use but their reproduction is rights-protected. This small administrative discipline prevents a routine template from becoming an unauthorised republication.

Name the scale, then state its rater, age range, score metric and decision logic before interpreting the result.

8 · Comorbidities of ADHD (ODD, learning disorder, anxiety, tics)

Comorbidity is the rule, not a footnote. In ADHD, the presenting complaint may be distractibility, restlessness, poor homework completion, temper outbursts, school refusal, or an apparently simple behavioural problem. The clinical task is to decide which difficulties belong to

ADHD, which represent a co-occurring disorder, and which arise from the interaction between the two. **Comorbidity** is common, and a child may have multiple additional disorders. That fact changes formulation, the sequence of intervention, and the way the family understands apparent treatment failure.

A diagnostic formulation that stops after identifying ADHD often explains only part of the impairment. Co-occurring externalising symptoms may make conflict the most visible problem; anxiety may make inattention look situation-bound; a learning difficulty may turn ordinary classroom demand into daily demoralisation; and tics may complicate the history of movements and medication concerns. The point is not to turn every difficulty into another label. It is to test whether the additional pattern has its own persistence, context, developmental meaning, and functional consequence.

Common	Externalising	Learning	Anxiety
COMORBIDITY BURDEN	MAY DOMINATE REFERRAL	MAY AMPLIFY IMPAIRMENT	MAY ALTER PRESENTATION

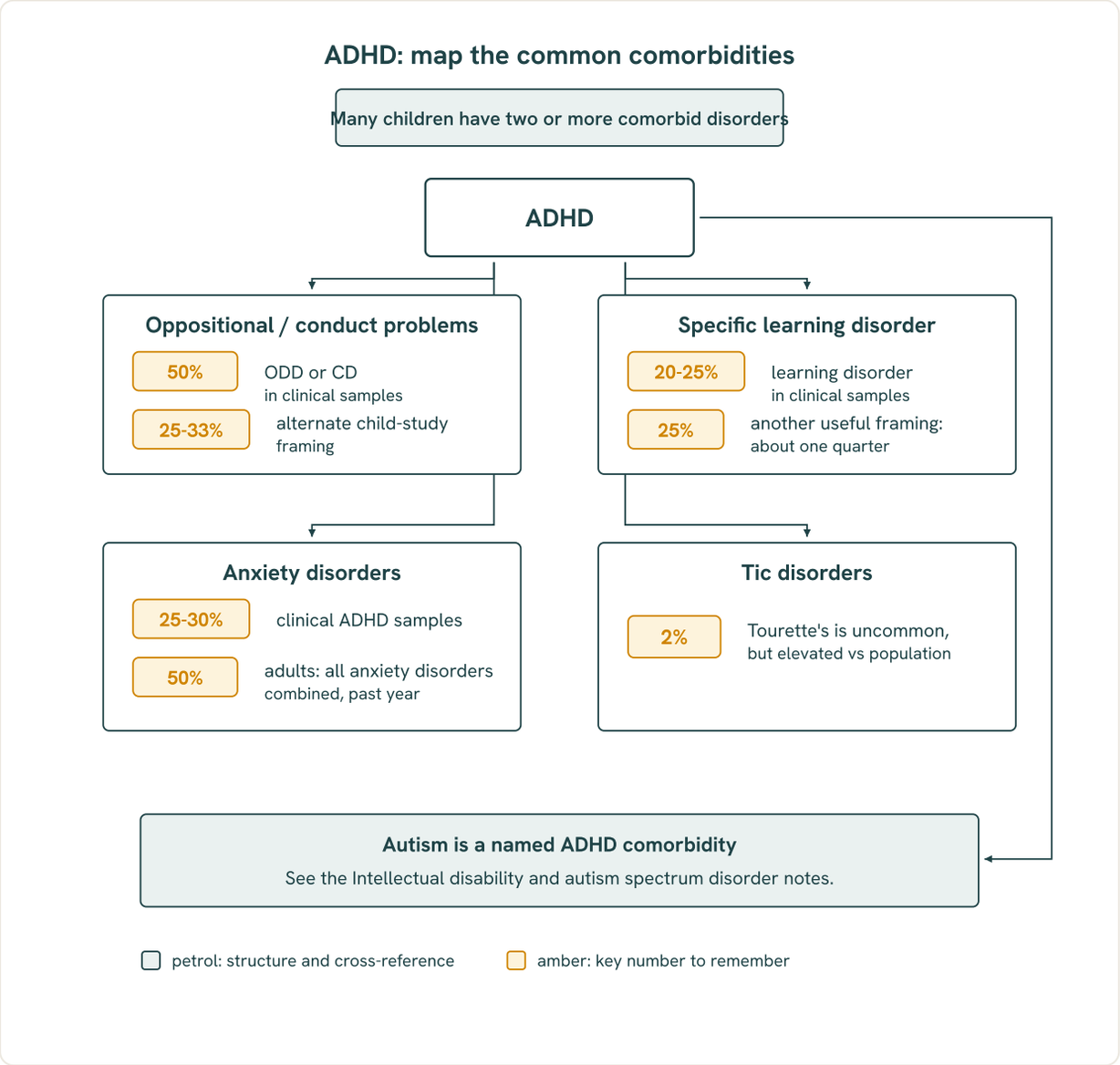


Fig 22.8. ADHD comorbidity map: high-yield associations and the autism cross-reference.

8.1 The comorbidity formulation

Think of the assessment as an effort to separate a *shared consequence* from a *second syndrome*. Poor concentration can follow worry, boredom, repeated academic failure, conflict at home, inadequate sleep, or a primary attention disorder. Irritability can be a reaction to repeated correction, an externalising pattern, an affective symptom, or a child's depleted response to chronic demand. The clinician therefore asks not only, "Is this symptom present?" but also, "When does it occur, what reliably evokes it, and what remains when the immediate trigger is absent?"

This is especially important because impairment is cumulative. A child with ADHD may be able to compensate in a supportive environment, yet become markedly dysregulated when faced with a reading task, peer conflict, fear of failure, or a prolonged bedtime struggle. Conversely, a symptom that appears to be a comorbidity may recede when the core ADHD-related demands are understood and the environment is adjusted. The formulation should preserve this uncertainty rather than prematurely converting every association into a separate diagnosis.

RULE **Diagnose a comorbidity when it adds a coherent pattern of symptoms and impairment, not merely because ADHD is severe.** Ask what the additional formulation explains that ADHD alone does not explain, and whether it persists across the situations in which it would be expected to appear.

For practical work, make a problem list before making a diagnostic list. Record the child's attention and activity difficulties, then separately map academic functioning, oppositional interactions, mood and worry, motor or vocal phenomena, sleep, peer functioning, and the family response. A problem list prevents a familiar error: allowing the loudest complaint to erase quieter but clinically decisive difficulties. It also gives a sensible way to revisit the formulation after intervention, when the relative contribution of each difficulty may become clearer.

- Identify the complaint that brought the family or school to attention.
- Ask which setting makes the difficulty most obvious and which setting protects against it.
- Clarify the sequence between demand, emotion, behaviour, and consequence.
- Determine whether the additional symptoms have a pattern independent of immediate frustration.
- Link each problem to a concrete domain of impairment rather than to diagnostic language alone.

8.2 Externalising comorbidity: opposition, conduct problems, and the referral trap

Oppositional defiant disorder and conduct disorder are frequent companions of ADHD in clinical practice. In clinical ADHD samples, oppositional defiant disorder or conduct disorder together occur in **about 50%**. This estimate is sample-dependent and should never substitute for an assessment: referral pathways and the way disorders are grouped both influence what a clinic reports.

The central clinical distinction is between *reactive non-compliance* and a broader oppositional pattern. A child with ADHD may refuse when a task is lengthy, poorly structured, humiliating, or delivered after a chain of reprimands. That behaviour calls for analysis of antecedents, expectations, and support. A co-occurring oppositional disorder is considered when the pattern extends beyond isolated task frustration and contributes its own recurring interpersonal impairment. Conduct problems require similarly careful separation from impulsive acts, developmental immaturity, and behaviour that is primarily retaliatory or peer-mediated.

ADHD can increase the speed with which an interaction escalates. The child acts before considering consequences; adults become more directive; correction becomes frequent; and both parties can enter a coercive loop. That mechanism does not by itself establish a disruptive-behaviour disorder. Equally, it must not be used to minimise persistent aggression, deceitful behaviour, serious rule violation, or marked hostility. These have their own clinical and safeguarding implications and should be assessed directly.

CLINICAL QUESTION	ADHD-LINKED DIFFICULTY	POSSIBLE ADDITIONAL EXTERNALISING FORMULATION	WHY THE DISTINCTION MATTERS
What precedes refusal?	Demand, boredom, delay, or disorganisation may be prominent.	The pattern may continue beyond task demands and occur within many relationships.	It directs attention toward structure and relational context, not labels alone.
What is the emotional tone?	Frustration may follow repeated failure or correction.	Persistent angry, defiant, or hostile interactions may require their own formulation.	It avoids mistaking understandable distress for wilful misconduct.
What is the behavioural pattern?	Acts may be rapid, poorly considered, and followed by regret.	More organised or recurrent conduct concerns need a fuller risk assessment.	It affects the urgency and breadth of intervention.
Where is the impact?	Impairment may centre on task completion and classroom regulation.	Conflict may be pervasive across home, school, and community settings.	It clarifies whose report and which settings need close scrutiny.

PITFALL

Calling every angry refusal “opposition” hides the function of the behaviour. Before naming an externalising comorbidity, ask whether the child is escaping an impossible task, responding to shame, protecting against anticipated failure, or reacting to an interaction that has already become adversarial. This does not excuse harmful behaviour; it makes the intervention more accurate.

The disorders themselves, their diagnostic boundaries, and their management are covered in the *Child behavioural, emotional and other disorders notes*. Here, the practical message is narrower: ADHD plus an externalising pattern often creates more impairment than either presentation

appears to create in isolation, so the clinical formulation must include both the child's self-regulation difficulty and the interpersonal system in which it repeatedly unfolds.

8.3 Specific learning disorder: when academic failure is more than inattention

Specific learning disorder is a clinically important comorbidity in ADHD. Clinical ADHD samples report it in the **20-25%** range, while another source describes learning and language disorders in **about 25%** of children with ADHD. The educational impact is often disproportionate because the child must manage both the task-specific difficulty and the organisational demands of schoolwork.

Do not infer a learning disorder solely from poor marks, unfinished work, careless mistakes, avoidance of homework, or a parent's report that the child "does not study." These can arise from ADHD, an unsuitable learning environment, emotional distress, inconsistent attendance, or an unrecognised language-related difficulty. Equally, do not assume that ADHD accounts for all academic underachievement. A child who performs poorly despite interest, support, and adequate attention to a particular academic task may need a focused learning assessment.

The useful question in an ADHD clinic is not "ADHD or learning disorder?" but "What is the contribution of each?" Attention problems can reduce the quantity and consistency of practice. A specific learning difficulty can make effort inefficient, expose the child to repeated failure, and generate avoidance that resembles inattention. Once a task becomes associated with humiliation, the child may appear restless, oppositional, anxious, or disengaged only in that context. The formulation should therefore connect symptom pattern to the actual work the child is asked to do.

Obtain examples of the child's work, identify whether the difficulty clusters around particular academic demands, and compare performance under ordinary classroom conditions with performance when the task is broken down and attention is supported. Reports from school are most useful when they describe the task, the error pattern, the help offered, and the child's response to help. A global judgement such as "weak student" provides little clinical information and often imports stigma into the case formulation.

IN INDIA

School records, notebooks, examination history, and teacher observations can be exceptionally informative, but they must be read in context. Medium of instruction, changes in schooling, access to remedial support, family resources, and the child's opportunity to practise may all shape the record. Treat school labels as prompts for inquiry rather than as diagnostic conclusions. The definition, formal assessment, and educational route for specific learning disorder are addressed in the learning disorder sections of this chapter.

The full ADHD-versus-learning-disorder discrimination belongs in the chapter's dedicated comparative section. At this point, preserve both possibilities in the formulation and avoid a false either-or conclusion. That protects the child from being described as simply inattentive when

remedial needs are missed, and from being described as simply learning-disabled when support for ADHD-related regulation is also required.

8.4 Anxiety: quiet suffering behind apparent inattention

Anxiety disorders are also common in ADHD. Clinical samples report any anxiety disorder in the **25-30%** range. Anxiety may be conspicuous through avoidance, reassurance seeking, somatic complaints, tearfulness, or distress around separation and performance. It may also be quiet: the child sits still, appears to daydream, postpones tasks, and is interpreted as inattentive when the active mental process is worry.

The phenomenology matters. ADHD-related inattention is often variable with interest, novelty, structure, and competing stimulation. Anxiety-related concentration difficulty may be most evident when the child is preoccupied by threat, anticipated criticism, uncertainty, or a feared task. These patterns can coexist in the same child, and their interaction can be self-reinforcing. Disorganisation creates missed deadlines or negative feedback; these experiences increase apprehension; apprehension consumes working attention; and the child then performs even less effectively.

Ask what the child is thinking during the period described as "not concentrating." A report of worry, dread, fear of error, or mental rehearsal points the assessment toward anxiety. Ask also about avoidance, bodily sensations, sleep-related fears, and the meaning of school or social situations. Do not rely on the child's direct denial of anxiety alone. Children may have limited language for internal states, may fear disappointing adults, or may describe their experience through behaviour rather than words.

> **GOOD TO REMEMBER**
>
> An anxious child with ADHD may look less overtly hyperactive in a formal consultation than in daily life. Quietness in the room is not evidence that the attention disorder has disappeared, and activity at home is not evidence that all school avoidance is ADHD. Reconcile reports by examining the emotional demands of each setting.

Clinical priorities follow impairment, risk, and the child's capacity to engage. When anxiety is driving avoidance, a plan that only demands better organisation can feel punitive and may fail. When ADHD-related disorganisation is feeding anxiety, practical scaffolding may reduce anticipatory distress. Families benefit from hearing that both processes can be real at once. This explanation shifts the conversation away from blame and toward a shared map of the child's difficulties.

8.5 Tics, sleep, developmental coordination, and autism: name the association, assess the child

Tourette's disorder is uncommon but clinically relevant in ADHD, occurring in **about 2%** of affected children. The practical issue is not to make an assumption from a single observed movement or sound. Clarify the phenomenology with the child and family, the temporal pattern, the settings in which it occurs, and the degree of distress or interference. The assessment should

also distinguish tics from restlessness, habitual movements, medication concerns, anxiety-linked behaviours, and other repetitive phenomena.

Tics and Tourette's disorder as disorders in their own right are covered in the *Child behavioural, emotional and other disorders notes*. In an ADHD formulation, document the movement or vocal history carefully enough that later change can be interpreted meaningfully. A family may attribute every fluctuation to ADHD treatment, while a clinician who does not establish the baseline may be unable to decide whether a reported change reflects the natural course, heightened observation, stress, or an intervention-related concern.

Sleep disorders have a high prevalence in children with ADHD. Sleep can be both a co-occurring problem and a source of symptoms that resemble ADHD, so it deserves a direct history rather than a perfunctory question about bedtime. Establish the family's account of sleep opportunity, sleep routine, nocturnal disturbance, waking, daytime sleepiness, and the relationship between sleep quality and daytime regulation. The differential diagnosis of sleep-related attentional symptoms is addressed in the ADHD differential diagnosis section.

Developmental coordination disorder is a common ADHD comorbidity. Notice when the child's functional difficulties include everyday motor demands, handwriting burden, sports participation, self-care tasks, or avoidance of activities that expose clumsiness. The purpose at this stage is to recognise that these difficulties may not be explained by inattention alone. The disorder's definition and assessment belong in the communication and motor disorders section.

Autism spectrum disorder may also be named in an ADHD formulation. Do not use this brief comorbidity note to collapse the two developmental histories into one or to make assumptions about prevalence, diagnostic rules, or treatment response. For that discussion, see *the Intellectual disability and autism spectrum disorder notes*.

TRAP **Do not let a recognised comorbidity become a diagnostic shortcut.** A tic does not explain every movement, a learning concern does not explain every unfinished task, and anxiety does not automatically replace ADHD. Each requires its own history, observed impact, and place in the overall formulation.

8.6 Mood symptoms and the longitudinal formulation

Children with ADHD have an increased risk of mood disorders, which may emerge later. In practice, this calls for a longitudinal rather than purely cross-sectional formulation. A child's irritability today may be tied to conflict, anxiety, sleep disruption, demoralisation, environmental stress, or a mood disorder. The clinician should avoid treating the word "mood" as an explanation in itself. Describe the emotional state, its triggers, the change from the child's usual functioning, its relationship to activity and sleep, and the consequences for safety and functioning.

This part of assessment is often more useful when conducted across contacts. Families may initially prioritise disruptive behaviour and disclose hopelessness, withdrawal, or self-critical thinking only after they feel understood. Teachers may notice a decline in engagement rather than verbal sadness. The child may frame the experience as anger, boredom, or physical

discomfort. A careful formulation welcomes these different descriptions and asks whether they fit one process or several.

Where significant mood symptoms are present, assess immediate risk and the supports available to the child. Do not attribute serious distress to ADHD merely because ADHD is already established. At the same time, do not assume that every tearful or irritable period establishes a mood disorder. The useful clinical stance is active curiosity: identify the pattern, obtain collateral, review change over time, and decide what needs attention now while diagnostic certainty develops.

8.7 Turning recognition into a workable plan

The plan follows the formulation, not the order in which diagnoses were noticed. Begin by stating, in plain clinical language, the contribution of ADHD and each suspected or established comorbidity to the child's current impairment. This makes priorities visible. A family can then understand why academic support, emotional work, sleep assessment, behavioural intervention, school liaison, or risk management may be needed alongside ADHD treatment.

MNEMONIC

PAUSE

Problem list, **A**ntecedents, **U**nique pattern, **S**ettings, **E**xtra impairment. Use it to slow down before deciding that a difficult behaviour is either "just ADHD" or automatically a new disorder.

Prioritisation is clinical rather than ideological. Address urgent risk, severe suffering, major barriers to participation, and the factors most likely to prevent the child from benefiting from care. Revisit the formulation after support is introduced. Improvement in one domain can reveal another more clearly: a child whose attention becomes easier to support may then show a specific academic need; a child whose anxiety reduces may provide a more reliable account of attention; a child whose home conflict diminishes may show that apparent defiance was closely tied to coercive interactions.

- Share a formulation that separates symptoms, settings, triggers, and impairment.
- Agree which problem needs action now and which needs observation or further collateral.
- Coordinate with caregivers and school around functional goals rather than labels alone.
- Review whether the working formulation still explains the child's difficulties after intervention.

Comorbidity is therefore not an add-on to an ADHD assessment. It is the reason the clinician must remain both structured and humble: structured enough to look beyond the core syndrome, and humble enough to revise an early explanation when the child's developmental, emotional, academic, and relational pattern says more is happening.

In ADHD, identify the additional pattern of impairment before deciding the additional diagnosis, then let the combined formulation determine what must be addressed first.

9 · Differential diagnosis of ADHD

The diagnostic task is explanatory, not merely descriptive. Inattention, activity and impulsive behaviour are common final presentations in child psychiatry. ADHD is diagnosed only when its core pattern is the best account of the child's difficulties, rather than a label applied to any restless, poorly performing or hard-to-manage child. Differential diagnosis therefore asks what the behaviour means in its developmental, emotional, social and medical context.

The practical stakes are substantial. A false ADHD diagnosis can obscure distress, a communication difficulty, a sleep problem or a treatable medical contributor. The converse error is **diagnostic overshadowing**: dismissing developmentally inappropriate ADHD symptoms as inevitable within another disorder. Good differential work protects against both errors and leaves room for more than one diagnosis when the evidence supports it.

Developmental	Psychiatric	Medical
CAPACITY AND PHENOTYPE	COURSE AND EXPERIENCE	CONTRIBUTORS AND MIMICS

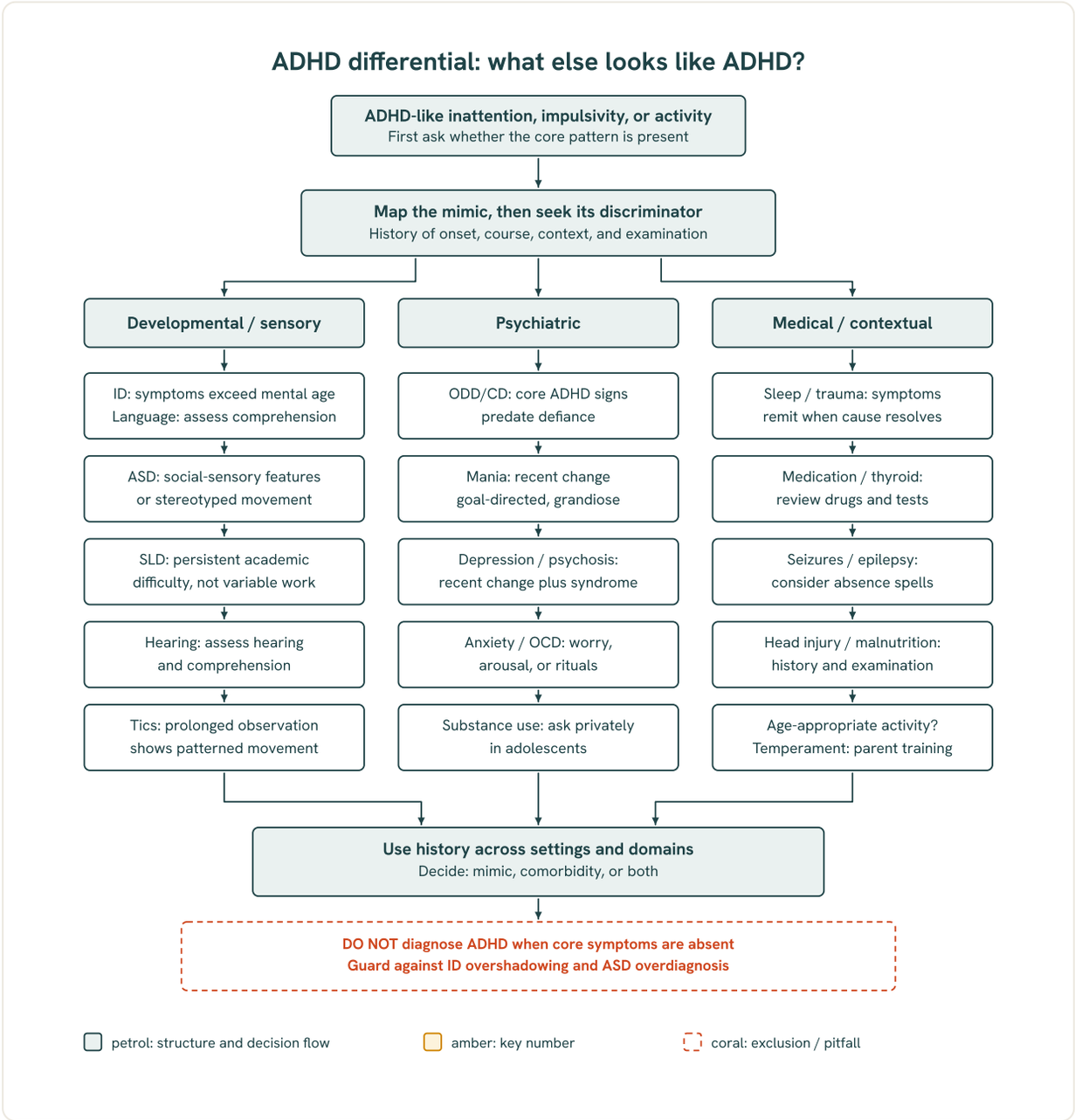


Fig 22.9. ADHD differential tree: common mimics and the short clinical clues that exclude them.

9.1 A structured way to think about the differential

Begin with a broad **developmental, psychiatric and medical differential**, rather than moving immediately from a parent's description to a syndrome label. The **three** groupings organise the possibilities: developmental presentations include intellectual disability, speech and language disorders, learning disorders, motor coordination disorders, autism spectrum disorder and tic disorders; psychiatric presentations include oppositional defiant disorder, conduct disorder, mood and anxiety disorders, psychotic disorders and substance use; medical presentations include epilepsy, tics, seizures, malnutrition and thyroid abnormalities. They are a map for enquiry, not a claim that every child requires every investigation.

At each branch, ask a small set of linked clinical questions.

- Has the behaviour always been characteristic, or does it represent a change from the child's usual state?

- Does the apparent failure to attend arise because the child cannot understand, is preoccupied, is exhausted, or is responding to an internal experience?
- Is movement purposeless and diffuse, patterned and repetitive, or directed toward a particular aim?
- Is the pattern best explained by one condition, by coexisting conditions, or by a contextual stressor?

These questions translate a parent's accurate observation into clinically usable data. They prevent the common mistake of treating a symptom word as though it were a diagnosis. They also make contradictory reports useful: a child who is distractible only in one kind of demand may be telling the clinician more about task capacity or context than about a pervasive attentional problem. The aim is analytic economy: each proposed explanation should account for the observed pattern without making the remainder of the history unintelligible, and should remain compatible with all available collateral. This discipline keeps the formulation honest.

Developmental history, school observations and the mental-state examination supply different parts of this answer. The assessment process itself belongs in the Child psychiatry: assessment, treatment, services and protection notes. Here, the central interpretive discipline is to compare the observed behaviour with the child's developmental capacities and with its temporal course.

RULE **Diagnose ADHD only when its core pattern explains the presentation better than a mimic or contributor.** A symptom such as poor concentration has little diagnostic value until its developmental meaning, onset, context and accompanying features have been established.

9.2 Developmental and educational presentations

Intellectual disability may look like ADHD when a child fails to follow instructions, abandons tasks or appears inattentive. The decisive question is whether the child understood what was asked. In intellectual disability, apparent inattention may be better accounted for by limited comprehension; ADHD should be added only when the symptoms are clearly **developmentally inappropriate for the mental age**. This is not a semantic nicety. It distinguishes failure at a task beyond the child's capacity from a regulatory difficulty at a task the child can perform.

Do not allow a global developmental diagnosis to end the enquiry. Establish the child's usual level of understanding, then examine behaviour in tasks matched to that level. A child who remains markedly distractible or impulsive despite clear, comprehensible demands may have ADHD in addition to intellectual disability. Conversely, repeated demands that exceed comprehension can create frustration, escape behaviour and apparent non-compliance without demonstrating ADHD. For the wider framework, see the Intellectual disability and autism spectrum disorder notes.

Speech and language disorders, hearing impairment and specific learning disorder may also surface through classroom inattention or failure to follow instructions. Undetected hearing impairment deserves active consideration when this is the presentation. Specific learning disorder should be named as a differential. Its academic difficulty tends to be persistent, whereas

ADHD performance can be strikingly variable. See Differentiating SLD from intellectual disability, ADHD and slow learner for the complete comparison.

High activity in a young child is not, by itself, pathology. In preschoolers, supposed symptoms may reflect normal development or temperament; in that circumstance, refrain from an ADHD diagnosis and offer parent training rather than converting an ordinary developmental challenge into a disorder. The developmental and temperament framework is set out in the Normal child development and milestones notes.

IN INDIA

The IPS clinical guidance supports a deliberately broad developmental, psychiatric and medical differential. In busy school-referral practice, "does not listen" is often a presenting complaint rather than a diagnosis. Clarify whether the instruction was heard, understood and developmentally achievable before interpreting the behaviour as inattentiveness.

9.3 Autism, motor phenomena and the form of activity

Autism spectrum disorder can produce behaviours that resemble ADHD, but their form and context matter. In autism, increased motor activity may be **repetitive and stereotyped**, unlike the broader hyperactivity of ADHD. Some apparently ADHD-like behaviours are better understood through sensory difficulties or atypical socio-emotional reciprocity. The question is not whether the child is active, inattentive or difficult to engage; it is what precipitates the behaviour, what function it serves, and whether it is embedded in the autism phenotype.

There are errors in both directions. It is wrong to call sensory-driven avoidance, a difficulty reading a social demand, or repetitive movement "hyperactivity" without further analysis. It is equally wrong to assume that a child with autism cannot also have ADHD. The task is to decide whether developmentally inappropriate ADHD symptoms are present beyond what autism explains. The wider autism framework and the co-occurrence discussion are in the Intellectual disability and autism spectrum disorder notes.

Tic disorders require observation over time rather than a snapshot at one interview. Prolonged observation helps separate complex motor tics in Tourette's disorder from ADHD-associated fidgetiness and increased activity. This is especially useful when the movement is intermittent, complex or embarrassing, because the child may suppress it briefly in a clinic. The phenomenology and management of tics belong in the Child behavioural, emotional and other disorders notes.

TRAP **Do not equate every visible movement with hyperactivity.** Repetitive movement, a tic, sensory-related distress and diffuse ADHD overactivity may all look "restless" from a distance, but they imply different questions and different formulations.

9.4 Disruptive behaviour and emotional disorders

Oppositional or conduct symptoms can dominate the consultation and tempt the clinician to infer ADHD from poor behaviour alone. **Chronology** is the useful discriminator: ADHD symptoms usually predate defiant or conduct symptoms. Defiance without the core ADHD

pattern is not a basis for diagnosing ADHD. In very severe ADHD, oppositional behaviour may arise soon after the attentional and activity difficulties begin, so chronology must be interpreted carefully rather than applied mechanically.

With mood disorders, ask whether the child has changed from their usual state. **Mania** has a relatively recent onset and a definite change from premorbid functioning; its activity is goal-directed, and inflated self-esteem or grandiosity points away from uncomplicated ADHD. The contrast is particularly important when a previously manageable child becomes overactive. Chronic activity alone does not establish mania, and episodic change alone should not be mistaken for a lifelong neurodevelopmental pattern.

Depression can be masked by irritability, agitation and poor concentration. It too is marked by relatively recent onset and a change from the prior state, with features such as decreased interest in pleasurable activities that exceed simple irritability. The clinician should not treat concentration as an isolated cognitive symptom. It belongs to an affective pattern, and the timing of that pattern is often more informative than the intensity of the classroom complaint.

Anxiety commonly brings poor concentration, distractibility and generalized hyperarousal. Worry and autonomic arousal support anxiety as the explanation. Explore the child's thoughts as well as their behaviour: the child whose attention is repeatedly captured by threat or worry may appear inattentive, yet the mechanism is preoccupation rather than the core ADHD pattern. Severe anxiety, including post-traumatic stress disorder, and distress after life events can mimic ADHD; when symptoms remit after the stressor is removed, that course weighs against true ADHD.

PITFALL

Calling a distressed child "ADHD" because the behaviour is disruptive can delay recognition of a new affective or anxiety state. The discriminating work lies in establishing change from baseline, accompanying experience and the relationship of symptoms to stressors.

9.5 Psychosis, compulsions and substance use

Psychosis can include behavioural disorganisation and apparent distractibility, but it generally represents a relatively recent change from premorbid functioning and is accompanied by delusions or hallucinations. The interview should make room for the child or adolescent to describe unusual perceptions and beliefs in language they can use. Such enquiry should be calm and direct; it is not made unnecessary by an existing ADHD diagnosis.

Obsessive-compulsive disorder may also be mistaken for overactivity when the child repeatedly performs acts, cannot move on from routines, or seems slow to begin work. The behaviour in obsessive-compulsive disorder is goal-directed and ritualistic, and concurrent obsessions may be present, unlike the non-goal-directed overactivity of ADHD. Ask what the child fears would happen if the act were not completed. That question clarifies the function of repetition without requiring the clinician to infer it from appearance alone.

Substance use belongs in the psychiatric differential, particularly among older children and adolescents, and must be discussed with privacy. The practical aim is not a moral interrogation but a credible account of when symptoms occur and what may be contributing to them. A private, developmentally appropriate conversation gives the young person a better chance of disclosing use or related risk. It also prevents the clinician from attributing a change in concentration or behaviour automatically to ADHD.

9.6 Sleep, physical illness and medication effects

Sleep disorders can present with inattention, poor impulse control, mood change and daytime sleepiness that resemble ADHD. Sleep-disordered breathing deserves particular attention because suspicion of it warrants sleep evaluation. The value of sleep enquiry is not confined to excluding a mimic: a sleep problem may coexist with ADHD and amplify the functional presentation. Establish the pattern of sleep and daytime alertness before deciding that poor classroom concentration is purely attentional.

Medical history should actively seek acquired and physiological contributors. ADHD-like problems may follow head injury and may be secondary to thyroid disorders or absence seizures; genetic syndromes such as fragile X are rare possibilities. The history should be directed by the presentation rather than reduced to a routine list. A new or fluctuating pattern, altered awareness, physical symptoms or a temporal link to illness makes a medical explanation more plausible and requires appropriate evaluation.

Medication review is equally part of differential diagnosis. Bronchodilators, thyroxine, neuroleptics through akathisia, and isoniazid can be associated with ADHD-like symptoms. Map the timing of behavioural change against medication exposure and distinguish a drug-related restlessness from the child's baseline pattern. This is especially important when a family reports that a previously settled child became restless after treatment began.

> **GOOD TO REMEMBER**
>
> When a child has ADHD-like behaviour plus sleepiness, altered awareness, physical symptoms or a clear medication temporal association, pause before escalating an ADHD formulation. These clues redirect the clinical interview toward a potentially remediable contributor.

9.7 Resolving uncertainty without premature closure

Many referrals contain both a genuine ADHD pattern and another source of impairment. Differential diagnosis should not be treated as a contest in which one label must eliminate every other possibility. The better formulation identifies which phenomena are explained by ADHD, which are explained by another condition, and which require observation over time. This preserves diagnostic precision without denying comorbidity.

When the history is incomplete, resist the pressure to convert uncertainty into certainty. Reconstruct the child's baseline, the sequence in which concerns emerged, and the circumstances in which they improve or worsen. Repeated reports across home and school are useful because they test whether a proposed explanation has coherent reach. A stress-related presentation, for

example, is less convincing as ADHD when it lifts after the stressor is removed; a developmental explanation is weaker when behaviour is plainly disproportionate to the child's capacity.

The overdiagnosis error is particularly instructive: labelling autism-related social or sensory features as ADHD. Its mirror image is diagnostic overshadowing in intellectual disability. These **two** failure modes are corrected by detailed interviewing and by collecting information across situations and domains. The goal is not maximal diagnostic complexity. It is the smallest adequate explanation that remains open to revision when new information appears.

Use the table as a prompt for hypothesis testing, not as a shortcut to diagnosis. No row is intended to work in isolation. A recent change, for example, gains meaning when it is linked to the quality of activity, the child's account of inner experience, and corroboration from those who know the child well. Conversely, the absence of a conspicuous alternative does not by itself prove ADHD. A coherent longitudinal account remains more useful than a checklist of isolated signs.

CLINICAL SIGNAL	INTERPRETATION THAT SHOULD BE TESTED	REASONING CONSEQUENCE
Recent change from usual functioning	mania, depression or psychosis	Seek the new syndrome rather than assume a longstanding neurodevelopmental pattern.
Failure to follow directions	lack of comprehension or hearing impairment	Match the demand to capacity and establish whether it was heard.
Repetitive or intermittent movement	repetitive, stereotyped movement or complex motor tics	Describe form, trigger and persistence before calling it hyperactivity.
Worry, fear or bodily arousal	Anxiety	Explore the cognitive and physiological context of poor concentration.
Sleepiness or altered awareness	Sleep disorder or absence seizures	Redirect the history toward sleep and medical causes.
Clear relation to treatment exposure	Medication effect	Map symptom timing against medication use before changing the psychiatric formulation.

MNEMONIC

Course, Capacity, Context, Character of movement

Use this as a compact differential spine. Ask whether the course is longstanding or changed, whether the demand matches the child's capacity, whether context supplies worry, stress, sleep loss or exposure, and what kind of movement is actually being described.

The differential diagnosis of ADHD is settled by developmental appropriateness, course, context and accompanying phenomena - not by the mere presence of inattention or restlessness.

Treating ADHD

10 · Stimulant pharmacotherapy (methylphenidate, amphetamines, mechanism, dosing)

Stimulants are a prescribing exercise in precision, not a generic trial of "ADHD medicine". Their value lies in matching a clearly defined target problem to a preparation whose exposure pattern fits the child's day, then adjusting from observed benefit and tolerability. The examination answer should therefore distinguish mechanism, formulation, starting regimen, titration and ceiling. A dose without its formulation and population is not a safe answer.

Within pharmacotherapy, a stimulant is best understood as one component of an individual treatment plan. Medication can make attention and behavioural regulation more available to the child; it does not substitute for the assessment of learning, family context, classroom demands or coexisting difficulties. Those elements determine what a meaningful improvement looks like. Adverse effects, physical monitoring and the wider multimodal plan are considered in their respective sections.

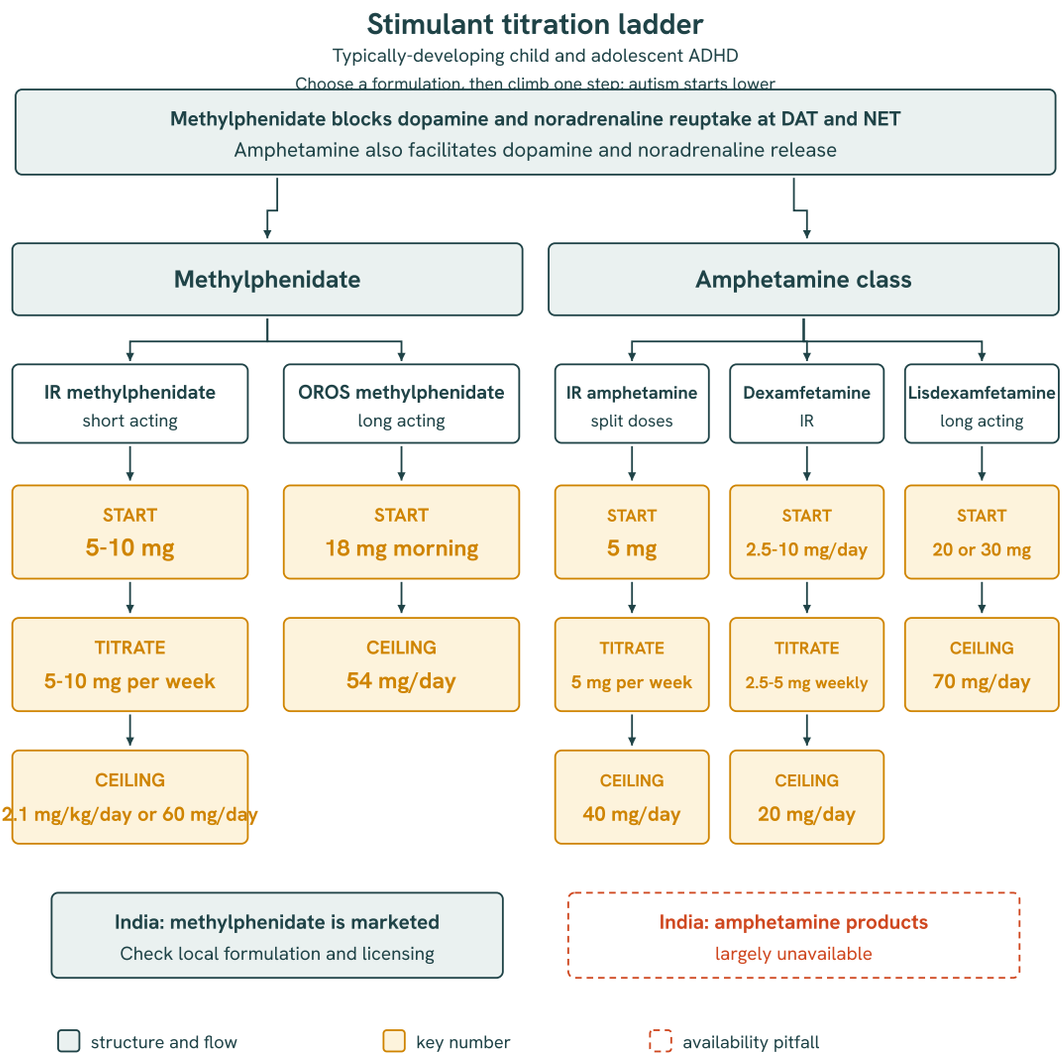


Fig 22.10. Stimulant formulation and titration ladder for ADHD.

10.1 Pharmacological logic of stimulant treatment

Methylphenidate works by reducing reuptake of dopamine and noradrenaline through the relevant transporters. The clinical inference is not that it simply "activates" a child. Rather, it changes catecholamine signalling in circuits that support the allocation and maintenance of attention, response selection and behavioural control. The desired outcome is more usable self-regulation in ordinary settings, not a sedated or compliant appearance.

The pharmacological contrast with **amphetamine** is worth stating precisely. Amphetamine both impedes reuptake and facilitates release of noradrenaline and, particularly, dopamine. Thus the classes overlap in their transporter-level targets but are not mechanistically interchangeable. This distinction helps the candidate explain why a child's response to one preparation cannot be assumed to settle the question of response to every stimulant preparation.

RULE **Prescribe the formulation, not merely the molecule.** The molecular mechanism explains the class effect; the release pattern determines when that effect is available in the child's real daily life.

The prescriber first defines the functional window that needs help. A short-acting preparation is useful when a brief, observable period is needed to establish the relation between dose and effect, or when different parts of the day require different exposure. A long-acting preparation may better suit a continuous school and home routine and can reduce the practical burden of dosing away from home. Neither formulation is intrinsically "stronger"; they solve different timing problems.

It is equally important to decide in advance what will count as benefit. Descriptions such as "more settled" are too vague to direct a dose change. A useful target is concrete and shared with caregivers and school: sustaining a task, completing work, following an instruction, reducing impulsive interruption, or participating without repeated redirection. The target must be observable across the settings in which impairment was established. If the target has not been specified, apparent non-response may actually be a failure of measurement or a mismatch between the chosen exposure window and the relevant demand.

Mechanism should therefore be used to reason, not to over-promise. Transporter actions describe a plausible pharmacological route to clinical change, but they do not tell the clinician which domain will improve most for a particular child or whether a chosen delivery pattern will fit the family's routine. The prescription remains a testable clinical decision. Its interpretation depends on the target behaviour, the setting, the timing of administration and collateral observation, rather than on a theoretical account of catecholamines alone.

GOOD TO REMEMBER

A calm child is not automatically a well-treated child. Ask whether attention, impulse control and participation have become more available in the setting that mattered to the family and school.

10.2 Methylphenidate preparations: translating mechanism into a regimen

Immediate-release methylphenidate is a practical formulation when the clinician needs a clear and adjustable relation between administration and the period of clinical benefit. It requires the family to understand that the formulation and the child population define the instruction. An immediate-release schedule should never be copied mechanically into a modified-release product, even though the active molecule is the same.

For a typically developing child with ADHD, the cited immediate-release starting regimen is **5-10 mg** orally each day, with subsequent divided administration as clinically indicated. This is a start point, not a target achieved by a calendar. It creates room to see whether the intended functional change appears during the desired period before moving further. The child's context matters: a preparation that seems ineffective may simply have its useful interval outside the school or home situation being judged.

In the same population and formulation, titration proceeds in increments of **5-10 mg per week**. Weekly adjustment gives enough clinical space to distinguish an emerging benefit from a transient impression, while preserving the principle that the regimen is adjusted purposefully. The instruction is formulation-specific and should be documented as such. Recording only

"methylphenidate increased" obscures the information needed for a later clinician to understand what has actually been tried.

The ceiling has two dimensions. For immediate-release methylphenidate in a typically developing child with ADHD, keep the weight-based total **below 2.1 mg/kg/day** in divided doses, and the licensed total **below 60 mg/day**. These are boundaries, not goals. A child who has not shown worthwhile functional benefit should not be pushed towards a numerical ceiling merely because that ceiling exists. Conversely, a partial response should prompt a disciplined question about timing, target and formulation before it is labelled a failure of the drug class.

Immediate-release prescribing is also a useful teaching model for the general principle of dose interpretation. A change in daily total, a change in the timing of administration and a change in release profile are different interventions. If they are all altered together, the subsequent response is hard to interpret. Where possible, make one purposeful alteration and record why it was made. This preserves a coherent treatment history and prevents the next decision from being based on recollection rather than clinical evidence.

The family's account should be sought in language that separates effect from expectation. Ask what the child can now do with less prompting, whether the benefit appears during the intended functional period and whether the demand itself changed. A report that the child is "fine at home" may not answer a school-time question; a school report may not answer an evening homework question. This is not a reason to demand perfect measurement. It is a reason to match the question to the formulation being assessed.

5-10 mg	5-10 mg per week	below 2.1 mg/kg/day	below 60 mg/day
IR START	IR TITRATION	IR WEIGHT CEILING	IR LICENSED CEILING

TRAP **Do not quote a methylphenidate dose without saying immediate-release or modified-release.** The molecule alone does not identify the regimen, its timing or its ceiling.

10.3 Modified-release methylphenidate and the school routine

OROS modified-release methylphenidate is designed to provide a morning-administered exposure pattern rather than a simple repetition of an immediate-release dose. Its clinical attraction is organisational as much as pharmacological: it can align medication delivery with a longer functional period while avoiding a school-time administration decision. The practical question is whether this exposure pattern fits the child's own demands, not whether a longer preparation is automatically preferable.

For child ADHD, the cited OROS starting dose is **about 18 mg** in the morning, titrated upward at weekly intervals. It should be communicated as an OROS-specific regimen. "Modified release" is not a licence to infer equivalence across products; the release design is clinically material. When a family reports that a medicine works at one point in the day and not another, the prescriber should think first about the relation between the preparation's delivery pattern and the child's functional timetable.

The licensed ceiling for this OROS preparation in child ADHD is below 54 mg/day. The word licensed matters in a textbook answer because it distinguishes an established product limit from an informal dose escalation. It also reinforces the basic discipline of identifying the exact product before discussing a maximum. A treatment review is then about whether the selected formulation has created a meaningful and durable improvement, not about chasing a number.

QUESTION	IMMEDIATE-RELEASE METHYLPHENIDATE	OROS MODIFIED-RELEASE METHYLPHENIDATE
Prescribing aim	Flexible, observable exposure periods	Morning-administered exposure across a longer functional period
How to write the order	Name the immediate-release formulation and divided administration plan	Name the OROS product and morning administration plan
Interpretation of response	Relate benefit to each intended period	Relate benefit to the child's day-long demand pattern
Common error	Treating a daily total as if timing did not matter	Assuming it is dose-for-dose interchangeable with immediate-release treatment

This formulation distinction has a wider teaching value. Medication decisions should be reversible hypotheses: "this release profile may cover this part of the child's day." A good review can confirm, refine or reject that hypothesis using collateral observations. It does not turn an imprecise prescription into a better one by attaching a diagnostic label to it.

A request for a long-acting preparation may arise from a genuine access problem, a wish to avoid medicine administration during the school routine, or a belief that a longer formulation is inherently superior. These possibilities are clinically different. The prescriber should identify the actual problem first, because the answer may be a different release profile, a clearer administration plan, or recognition that the target period itself has been defined too broadly. Formulation choice is therefore part of case formulation, not a purely administrative afterthought.

10.4 Amphetamine preparations: related class, distinct pharmacology

Amphetamine preparations require the same formulation discipline. Their additional release-facilitating action means that one should not describe them as merely another brand of methylphenidate. Clinically, the useful comparison is between a child's target window, the preparation's delivery pattern and the observed outcome, rather than an abstract hierarchy of "mild" and "strong" stimulants.

For immediate-release mixed amphetamine salts in child ADHD, the cited starting regimen is about 5 mg, given once or twice daily. The associated titration is about 5 mg per week, with a total kept below 40 mg/day in split doses. These statements belong together: drug, immediate-release formulation, child ADHD population, regimen and ceiling. Separating the number from that tuple is how a technically correct figure becomes an unsafe instruction.

Dexamfetamine immediate-release is another amphetamine-class option. In child ADHD, the cited regimen is to start 2.5-10 mg/day, increase by 2.5-5 mg weekly, and use a usual maximum of 20 mg/day in divided doses. The source permits occasional use up to 40 mg/day, but this should never be presented as the routine maximum. The key teaching point is that a regimen belongs to a named preparation, not to "amphetamine" in the abstract.

Lisdexamfetamine is a long-acting prodrug of dexamfetamine. For child ADHD, its cited regimen is 20 or 30 mg in the morning, titrated at weekly intervals, with a maximum below 70 mg/day. The distinction between this prodrug and immediate-release dexamfetamine should be explicit in an answer. The molecule ultimately delivered does not erase the different formulation design, dosing instruction or clinical timing.

PITFALL

Do not convert between methylphenidate and amphetamine products by a remembered "equivalent dose". The supplied evidence establishes formulation-specific regimens, not a universal conversion rule.

10.5 Indian prescribing context

Methylphenidate is marketed in India, making it the stimulant whose local prescribing details deserve particular familiarity. A commonly cited Indian paediatric methylphenidate approach starts at 0.25 mg/kg/day and may be increased in weekly steps up to 1 mg/kg/day, with morning and afternoon administration. This is not the same numerical ceiling as the cited immediate-release framework for a typically developing child with ADHD. The discrepancy must be acknowledged, not silently harmonised.

IN INDIA

State the source framework when documenting a weight-based methylphenidate regimen. The Indian paediatric approach and the cited immediate-release ceiling are not interchangeable. Non-stimulant pharmacotherapy is considered separately.

Local availability changes what can be prescribed, but it should not collapse pharmacological distinctions. Where a cited amphetamine preparation is not locally available, it may still be examined as an international pharmacotherapy option. The answer should say what preparation is being discussed and avoid implying that a regimen can be implemented locally without confirming the product and regulatory setting. Brand names are especially poor substitutes for this discipline because they can obscure formulation and release profile.

The Indian clinical task also includes making the prescription intelligible to the family. Explain the medicine by its purpose and its timing rather than by promising a personality change. Give caregivers a concrete target to observe and a clear instruction not to improvise a different formulation or schedule. When treatment is reviewed, place caregiver and school observations alongside the stated target. This keeps the medication decision connected to function rather than to a vague global judgement that the child is "better" or "worse".

In an examination, this local context is best handled with restraint. State the preparation and regimen that the source supports, then state the population and source framework. Do not imply availability from a foreign dosing table, and do not turn a locally marketed medicine into an assertion that every release form is available in every setting. Precision here is clinically respectful: it prevents an answer from sounding comprehensive while leaving the actual prescriber with an unusable instruction.

10.6 A disciplined sequence for choosing and adjusting a stimulant

Stimulant prescribing becomes safer when it follows a clinical sequence. First, confirm the target impairment and identify the part of the child's routine in which change is sought. Next, choose a molecule and release pattern that can plausibly address that period. Then begin with the cited formulation-specific starting regimen, explain the intended observation and adjust only against the agreed target. Finally, decide whether apparent non-response represents inadequate exposure at the relevant time, insufficient benefit despite an adequate trial, a practical problem with the regimen, or a need to reconsider the treatment plan.

- Write the drug, formulation and administration plan in full.
- State the population to which the dose schedule applies.
- Define the functional target before changing a dose.
- Use the cited titration interval rather than reacting to a single impression.
- Interpret a ceiling as a safety boundary, not as an efficacy target.

This sequence guards against an easy but consequential error: treating dose adjustment as the main therapeutic act. In fact, dose adjustment is only informative when the target, formulation and timing have been kept stable enough to interpret the result. If school information is unavailable, family observation remains useful, but its question must still be specific. If the family cannot feasibly deliver the intended regimen, that is a prescribing problem rather than a failure of adherence or motivation.

At review, distinguish a poor result from an uninterpretable result. A poor result means that the child received the intended formulation during the relevant demand period and the agreed functional target did not improve sufficiently. An uninterpretable result means that one does not know whether the preparation reached the relevant period, whether the target was observed, or whether a practical obstacle disrupted the regimen. The first finding may support a change in treatment strategy. The second requires clarification before a pharmacological conclusion is drawn.

This distinction prevents both over-treatment and premature abandonment. It also makes communication with families more honest. The clinician can say that a medication plan is being assessed against a shared functional question, not against an expectation that every difficulty will disappear. Such framing keeps the child's abilities, school needs and relationships central while still allowing pharmacotherapy to be used with technical rigour.

MNEMONIC

Target - Formulation - Start - Observe - Titrate

Before every stimulant change, name the functional target, name the release profile, begin with the relevant schedule, observe in the intended setting and titrate only when that observation can be interpreted.

A stimulant dose is safe and meaningful only when the drug, formulation, child population, schedule, titration plan and ceiling are stated together.

11 · Non-stimulant pharmacotherapy (atomoxetine, alpha-2 agonists)

Non-stimulants are not merely substitutes for stimulants. They offer a different pharmacological route to treating ADHD, and therefore require a different conversation with the child, family and school. The important distinctions are mechanism, the pace at which benefit is judged, formulation, and the safety issue that must be made explicit before treatment begins. A sound prescription is not a drug name followed by a dose: it is a deliberately scoped plan that states who the regimen is for, how it will be advanced, what response is being sought, and when the plan will be reconsidered.

Atomoxetine and the adrenergic agonists are the principal non-stimulant options considered here. Their place is clinical rather than ideological. A child may need an alternative route because the treatment plan, co-occurring difficulties, family priorities, prior experience, or practical feasibility make that route more appropriate. The prescriber should avoid presenting non-stimulant treatment as passive or lesser treatment. It is active pharmacotherapy, but its logic is slower, more longitudinal, and especially dependent on a shared expectation of what early treatment can and cannot show.

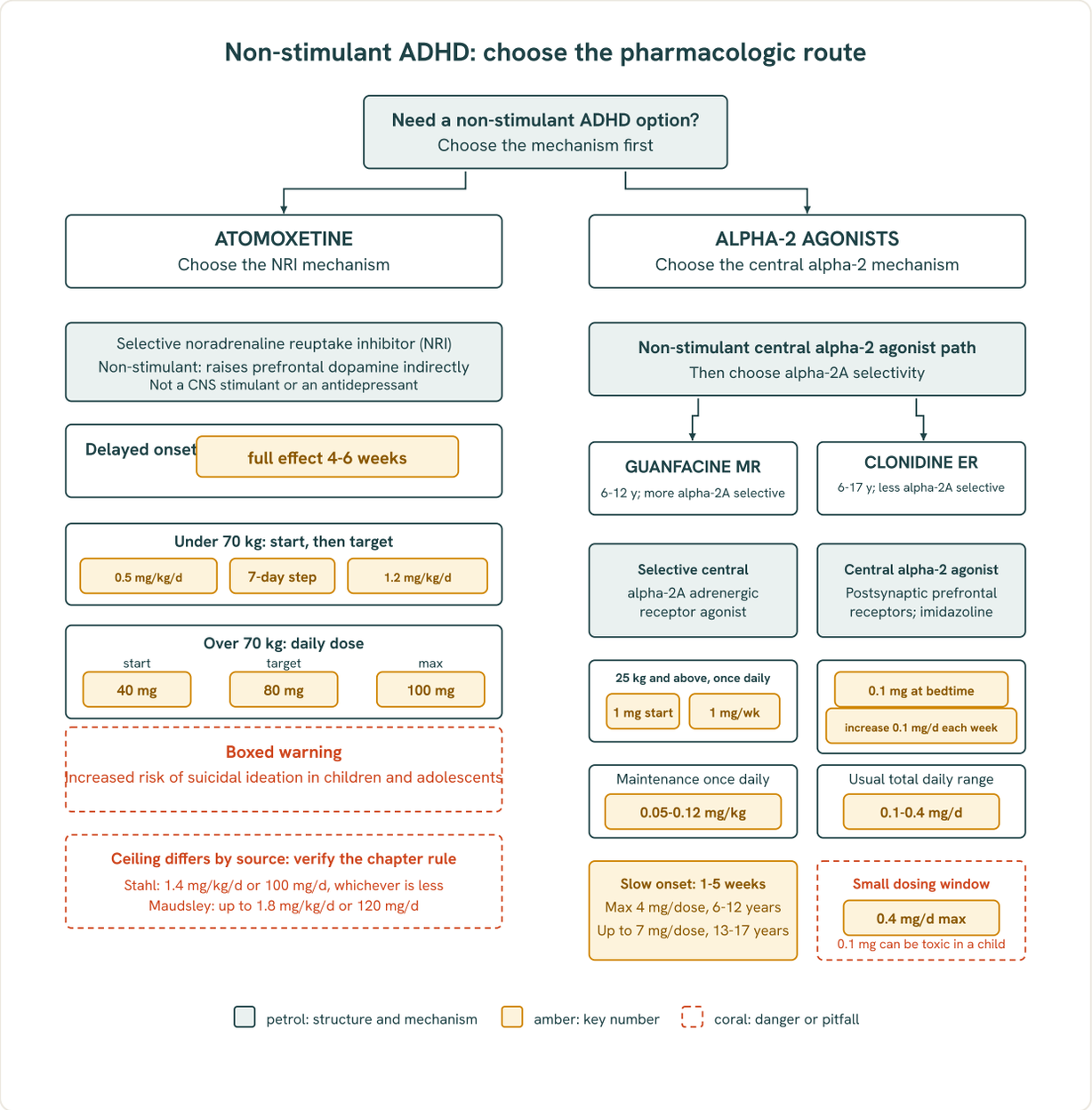


Fig 22.11. Non-stimulant ADHD choice: atomoxetine versus alpha-2 agonists.

11.1 The non-stimulant frame

Atomoxetine is a **selective noradrenaline reuptake inhibitor** and a non-stimulant. This matters because its clinical effect is understood through sustained noradrenergic modulation rather than an immediately perceptible stimulant effect. Its pharmacology also supports attention and behavioural control through prefrontal catecholamine regulation. The practical lesson is not to reduce mechanism to an examination label. Mechanism predicts the tempo of prescribing, the way a family interprets change, and the error made when an early partial response is called failure.

The adrenergic agonists work through a different regulatory pathway. **Guanfacine** is a **selective central alpha-2A adrenergic receptor agonist**. **Clonidine** has **central adrenergic agonist action in the prefrontal cortex**, including postsynaptic receptor activity relevant to ADHD. These descriptions are not interchangeable shorthand. Guanfacine has greater receptor selectivity, whereas clonidine has broader receptor action. That distinction is useful when one

explains why agents grouped together pharmacologically are not automatically interchangeable in formulation, schedule, or dose.

ATX	GUA	CLO
NON-STIMULANT OPTION	NON-STIMULANT OPTION	NON-STIMULANT OPTION

RULE **Choose and prescribe a non-stimulant as a complete treatment strategy, not as an afterthought.** Its mechanism, onset, formulation and review plan must be explained before a family can judge it fairly.

The distinction is also pedagogically useful. When asked to discuss non-stimulants, a high-quality answer starts with this pharmacological map and then moves to the individual agent. It does not collapse atomoxetine and adrenergic agonists into one undifferentiated list. Nor should it drift into the full assessment of ADHD, behavioural management, school intervention, or stimulant prescribing, each of which is addressed elsewhere in this chapter.

11.2 Atomoxetine: planning treatment around delayed benefit

Atomoxetine has a **delayed onset**; full therapeutic benefit may take **approximately 4-6 weeks**. This is the central counselling point. Families often judge medicines by what can be observed soon after a dose is started. With atomoxetine, early impressions should instead be organised around tolerability, adherence, and whether the intended course has had sufficient time to declare itself. A clinician who does not set that expectation creates an avoidable cycle of premature stopping, hurried switching, and loss of confidence in treatment.

The slower tempo also changes follow-up questions. Rather than asking only whether the child was “better” on a given morning, ask whether the medicine has been taken consistently, whether home and school can describe the same target difficulties, and whether observations are being compared with the pre-treatment baseline. The relevant outcome is functional improvement across the child’s everyday settings, not a dramatic subjective effect. This makes collateral information valuable, while detailed rating-scale selection and use remain the subject of the rating-scales section of this chapter.

MNEMONIC

SLOW

Scope the population, **L**ay out the titration, **O**wn the onset expectation, and **W**atch the agreed clinical targets. It is a prescribing spine rather than a claim that one drug suits every child.

When changing a plan, do not allow the phrase “non-response” to conceal several different possibilities. The treatment may not yet have been exposed adequately; the dose may not yet have reached its intended therapeutic range; adherence may be inconsistent; the outcome selected by adults may be too vague; or the underlying difficulty may demand parallel behavioural, educational, or family work. These are clinical questions, not reasons to multiply drugs reflexively. The wider multimodal plan is discussed in the multimodal treatment section of this chapter.

TRAP **Expecting atomoxetine to behave like an immediately acting medicine is a category error.** If delayed benefit was not explained at the outset, an early discontinuation may be recorded as drug failure when it actually reflects an inadequate therapeutic trial.

11.3 Atomoxetine dosing: state the whole tuple

For the lower-weight child, atomoxetine may be started at **about 0.5 mg/kg/day for the first 7 days** and then advanced towards **about 1.2 mg/kg/day**. The population qualification is essential: this is the regimen for a child **under 70 kg**, not an unlabelled paediatric formula to be transferred to every patient. The schedule may be given once daily or in divided doses. In teaching and in the case record, write the formulation and the population beside the number. A dose without its denominator and population is a trap awaiting a prescribing error.

There is a source divergence at the upper end of this regimen. Stahl gives a ceiling **below 1.4 mg/kg/day or 100 mg/day, whichever is less**, whereas Maudsley permits an increase **up to 1.8 mg/kg/day or 120 mg/day** when necessary. This is not a licence to blend two ceilings into an invented third schedule. It is a reason to use the local prescribing reference and product information that govern the individual prescription, document the rationale for any higher-dose plan, and seek senior review when the decision is not straightforward. The key examination point is to recognise the divergence rather than memorise an isolated maximum stripped of its source.

For an adult or a child over **70 kg**, begin at **40 mg/day** for the first week and then work towards **80 mg/day**, with benefit judged over the subsequent weeks; do not exceed **100 mg/day**. This separate schedule prevents a common error: carrying a weight-based paediatric instruction into a patient for whom the fixed-dose regimen is intended. The word “target” is clinically more useful than “destination”. It asks the clinician to assess response and tolerability at a planned dose, rather than treating dose escalation as an automatic ritual.

CLINICAL SCOPE	STARTING AND TARGET PLAN	UPPER LIMIT AND INTERPRETATION
Lower-weight child	Use the weight-based starting and target plan.	Use the ceiling from the prescribing authority being followed; Stahl and Maudsley differ at the upper end.
Adult or higher-weight child	Use the fixed-dose starting and target plan.	Use the maximum attached to that fixed-dose schedule.
Any atomoxetine plan	Record formulation, population and dosing schedule.	Interpret efficacy only after allowing for delayed onset.

PITFALL

Writing “atomoxetine at the usual dose” is clinically unsafe documentation. The correct prescription language makes the patient group, weight logic, formulation, schedule, target and source-specific ceiling visible to the next clinician.

11.4 Atomoxetine safety conversation

Atomoxetine carries a **boxed warning** for increased risk of **suicidal ideation in children and adolescents**. This requires a real conversation, not a hurried consent formula. Explain to the family what emerging concerning thoughts or behavioural change might look like in their child, who will be informed, and how they should obtain help if concern arises. A warning is not a prediction that the child will develop suicidality. It is an obligation to make risk visible and to ensure that the family does not feel abandoned between appointments.

Risk communication is best done in plain clinical language. Invite the young person, as developmentally appropriate, to describe distress directly rather than relying solely on adult report. Ask parents or caregivers to report abrupt changes rather than waiting for a routine review. The prescriber must distinguish a medicine-specific safety concern from the broader psychiatric assessment of mood, self-harm risk and family stress. Those domains should be evaluated clinically, but the full adverse-effect and monitoring framework for ADHD medicines belongs to the medication monitoring section of this chapter.

> **GOOD TO REMEMBER**
>
> Before atomoxetine is started, agree on a safety contact pathway. This transforms a boxed warning from an alarming sentence into a practical plan shared by clinician, young person and caregivers.

Documentation matters here. Record that the warning was discussed, the caregiver's understanding, the young person's account where available, and the plan for contact if risk emerges. Such notes improve continuity when care is shared and protect the therapeutic alliance by showing that safety was anticipated rather than raised only after a crisis. Do not make a family carry the burden of pharmacovigilance alone: the treatment plan must state how the clinical team will remain reachable and responsive.

11.5 Guanfacine modified-release

Guanfacine modified-release is a formulation-specific treatment. The words "modified-release" should remain attached to the dose whenever it is discussed, because pharmacological family membership does not make formulations interchangeable. For a child in the specified school-age and weight group, the starting dose is **about 1 mg** once daily. The row is scoped to children aged **6-12 years** who weigh at least **25 kg**. This is why copying a dose from a drug class summary without its heading is unsafe.

Titrate guanfacine modified-release in increments of **about 1 mg per week** when needed and tolerated. The usual maintenance range in the same child group is **0.05-0.12 mg/kg** once daily. Its onset is **approximately 1-5 weeks**, so it too requires an expectation of progressive rather than instantaneous benefit. A prescriber should decide before titration what observations will count as meaningful improvement, and should not confuse a calm consultation-room presentation with change in the child's ordinary functioning.

The maximum for children aged **6-12 years** is **below 4 mg per dose**. In those aged **13-17 years**, the maximum is determined by weight band and may rise **up to 7 mg per dose**. A good answer

does not simply quote the highest figure. It says that the adolescent ceiling is weight-band dependent, because that is the safeguard which prevents an age label from being mistaken for complete dosing guidance.

- Confirm that the intended product is guanfacine modified-release.
- State the age and weight scope before calculating or documenting a dose.
- Advance the dose only through the specified weekly steps and review the agreed clinical targets.
- Keep the delayed-onset expectation explicit for caregivers and school.

IN INDIA

Do not assume that a class name guarantees the same formulation, availability, or labelling across settings. Verify the product actually available to the family and prescribe from the locally applicable information rather than importing a regimen from an unfamiliar brand or market.

11.6 Clonidine extended-release

Clonidine should be approached with the same formulation discipline. The regimen here is for **clonidine extended-release** in children with ADHD aged **6-17**. Start at **about 0.1 mg** at bedtime. The small numerical scale is itself an important safety cue: it should make the prescriber pause before transferring an unrelated adrenergic agonist dose, a non-ADHD regimen, or a non-extended-release schedule into this context.

The extended-release regimen is advanced by **about 0.1 mg per week**. Doses are divided, with the larger portion at bedtime. The usual upper limit is **below 0.4 mg/day** in divided doses. Every element belongs together: drug, extended-release formulation, paediatric ADHD population, bedtime start, weekly advance, divided administration and ceiling. Separating the number from this tuple is the way correct-source information becomes incorrect prescribing.

Mechanistically, clonidine's prefrontal receptor action offers a coherent reason for its place among non-stimulants. Clinically, however, mechanism does not absolve the prescriber from precise instructions. Caregivers need a written plan that matches the product dispensed, uses plain wording for when doses are given, and tells them which member of the clinical team to contact when the plan cannot be followed. The medication monitoring section of this chapter addresses the wider safety checks required for ADHD pharmacotherapy.

11.7 Choosing, reviewing and integrating a non-stimulant plan

Choice between these agents begins with a clinical formulation, not a preference for a fashionable molecule. Consider the treatment goals, the symptom pattern that is impairing daily functioning, prior treatment experience, practical feasibility, family understanding, and the capacity for follow-up. The aim is to select a plan whose expected course can be observed honestly. If the family cannot state what change would matter at home and school, the next task is to define targets rather than to change the prescription.

Targets should be concrete enough to be recognisable but broad enough to matter. They may concern the child's capacity to remain with a task, to participate in class, to complete routine work with less conflict, or to recover a more manageable rhythm at home. The prescriber should ask each informant what would count as meaningful change and should note disagreement rather than forcing a false consensus. A medicine can be helping in one setting while a separate unmet need remains prominent in another. That pattern calls for formulation and coordination, not a simplistic verdict that the treatment either worked or failed.

At review, proceed in a sequence. Has the prescribed medicine actually been taken in the intended formulation and schedule? Has sufficient time passed for the agent's expected onset? Has the child's function changed in the domains that prompted treatment? This order protects against both therapeutic inertia and impulsive switching. It also makes room for the possibility that medication is a component of the plan rather than its entirety. Parent-focused work, behavioural intervention, educational support and school collaboration should proceed according to the child's needs, rather than being postponed until medication has solved every difficulty.

QUESTION AT REVIEW	REASONING TASK	USEFUL ACTION
Is the prescription being implemented as written?	Separate adherence or formulation problems from lack of efficacy.	Reconcile the medicine in hand with the documented regimen.
Has the expected onset been allowed for?	Prevent premature attribution of non-response.	Revisit the time course discussed at initiation.
What has changed in ordinary life?	Judge function rather than a vague global impression.	Obtain collateral from the settings where impairment occurs.
What remains unmet?	Identify needs that medication alone cannot address.	Integrate behavioural, family and school interventions.

For candidates, the mature answer is therefore structured and conditional. Name the mechanism, give a fully scoped regimen, state the onset expectation, identify atomoxetine's specific warning, and show how review is tied to function. For clinicians, that same structure prevents dangerous errors: prescribing a bare number without its population and abandoning a non-stimulant before its pharmacology has had a fair chance to work. It also makes handover safer, because another clinician can see the intended logic rather than having to reverse-engineer it from a number written in isolation.

> Non-stimulant prescribing is safe only when drug, formulation, patient group, dose, titration, onset expectation and review plan are documented as one clinical decision.

12 · Adverse effects and monitoring of ADHD medications (growth, cardiac)

Medication monitoring is active clinical care, not a formality after a prescription. In ADHD, the therapeutic question is never merely whether a medicine has been dispensed. The clinician must repeatedly ask whether the child is benefiting in the settings that matter, whether treatment is being tolerated, and whether an emerging problem represents a drug effect, the disorder itself,

an intercurrent difficulty, or a change in the child's circumstances. Monitoring makes the benefit-harm balance visible before it becomes a reason for avoidable discontinuation or avoidable persistence.

For the examination candidate, a strong answer links adverse effects to a method. It begins with a pre-treatment reference point, follows a small set of clinically meaningful domains, invites the child and caregiver to describe change in ordinary language, and records a reasoned response. The aim is not to create anxiety around ADHD medicines. It is to prescribe with enough attention that benefit can be sustained safely and that a concern is neither dismissed nor automatically attributed to the medicine.

Baseline	Growth	Vitals	Review
REFERENCE POINT	TRAJECTORY	CIRCULATORY SAFETY	BENEFIT AND BURDEN

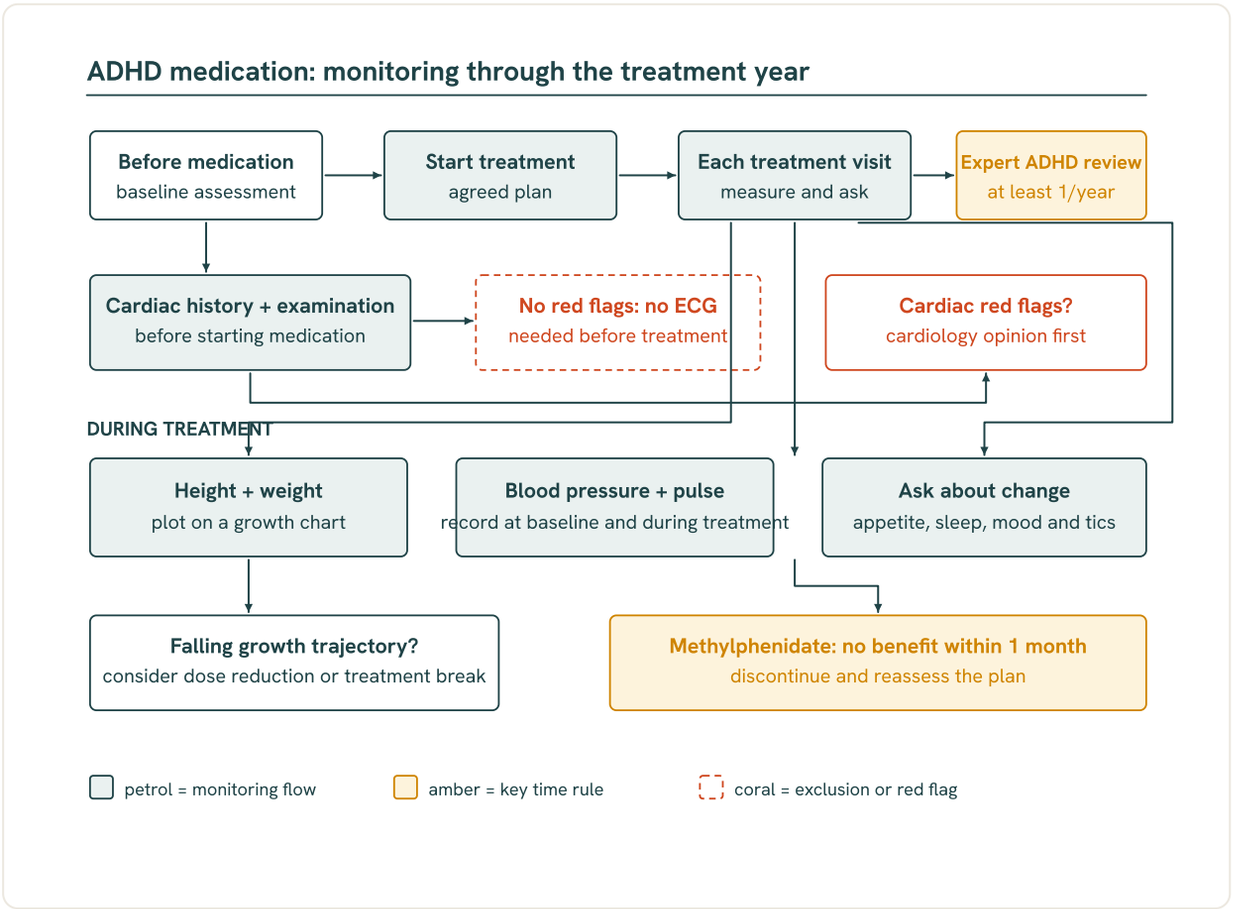


Fig 22.12. Growth, cardiovascular and adverse-effect monitoring during ADHD medication treatment.

12.1 The logic of surveillance

The useful monitoring consultation is longitudinal. An isolated observation has limited meaning unless it is interpreted against the child's prior state, current treatment exposure, reported functioning, and other plausible explanations. The task is therefore to make a clinical narrative from measurements, symptoms, school observations, family accounts, and examination.

Begin by agreeing what change would count as benefit and what change would prompt contact with the treating team. Ask the caregiver to notice the child's appetite, sleep, emotional tone, activity, and physical complaints without turning home into a surveillance ward. Ask the child

directly, in developmentally appropriate language, what feels different. A child may describe a bodily experience, a loss of spontaneity, or a change in evening functioning that an adult observer cannot infer from classroom behaviour. Conversely, a caregiver may notice a pattern across meals, mornings, or family routines that the child cannot place in context.

Monitoring is also an exercise in attribution. A symptom that appears after treatment begins may be related to the medicine, but timing alone does not settle causation. The clinician should reconstruct when it began, how it relates to medication exposure, whether it was present previously, whether it occurs when the medicine is not being taken, and whether illness, stress, sleep disruption, dietary change, or another medicine offers a more coherent explanation. This reasoning matters because the response may range from reassurance and observation to adjustment of treatment or assessment for an independent problem. The record should make that reasoning legible to the next clinician.

RULE **Monitor the child's trajectory, not an isolated complaint.** The reference state, the temporal pattern, the functional consequence, and the family's account together determine whether a finding calls for action.

Monitoring should be collaborative rather than punitive. Families sometimes conceal missed medication, appetite difficulties, or worries about mood because they fear criticism or fear that the only alternative is to stop treatment. A non-judgemental consultation makes clinically useful information more likely to emerge. It also permits a practical distinction between an inconvenience that can be managed and a burden that changes the overall acceptability of treatment. The prescriber retains responsibility for medical decisions, but the child and caregiver supply much of the information on which those decisions depend.

12.2 Growth and nutritional trajectory

Growth monitoring belongs at the centre of stimulant follow-up because treatment can interact with appetite, eating routines, and the child's developing physical trajectory. The core action is to **measure height and weight** and record them on a **growth chart**. The chart matters because it turns a sequence of measurements into a pattern. It helps the clinician distinguish an apparently concerning isolated value from a sustained change in trajectory and creates a shared object for discussion with caregivers.

Long-term stimulant treatment is associated with lower height and weight, described clinically as **growth deceleration**. This should be explained without fatalism. The association justifies systematic observation; it does not turn every child receiving a stimulant into a child with a growth disorder. The clinical question is whether the individual child's physical course remains acceptable in the context of treatment benefit, eating pattern, general health, and the family's concerns. A good note records the finding and the interpretation, rather than merely copying a measurement into a prescription sheet.

Appetite is the practical bridge between medication and growth. Ask about the child's usual pattern of meals, snacks, school-day eating, and what the family sees when the medication effect is most noticeable. Ask whether eating has become effortful, whether favourite foods have

changed, whether meals have become a site of conflict, and whether the concern is reduced intake, altered timing, or distress around food. These questions are not a substitute for measurement. They clarify the lived pathway by which a trend on the chart may matter, and they may reveal that a reported appetite problem has a different explanation.

When a concerning pattern is identified, the response should be individualized. Recheck the measurements and the history before declaring a causal conclusion. Review the treatment benefit and burden with the child and caregiver. The available claim supports considering **dose reduction or treatment breaks** as management options for growth-related concern; the decision must be integrated with functional need and clinical response rather than applied automatically. Nutritional or medical assessment may be appropriate when the history points beyond a medication effect. The fragment does not supply a numerical threshold for intervention, so it should not be invented in clinical practice or in an examination answer.

GOOD TO REMEMBER

A growth chart is a clinical conversation tool. Show the family the recorded trajectory, ask what has changed at home, and make the plan explicit. This converts a vague concern about "poor eating" into a monitored, revisitable decision.

TRAP **Do not equate appetite suppression with proof of clinically important growth harm.** Appetite, measured growth, general health, and treatment benefit must be considered together; either dismissing the complaint or stopping treatment reflexively is poor clinical reasoning.

Growth monitoring also prevents an important communication failure. Families may hear "we will monitor growth" as a warning that harm is expected, while clinicians may assume that a measurement has reassured the family. State the purpose plainly: the team is looking for a pattern early enough to respond thoughtfully. Invite the caregiver to bring observations from home and, where relevant, from school routines. The prescriber should avoid giving a false precision about the amount of change that is acceptable when the available evidence for this fragment does not provide such a threshold.

12.3 Appetite, sleep, mood, and tics

Physical monitoring is incomplete if it ignores the experiences that determine whether a child can live comfortably with treatment. Follow-up should actively enquire about **appetite change, insomnia, mood change, and the development of tics**. These domains deserve direct questions because families may not volunteer them, may regard them as unrelated to treatment, or may use broad labels that conceal an important distinction. "Sleep is worse," for example, needs a description of the child's actual pattern and its daytime consequences; "mood is different" needs clarification of affect, context, timing, and impact.

Sleep inquiry should be practical and neutral. Establish what bedtime and waking are like, whether the child is rested, whether there is distress around sleep, and whether the reported change is linked temporally to treatment. Do not assume that every sleep complaint is medication-related. ADHD, school pressures, family stress, medical illness, and pre-existing sleep

difficulty may all complicate the story. The monitoring task is to identify a clinically meaningful change and to decide whether it is best understood as a treatment burden, a co-occurring difficulty, or both.

Mood change warrants particular care because it can be described in many ways: irritability, tearfulness, emotional flattening, increased sensitivity, or a sense that the child is unlike themself. The clinician should ask the child as well as the caregiver, seek concrete examples, and assess whether the change is transient, context-bound, or functionally impairing. Avoid reducing all emotional change to non-adherence or all distress to a medication adverse effect. A careful history protects the child from both invalidation and inappropriate exposure to a medicine that is not being tolerated.

Tics require equally careful phenomenology. Clarify what is being observed, when it emerged, how it fluctuates, whether the child is distressed, and whether there is functional impact. The purpose of monitoring is not to make an unsupported causal declaration from temporal association. It is to identify change, assess its burden, and decide whether the treatment plan needs reconsideration or whether a broader clinical evaluation is needed. For fuller discussion of tic disorders, see the Child behavioural, emotional and other disorders notes.

- Ask what has changed from the child's own baseline.
- Ask when the change is most apparent and what makes it better or worse.
- Ask about distress, impairment, and the child's interpretation of the change.
- Record the family's observations alongside the clinician's assessment.

PITFALL

Do not ask only whether the medicine is "fine." That question invites reassurance rather than information. Domain-based enquiry about appetite, sleep, mood, and tics gives the family permission to report a concern before it becomes a crisis.

12.4 Cardiovascular assessment before treatment

Cardiovascular monitoring starts before medication is prescribed. Record **blood pressure and pulse** at baseline and continue to record them during treatment. Baseline values provide a reference against which later observations can be interpreted. Their value is not limited to detecting an abnormal result: they also discipline the clinician to ask whether a later change is new, sustained, symptomatic, or better explained by context.

An **ECG** is not a routine pre-treatment requirement for stimulants, atomoxetine, or guanfacine when **cardiac red flags** are absent. This is a useful corrective to indiscriminate testing. A test should answer a clinical question; ordering it automatically can delay care, create incidental findings, and obscure the importance of a careful cardiac history and examination. The absence of a routine ECG requirement is not permission to conduct a cursory screen.

Red flags call for a different route: seek cardiology opinion before starting treatment. The screen should identify known congenital heart disease, prior cardiac surgery, a **first-degree relative**

with sudden death before **40**, breathlessness on exertion, syncope with exertion or fright, rapid regular episodic palpitations, chest pain suggestive of cardiac origin, features of heart failure, a murmur, blood pressure in an adult hypertensive range, and concurrent medication that increases cardiac risk. These are not a checklist to recite mechanically. Each finding changes the pre-treatment risk question and therefore requires an appropriately focused history and examination.

The interview must make room for ambiguity. Children and families may use the same words for anxiety-related sensations, ordinary exertional limitation, brief awareness of heartbeat, or a potentially important symptom. Ask for the setting, onset, duration, associated symptoms, recovery, and impact in a calm way. Do not reassure on the basis of a vague negative answer, but do not convert an imprecise symptom into a cardiac diagnosis. The clinical skill is to translate a narrative into a defensible decision about whether specialist input is required.

MONITORING DOMAIN	WHAT THE CLINICIAN ESTABLISHES	CLINICAL QUESTION ANSWERED	HOW THE FINDING IS USED
Cardiac history	Symptoms, prior cardiac care, family history, and concurrent medicines	Is there a cardiac red flag?	Decide whether cardiology opinion is needed before treatment
Examination	Relevant physical signs and cardiovascular observations	Is there a finding requiring further assessment?	Interpret alongside the history rather than in isolation
Blood pressure and pulse	Baseline values and subsequent observations	Has the circulatory state changed during treatment?	Compare with the child's documented course
ECG	A targeted investigation when red flags are present	Is testing clinically indicated?	Use as part of the specialist-directed assessment, not as a universal ritual

IN INDIA

Children may move between private clinics, public services, schools, and relatives who share care. A clear written baseline history, physical record, and explanation of which symptoms should prompt review make monitoring more reliable across these transitions. Ask caregivers to retain the record and bring it to follow-up rather than relying on memory alone.

12.5 Cardiovascular follow-up during treatment

Recording blood pressure and pulse during treatment is a continuing responsibility, not a pre-treatment box to tick. The purpose is to detect change while maintaining the broader perspective: a reading is interpreted in relation to the child's prior record, current symptoms, examination, treatment exposure, and clinical state. Stimulants may raise blood pressure and pulse, so these observations belong in the ordinary monitoring record rather than being reserved for a child who appears unwell.

When a finding is concerning, establish that it is a real clinical signal. Check the context of measurement, ask about symptoms, review the prior record, and examine the child as appropriate. Then decide whether the concern can be safely observed, whether treatment should be reconsidered, or whether medical or cardiology assessment is required. The correct response cannot be reduced to a universal number in this fragment, because no such threshold is supplied here. What matters is a documented clinical judgement that links the finding to the child's overall risk and treatment benefit.

Communicate the distinction between expected monitoring and alarm. Families should understand that blood pressure and pulse are recorded because treatment deserves competent follow-up, not because the clinician expects a cardiac event. At the same time, they should know to report new symptoms rather than waiting for a routine visit. This balanced explanation reduces both complacency and panic, and it preserves trust when the plan needs to change.

MNEMONIC

TRACE

Trend, **R**eported symptoms, **A**ttribution, **C**linical examination, **E**xplanation to the family. Use it to turn an observation into a reasoned cardiovascular follow-up note.

12.6 Review, response, and the decision to continue

A medication review brings efficacy and tolerability back together. The clinician should review treatment with ADHD expertise at least **once a year**. This is not an administrative renewal. It is an opportunity to reconsider whether the original target problems remain the right targets, whether benefit is present in the child's real environments, whether adverse effects are acceptable, and whether the child and caregiver still understand and agree with the plan.

Review is particularly important when the prescription has continued by habit. Function changes as school demands, family circumstances, developmental needs, and supports change. A medicine that was useful may require a different plan; a concern previously judged minor may become important; and an apparent loss of response may reflect a change in the setting rather than a pharmacological problem. The review should therefore integrate reports from the child, caregiver, and, when available and appropriate, school, rather than relying solely on the prescription history.

For methylphenidate, discontinue treatment if there is no benefit within **one month**. This statement is a safeguard against unexamined continuation, not an invitation to make a rushed judgement from a poorly observed trial. Before concluding that there is no benefit, establish whether the treatment was taken as intended, whether the target outcome was observable, whether the available reports were adequate, and whether adverse effects or contextual changes have distorted the picture. Dosing and titration belong to the stimulant pharmacotherapy discussion and should not be improvised here.

Document a concise clinical synthesis at each substantive review: the target symptoms and functioning, the child's account, caregiver observations, adverse-effect enquiry, growth and

cardiovascular observations, the attribution judgement, and the agreed plan. This documentation is not defensive bureaucracy. It preserves clinical continuity, allows later findings to be interpreted as a trajectory, and makes shared decision-making visible. It also prevents a later clinician from mistaking an old prescription for evidence that benefit was ever established.

- Revisit the treatment goal and observed benefit.
- Review growth, circulatory observations, appetite, sleep, mood, and tics.
- Ask the child what has improved and what has become harder.
- Decide explicitly whether to continue, modify, pause, discontinue, or seek further assessment.

12.7 A defensible monitoring plan

The best monitoring plan is simple enough to be followed and rich enough to detect a meaningful change. It starts with a baseline clinical record, including growth measures, blood pressure, pulse, and focused cardiac screening. It then turns routine follow-up into a repeated enquiry about benefit, physical trajectory, appetite, sleep, mood, tics, and cardiovascular symptoms. The plan names who will observe which domains, how concerns will reach the prescriber, and what information should be brought to the next visit.

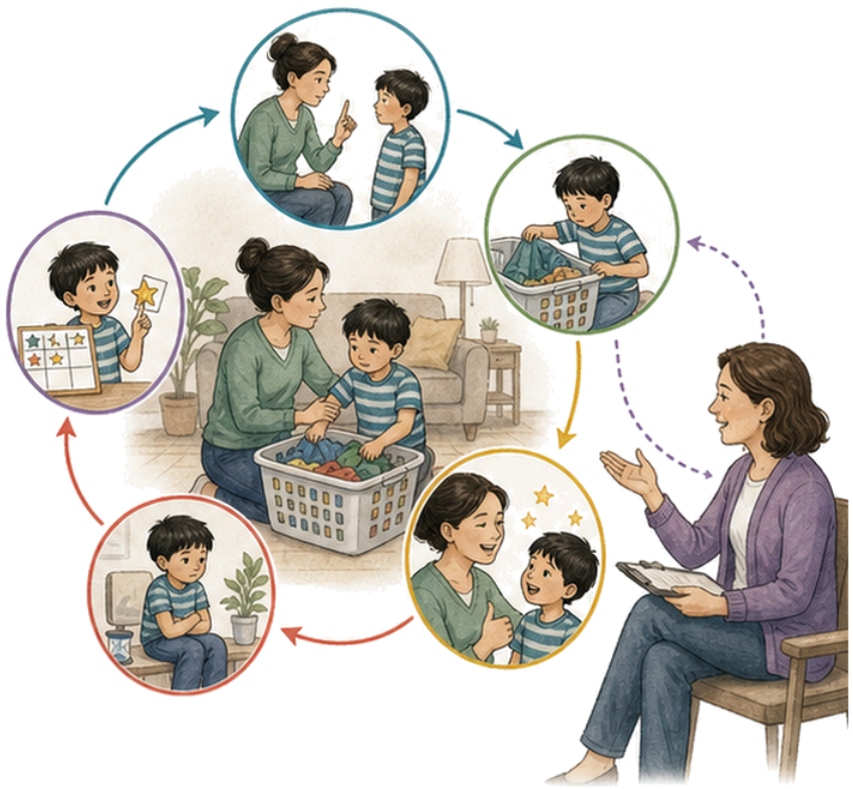
When concerns arise, do not treat monitoring as a choice between reassurance and discontinuation. Return to the clinical sequence: describe the finding accurately, establish its timing and burden, look for alternative explanations, check the objective record where relevant, and weigh it against demonstrated benefit. Some concerns require a change in treatment; some require further assessment; some can be observed with a clear plan. What makes the plan safe is not a formula but disciplined follow-through and honest documentation.

This approach also keeps monitoring within its proper boundary. It does not replace comprehensive ADHD assessment, behavioural intervention, school support, or evaluation of comorbidity. Those elements are addressed elsewhere in this chapter. Medication surveillance contributes a distinct task: to ensure that a pharmacological intervention remains a justified, tolerable, and actively reviewed part of a broader treatment plan.

> Measure growth, record blood pressure and pulse, screen cardiac red flags, ask directly about appetite, sleep, mood and tics, and revisit whether benefit still justifies treatment.

13 · Behavioural and parent training interventions

Behavioural work changes the treatment environment, not merely the child. ADHD symptoms are expressed within ordinary routines: getting dressed, beginning homework, shifting away from a preferred activity, tolerating a limit, or completing a request. These moments can become repetitive coercive cycles in which the adult raises the intensity of instruction and the child either escalates or escapes the task. The purpose of treatment is to make expectations clearer, desirable behaviour more visible, and the adult response more predictable. This is why **behavioural parent training**, also termed parent management training, belongs in the core psychosocial management of childhood ADHD and disruptive behaviour.



- Clear request
- Immediate praise
- Planned reward
- Predictable consequence
- Review one target

Fig 22.13 Behavioural parent training changes the treatment environment through clear requests, immediate attention to desired behaviour, planned rewards and predictable consequences. The parent is coached, not blamed, and progress is reviewed against one observable target.

It is not a programme for blaming parents, nor is it a demand for flawless parenting. The clinical task is to convert understandable family frustration into observable, practicable responses that can be used repeatedly when the child is dysregulated, distracted, oppositional, or simply not yet able to organise behaviour independently. The therapist functions as a **teacher and coach**: explains a skill, models it, rehearses it with the caregiver, anticipates obstacles, and returns to what happened at home. The mark-scoring answer therefore names the intervention, explains its learning principle, and shows how a parent would apply it to a concrete target.

13.1 Therapeutic frame and treatment target

Manualised parent management training gives the clinician a disciplined way to work with behaviour that is impairing family life. The parent is the immediate agent of change because the daily environment supplies prompts, attention, access to preferred activities, and responses to rule-breaking. This does not mean that all difficulty is environmentally caused. Rather, it

recognises that a child with ADHD may need the environment to carry structure that cannot yet be carried consistently through self-direction.

The first move is to replace a global complaint such as “he never listens” with a target that can be seen and recognised by both parent and child. A useful target is described in positive, observable language: starting a task after a request, placing an item where it belongs, returning to an agreed activity, or using an acceptable way to seek attention. This reframing matters because caregivers cannot consistently reinforce an abstraction. They can, however, notice a particular behaviour when it occurs and respond to it in a planned manner.

The intervention also separates the child from the problem. Parents often arrive having tried more explanation, more warnings, louder instructions, or prolonged argument. Those reactions are understandable, but they may accidentally turn a small demand into a prolonged interaction. Parent training asks a different question: what happened immediately before the behaviour, what did the child do, and what followed? That formulation makes the family interaction available for change without reducing the child to “naughty” or the caregiver to “inconsistent”.

RULE **Teach the parent a response that can be delivered consistently at the moment the behaviour occurs.** Behavioural parent training works through coached practice in ordinary routines, not through advice that remains too general to implement.

13.2 The contingency principle

Contingency management is the organising principle of this treatment. It links the parent’s response to a behaviour rather than to the parent’s rising irritation or the child’s promise to improve later. Desired, prosocial behaviour receives **positive reinforcement**; problematic behaviour receives a brief, planned, and proportionate consequence when one is needed. The clinical logic is not that a reward purchases obedience. It is that a child learns more readily when the behaviour that adults want to see is noticed promptly and becomes predictably worthwhile.

For a child with ADHD, delayed benefits often compete poorly with the immediate pull of play, movement, conversation, or escape from an aversive task. Reinforcement makes the immediate pathway towards the desired behaviour clearer. It should be linked to a target the child can genuinely achieve. If the threshold is set beyond current capacity, the system becomes another experience of failure, the parent stops using it, and the child learns that the announced reward is unattainable. The treatment therefore begins with success and adjusts the demand gradually as the routine becomes established.

Consequences are not synonymous with punishment. A consequence may remove attention from a provocative behaviour, restore a missed expectation, or briefly restrict access to a positive activity. Its therapeutic value lies in predictability, calm delivery, and connection to a stated rule. A long moral lecture usually occurs after the learning moment has passed and may give more attention to disruptive behaviour than to the quieter behaviour the family wishes to increase. The clinician should help the parent distinguish an intended consequence from an emotional reaction.

Target	Response	Review
OBSERVABLE BEHAVIOUR	PLANNED CONTINGENCY	PARENTAL COACHING

GOOD TO REMEMBER

A reward system is a clinical experiment, not a test of parental authority. If it repeatedly fails, first review whether the target is clear, whether the reward is attainable, and whether the parent can deliver the response in the actual routine.

13.3 Giving instructions that can be followed

Effective instructions are an antecedent intervention: they alter what happens before the behaviour rather than waiting to react afterwards. The parent gains the child's attention, states one concrete action, uses language matched to the child's capacity, and avoids converting the instruction into a question if compliance is expected. The parent then allows enough space for the child to act before adding another demand. This is not harshness. It is a way of reducing ambiguity for a child whose attention and behavioural organisation fluctuate.

Vague or stacked instructions create avoidable failure. "Stop being difficult and get ready properly" contains several judgments but no clearly observable first action. In contrast, an instruction that identifies the next action gives the child a possible route to success. The parent is coached to notice even partial movement in the right direction. That notice is often more therapeutically useful than waiting until the entire routine has gone perfectly and then discovering that the opportunity for reinforcement has been lost.

Antecedent control also includes changing the routine so that the desired action is easier to initiate. The clinician may ask what prompts are present, whether competing attractions are active, whether the adult can prepare the situation before giving an instruction, and whether the task has been made needlessly broad. Such questions retain the behavioural focus without claiming that the intervention will remove the underlying neurodevelopmental vulnerability. The executive-dysfunction model that helps explain this vulnerability is addressed in the ADHD mechanism section.

- State the action rather than a criticism of the child.
- Give one manageable next step.
- Pause and allow the child to respond.
- Notice compliance promptly and specifically.

TRAP **Do not mistake repeated warnings for behavioural treatment.** Repeating an instruction without a planned follow-through teaches neither the requested behaviour nor the consequence of non-compliance, and it leaves both parent and child in a predictable argument.

13.4 Rewards, token systems, and success

A **token economy** makes reinforcement visible. The child earns a token, mark, or other agreed signal for a specified target and exchanges accumulated credit for an agreed privilege or reward. Its usefulness is practical: it helps a caregiver respond in the moment and gives the child a

concrete record of effort. The system should be explained as a route to practising a behaviour, not as a bargain that applies only when the adult is exhausted.

The clinician should spend time on the mechanics with the family. What exactly earns the token? When will the parent give it? What happens if the child protests? What rewards are meaningful but manageable? Who will remember the system when the household is rushed? These questions are more important than producing an attractive chart. A beautifully designed plan that cannot be used during a hectic morning is less therapeutic than a simple plan that survives the real household.

Rewards need not be material. Positive attention, choice, shared activity, access to a preferred routine, and acknowledgement of effort may all be useful when they are meaningful to that child. The key is that the child experiences the contingency as credible. When a parent makes an elaborate promise and cannot deliver it, the programme loses instructional value. When the parent chooses a small, available reinforcer and gives it reliably, the child encounters success and the adult sees a workable alternative to confrontation.

MNEMONIC

CLEAR

Choose one target, **L**ink it to an immediate response, **E**ncourage effort, **A**void unattainable rewards, and **R**eview what actually happened. This is a practical memory aid for running a reward plan, not a substitute for parent coaching.

Parent training succeeds when the child can repeatedly experience that a clear, achievable behaviour brings a dependable response.

13.5 Planned consequences and time away from reinforcement

Time-out is best understood as time away from positive reinforcement, not as isolation, humiliation, or a venue for prolonged reprimand. In a behavioural plan it is a structured response to a pre-specified behaviour, delivered with as little drama as possible. The parent explains the rule outside the conflict, applies the response when the rule is broken, and returns to ordinary interaction without reopening the argument. Its function is to interrupt the reinforcement that may be maintaining the behaviour and to preserve the adult's capacity to stay regulated.

A modified time-out may be one component of a broader consequence plan. It should never become the only intervention offered to a family. If the child receives most adult attention during disruption and little attention during cooperation, simply adding a consequence will not correct the imbalance. The parent must also practise recognising prosocial behaviour and building positive interaction into daily life. Otherwise the programme risks being experienced as a succession of sanctions rather than a structure for learning.

The clinician should explore feasibility and safety before recommending a consequence. A strategy that requires the parent to manage an intense struggle, cannot be applied in the available home environment, or leads to escalating physical confrontation is not a good plan merely

because it has a familiar name. Return to a smaller target, clearer antecedents, and a consequence the caregiver can deliver calmly. Behavioural treatment should lower the emotional temperature of the household.

> **PITFALL**
>
> Using time-out as an angry banishment reverses its purpose. If the adult lectures, negotiates, threatens, and repeatedly restarts the interaction, the child receives intense engagement rather than a clear, brief consequence.

13.6 Functional analysis beyond the home

The **A-B-C model** offers a compact method for thinking about behaviour in context: identify the antecedent, describe the behaviour without inference, and examine the consequence. It is particularly useful when parents report that the child behaves differently across settings. Rather than assuming that one observer is right and another is wrong, the clinician asks what is different about the demand, the available attention, the escape route, the waiting involved, or the response that follows the behaviour.

PART OF THE SEQUENCE	CLINICAL QUESTION	USE IN PARENT COACHING
Antecedent	What immediately set the episode in motion?	Make the prompt clearer or alter the situation before the demand.
Behaviour	What did the child actually do?	Define one observable target rather than a character judgment.
Consequence	What followed from the behaviour?	Plan reinforcement for the desired alternative and a calm response to the problem behaviour.

Why functional analysis matters. The same outward behaviour can serve different functions on different occasions. A child may be seeking attention in one situation and avoiding an overwhelming task in another. Parent training is therefore not a set of stock rewards pasted onto every complaint. It is a method for matching the adult response to the sequence that is actually occurring. This is also why the clinician reviews examples from the previous week rather than judging the programme solely by the parent's overall impression.

Public settings deserve the same analysis. The aim is not to create a display of parental control in front of others. It is to prepare a brief plan before entering a difficult situation, recognise early signs of dysregulation, reinforce the behaviour that permits the activity to continue, and leave or change the situation when a pre-agreed limit is reached. A parent who has a rehearsed plan is less likely to improvise from embarrassment or anger.

13.7 Collaboration with school and the Indian clinical setting

Home-school daily report cards connect the child's effort across the settings that matter most. The school identifies a limited, observable target and communicates whether it was met; the

caregiver then delivers the planned response at home. The report card is not a behaviour diary for public shaming, and it should not become a channel through which adults exchange frustration. Its purpose is to make the reinforcement pathway coherent for the child.

School-based adjustments, classroom strategy, and wider psychosocial management require their own plan and are considered in the school-based management section. In parent training, the relevant question is narrower: can home and school agree on language, targets, and feedback so that the child is not asked to decode incompatible expectations? When communication is difficult, a simple shared target is more useful than an elaborate form that neither setting completes.

IN INDIA

Parents may have to coordinate with teachers while managing crowded routines, shared caregiving, and uneven access to trained behavioural therapists. Teach a small set of skills that the family can practise without specialised materials, and adapt the home-school communication method to what the school can reliably sustain. The clinical standard is not a sophisticated chart; it is a plan that preserves dignity and can be used consistently.

Grandparents and other caregivers may be central to the child's day. Excluding them can create contradictory contingencies: one adult rewards a requested behaviour while another inadvertently reinforces refusal or argument. Invite key caregivers into the formulation where feasible, describe the target behaviour in plain language, and agree on the immediate response. The goal is not identical parenting styles. It is enough coherence that the child can anticipate what will happen after a behaviour.

13.8 Age, preference, and place in ADHD treatment

For children of preschool age, roughly **3 to 5 years**, behavioural and parent-training intervention is preferred as the initial treatment. This is clinically important because **psychostimulants** have lower short-term efficacy and lower tolerability in preschoolers than in school-aged children. Parent training offers a developmentally appropriate starting point: it increases structure around behaviour while the clinician continues to assess impairment, family capacity, and the need for additional intervention.

Age does not turn treatment into an automatic recipe. **AAP guidance** frames the balance of medication and behavioural treatment differently across development and gives family preference a meaningful role for younger children. For adolescents aged **12-18**, medication with or without behavioural therapy is described as first-line; behavioural therapy alone remains an option when the family declines medication. A candidate should state the age-sensitive principle without presenting behavioural work and medication as adversaries.

Behavioural parent training can be used alongside pharmacotherapy, but this fragment does not teach medication selection, dosing, adverse-effect monitoring, or the evidence for multimodal treatment. Those decisions belong to the pharmacotherapy, monitoring, and multimodal management sections. The parent-training contribution remains distinctive: it changes the

response pattern around behaviour, strengthens caregiver efficacy, and provides a way to work when symptoms continue to create friction despite other treatment.

14 · School-based and psychosocial management

School is a treatment setting, not merely a place where impairment is observed. For a child with ADHD, the classroom repeatedly asks for behaviour that is difficult to organise in the moment: beginning work, persisting through it, waiting, shifting attention appropriately, and responding to correction without disengaging. The clinical task is therefore not to ask a teacher to "manage ADHD" in the abstract. It is to help adults alter the immediate environment so that the desired behaviour is clear, observable, reinforced, and shared across the child's settings.

School-based management belongs within psychosocial treatment because it translates clinical formulation into the places where daily functioning is tested. It does not replace assessment, medication when indicated, parent work, or educational intervention for a coexisting learning difficulty. Its distinctive contribution is practical: the child meets the same understandable expectations at school and at home, and adults receive usable information rather than a succession of global reports that the child was "distracted" or "naughty". Good plans reduce blame on all sides. They make progress visible, preserve the teacher's authority, and give the child a credible route back to success after a difficult period.

School	Home	Plan
CLEAR TARGETS	LINKED INCENTIVES	SHARED REVIEW

14.1 The clinical logic of a school plan

ADHD-related difficulty is often interpreted morally because it is intermittent. A child may complete work under some conditions and fail under another; adults may then conclude that the difficulty reflects unwillingness. A psychosocial formulation asks a more useful question: what happens immediately before the behaviour, what does the adult do next, and what consequence makes the pattern more or less likely to recur? This shifts discussion from personality labels to modifiable contingencies. The target is neither compliance for its own sake nor a perfect classroom. It is participation in learning and relationships with less repeated failure.

The plan should start with a shared functional description. Vague objectives such as "be attentive" or "behave properly" leave each adult to apply a private standard. They are poor teaching targets because the child cannot tell, during a demanding moment, whether success has occurred. A useful target names an action that can be seen and recorded, describes the relevant context, and is phrased positively where possible. "Begins the allotted task when directed" gives adults a common observation point. "Does not create trouble" does not. The distinction matters because the latter invites a running catalogue of errors, whereas the former creates an opportunity to notice competence.

School intervention is most effective when it is formulated collaboratively rather than imposed as a clinical instruction. The teacher brings knowledge of classroom routines, peer dynamics, curricular demands, and what can actually be sustained. Parents bring knowledge of the child's

strengths, interests, pressure points, and how consequences work at home. The clinician protects the formulation from impossible standards and from treating a difficult school period as evidence that the child or adults have failed. The child should understand the plan in developmentally appropriate language and should experience it as help with a real problem, not as public surveillance.

RULE **Specify the behaviour before choosing the consequence.** A consequence cannot teach reliably when adults have not agreed on what counts as the target behaviour, when it occurs, and how it will be noticed.

Targets should be selected for functional importance, not because they are the most irritating behaviour in the room. Establish what blocks access to teaching or damages the child's place in the group, then ask whether the target is within the child's control under current conditions. A plan that begins with an unreachable demand creates repeated evidence of failure and will soon lose adult goodwill. A plan that begins with an achievable, meaningful behaviour gives the child an early experience of agency and gives adults a reason to continue using it.

14.2 Classroom contingencies and teacher partnership

The classroom side of treatment rests on **teacher consultation**, **contingency systems**, and teacher-led observation of the agreed behaviour. Consultation is not a lecture on diagnosis. It is a working conversation about where the target appears, what precedes it, which prompts are already available, how feedback will be delivered, and how information will reach home. The clinician should take the operational burden seriously. A beautifully designed plan that demands more attention than a teacher can spare will quietly disappear.

A contingency system makes the relation between a behaviour and its consequence more immediate and predictable. Recognition, access to a valued classroom privilege, or a token-like marker can all be used when they are tied to the agreed target. The therapeutic element is not the object itself. It is the clarity of the link: the child can see what action has earned the response. Equally important, feedback should not become a stream of criticism. A child who already expects correction may stop trying before the task begins; the plan must therefore create frequent opportunities for adults to catch and name the desired action.

Target-behaviour tracking allows the teacher to move from impressions to observations. It need not become an elaborate record. Its value lies in showing whether the chosen target is improving, whether the context needs modification, and whether home and school are describing the same problem. The record should be intelligible to the people using it. If a teacher cannot complete it within the normal rhythm of class, it is not a clinical instrument; it is an additional task waiting to be abandoned.

ELEMENT	CLINICAL PURPOSE	QUESTION FOR THE TEAM
Observable target	Turns a broad concern into a teachable action	Could each adult recognise it in the same way?
Teacher feedback	Links classroom behaviour to an immediate response	Can it be delivered without disrupting teaching?
Contingency	Makes success meaningful to the child	Does it follow the target consistently?
Brief record	Supports review instead of memory-based judgement	Does it show a pattern that can be acted on?
Home link	Extends the same message beyond school	Do caregivers understand what the record means?

Teacher partnership also requires protecting dignity. The child should not be singled out theatrically or made dependent on a public display of poor performance. Feedback can be clear without being humiliating. The clinician should ask how the plan will look to peers, whether it increases opportunities for repair after mistakes, and whether it preserves ordinary membership of the class. A child with ADHD often needs additional structure; that does not justify making the child the classroom's problem to solve in public.

> **GOOD TO REMEMBER**
>
> When a teacher says that a plan is impossible to carry out, treat this as clinical data rather than resistance. Simplify the target, move the feedback into an existing routine, or redesign the home link. Sustainability is part of treatment fidelity.

14.3 The daily report card as a home-school bridge

The **daily report card**, also described as a home-school report card, is a compact way of joining school performance to family support. It is not a report on the child's worth, and it should never read like a disciplinary diary. It is a brief communication tool focused on a small set of agreed behaviours. The teacher rates the target behaviour during the school routine, sends the information home, and the home response follows the information rather than a parent's guess about what happened in class.

Its strength is the direct bridge between settings. The card makes **parent-teacher collaboration** concrete: the teacher does not have to carry the whole intervention, and parents do not have to reconstruct the school routine from a distressed child's account. The child receives a consistent message that school effort matters at home and that adults are working from the same plan. This is why the report card is a psychosocial intervention rather than an administrative form.

The card should contain **one to four** specific school behaviours; in practice, **two to four** keeps the plan manageable. Keeping the list narrow prevents the card from becoming a score sheet of every difficulty. It also allows the child to know what to do next rather than facing a diffuse demand to improve. The language should describe the action that earns success, not merely prohibit an unwanted act. A meaningful target is tied to a setting where the child can

demonstrate it, such as work initiation, returning to a task after redirection, or following a classroom routine.

The teacher's rating should be simple enough to survive a busy classroom session and should be explained to the child before it is used. The home response should be planned in advance, not negotiated during a conflict at the end of the day. When the target is met, the child earns a home-based reward linked to the school behaviour. When it is not met, the card should signify that the goal was not reached, not that the child deserves shame or an escalating punishment. This distinction protects the learning function of the intervention. A negative card is information about the plan, the context, or the target, not an invitation for adults to intensify hostility.

MNEMONIC

CLEAR

Choose an observable target; **L**ink it to the classroom routine; **E**xplain the expectation; **A**cknowledge the result; **R**eview the record together. It is a practical spine for keeping a report card therapeutic rather than punitive.

Review is essential. If the same target is repeatedly not achieved, the question is not simply whether the child needs a harsher consequence. The team should revisit whether the target was clear, whether the classroom demand exceeded current capacity, whether the teacher had a workable prompt, and whether the home incentive still carries meaning. Conversely, when the child is doing well, adults should avoid silently raising expectations until success disappears. A plan has value when it teaches a skill and supports participation, not when it becomes a moving test of obedience.

TRAP **Do not turn the report card into a punishment ledger.** When every difficult moment is entered and the home response is mainly punitive, the card teaches avoidance and adult conflict rather than the school behaviour it was meant to strengthen.

14.4 Antecedent planning beyond the desk

School plans work better when they do not wait for disruption before acting. **Antecedent-based behaviour management** asks adults to prepare for predictable points of strain. The relevant questions are: what demand is approaching, what environmental feature increases the likelihood of difficulty, what expectation must be stated beforehand, and what response will follow success or non-success? This is a disciplined alternative to reacting only after behaviour has deteriorated.

The **A-B-C model** provides a usable sequence. Adults anticipate likely problems, restructure antecedents where possible, communicate the expectation, plan the consequence, and reward the positive behaviour. In a school context, this may mean thinking ahead about a transition, a demanding task, a period requiring waiting, or a situation in which peer stimulation is high. The point is not to remove all challenge. It is to make the path through a foreseeable challenge explicit enough that the child can practise a different response.

- Identify the situation in which the difficulty reliably emerges.

- State the expected behaviour before the demand begins.
- Arrange the adult response so that success is noticed and mistakes can be repaired.

Antecedent planning has a useful psychosocial effect on adults as well. It interrupts the familiar escalation in which adults interpret a child's difficulty as defiance, increase emotional intensity, and then receive more dysregulation in return. A pre-agreed response allows the teacher and parent to act with less improvisation. That does not make the child passive. On the contrary, it creates a repeated opportunity for the child to predict what is wanted and to experience that a different action leads to a different outcome.

Although it is especially visible in classrooms, the skill generalises to other structured settings. The same clinical logic can be used when a family anticipates a demanding routine outside home, when the child is entering a social situation, or when a planned activity has a known pressure point. The intervention remains psychosocial because it changes the interaction between demands, adult communication, and consequences. It should be coordinated with parent-training work rather than duplicated; the detailed parent-training framework is addressed in the behavioural and parent training interventions section.

PITFALL

Do not confuse anticipation with overprotection. The purpose is to prepare for a demand and teach participation within it, not to remove every situation that might be difficult. If the plan consistently shrinks the child's opportunities, it may reduce short-term conflict while preserving long-term impairment.

14.5 Coordination, review, and clinical boundaries

A school plan has to be embedded in a working relationship. The clinician should clarify who will explain the plan to the child, who will observe the target, how information will be communicated, and how disagreement will be handled. Parent and teacher may hold different views of the child's difficulties. That disagreement should be explored rather than solved by declaring one setting correct. Behaviour may genuinely vary with task demands, adult style, peer context, sleep, treatment effects, and emotional state. The goal is a shared intervention hypothesis, not a forced consensus about blame.

The school record can also improve clinical review. It gives the treating team a window into functional change that is closer to the learning environment than a retrospective global impression. It should not be treated as a diagnostic test, nor should it replace a comprehensive assessment of ADHD, comorbidity, learning needs, family context, or medication effects. Rating-scale selection and interpretation belong to the dedicated rating-scales section. Where a specific learning difficulty is suspected, assessment and remedial planning should be pursued through the relevant learning-disorder sections rather than attributing all academic struggle to ADHD.

Communication requires consent, clarity, and proportion. Families should know what information is being shared, why it is relevant, and who will receive it. Teachers need concise, practical guidance rather than confidential clinical detail that does not alter classroom

management. A note that says “use the agreed target and report-card routine” may be more useful and safer than a long diagnostic summary. The clinician should also resist treating the school as an extension of the clinic. Educational staff make their own professional judgements; psychiatric input is most helpful when it is collaborative, specific, and responsive to the school’s real constraints.

IN INDIA

School collaboration may involve a class teacher, a coordinator, and family members with different expectations about discipline, academic performance, and disclosure. Begin by identifying the adult who can reliably implement the agreed routine, use plain language for targets, and avoid assuming that a written communication channel is the only feasible home-school bridge. If educational accommodations or formal learning assessment are relevant, address them through the learning-disorder management and educational-provisions sections rather than adding unsupported promises to an ADHD behaviour plan.

There are clear limits to what school management can accomplish. It cannot compensate for an unrecognised learning disorder, an untreated emotional disorder, severe family stress, bullying, or a classroom environment that is unsafe for the child. Nor should it be used to postpone needed clinical treatment simply because a teacher has agreed to try harder. Conversely, the presence of medication does not make school intervention unnecessary. Pharmacological and psychosocial approaches address different parts of functioning; the evidence and logic of multimodal treatment are considered in the multimodal treatment of ADHD section.

When a plan is not working, revise the formulation before judging the child. Ask whether the target is meaningful and observable, whether adults are responding consistently enough for the child to understand the connection, whether the home incentive is still linked to the school behaviour, and whether the presumed problem is actually another unmet need. This stance keeps the intervention clinical. It also prevents a damaging drift from support toward surveillance.

14.6 What the candidate should be able to formulate

In an answer or case discussion, describe school management as a coordinated behavioural intervention rather than a list of generic classroom tips. Begin with functional impairment in the educational setting. Then state that the team will define an observable target, arrange teacher feedback and a classroom contingency, track the target behaviour, and link school information to a planned home response. Explain that this creates consistent incentives across settings and strengthens parent-teacher communication. The answer becomes more clinically persuasive when it shows why a target must be achievable, why a negative report should be treated as information, and why the plan must be reviewed rather than mechanically continued.

The most defensible formulation preserves several distinctions. Classroom contingencies are not public shaming. A daily report card is not a punishment sheet. Antecedent planning is not avoidance of all demands. Teacher consultation is not a transfer of medical responsibility to the school. Finally, school intervention is not a substitute for evaluating difficulties that lie outside its

scope. Holding these distinctions allows the clinician to be both practical and appropriately modest.

> A school plan for ADHD succeeds when adults agree on a small observable target, respond predictably to it, and connect school feedback with supportive consequences at home.

15 · Multimodal treatment of ADHD and MTA study evidence

Multimodal treatment is a clinical strategy, not a slogan. ADHD is expressed at home, in school and in relationships, so treatment has to be organised around the child's impairments, comorbidity, family capacity and school context. The important examination question is not whether medication or behavioural work is "better" in the abstract. It is what outcome is being pursued, which component can plausibly change it, and how the components are made to work together.

The **Multimodal Treatment Study of Children with ADHD** is the central comparative trial for this reasoning. Its enduring value is that it separates symptom control from broader functioning, compares an intensive treatment strategy with ordinary care, and forces a more mature conclusion than "combined treatment always wins."

579	7 to 9.9 years	four	14 months
RANDOMISED CHILDREN	ENTRY AGE	TREATMENT ARMS	PRIMARY PHASE

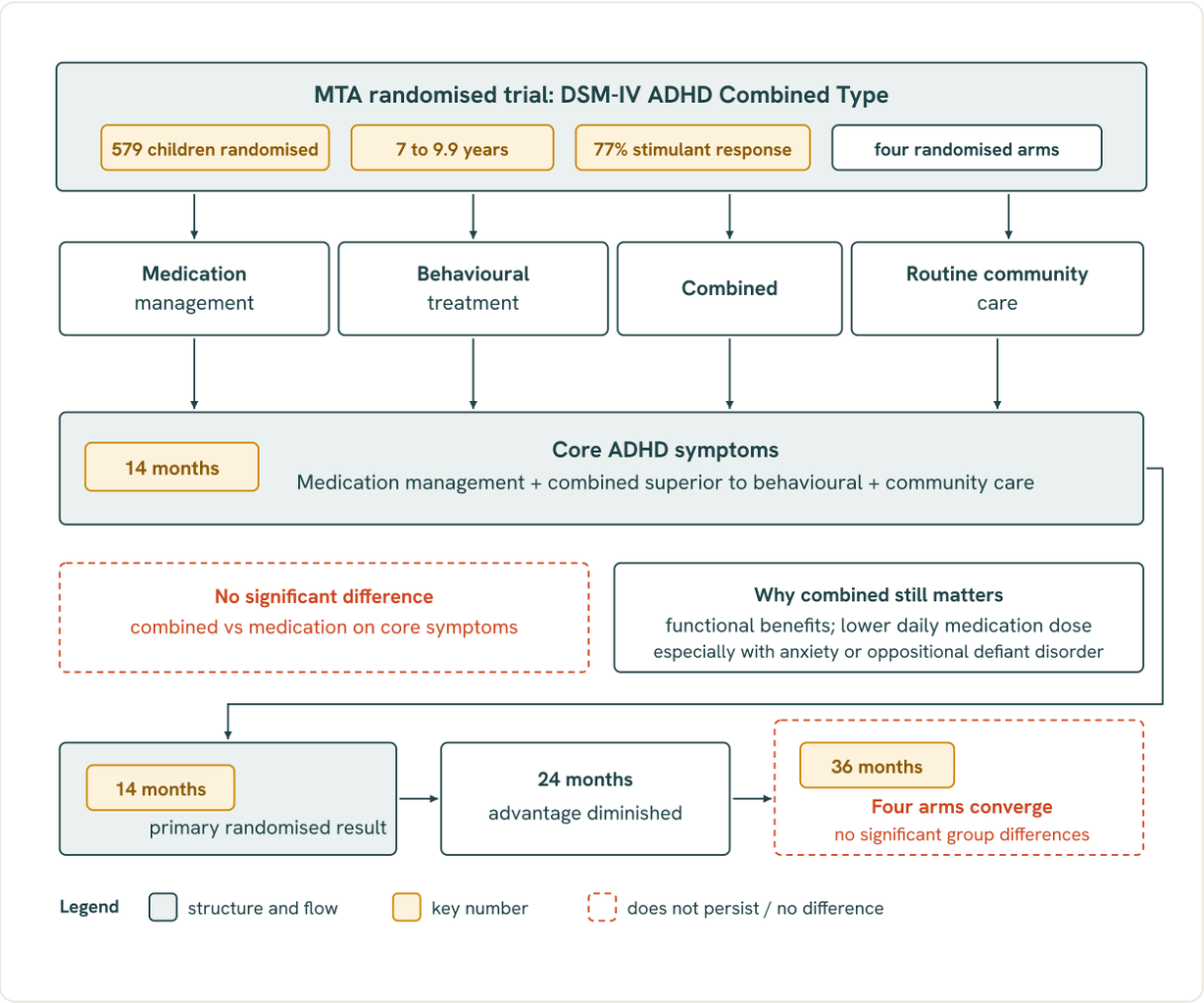


Fig 22.14. MTA four treatment arms: medication strategies led core ADHD symptoms at 14 months, but original-group differences converged by 36 months.

15.1 What multimodal treatment means in practice

Multimodal treatment means a coordinated plan in which biomedical, behavioural, educational and family-facing components have distinct jobs. It does not mean handing every family a standard bundle. A plan becomes genuinely multimodal when its parts are linked to a formulation: medication may be used to reduce core symptoms sufficiently for the child to participate in learning and skill practice; parent work may alter coercive interaction cycles and make routines more predictable; school measures may reduce the mismatch between demands and the child's current capacities. The aim is coherence across settings, not accumulation of referrals.

This distinction matters because a core symptom score and a meaningful improvement in daily life are related but not identical outcomes. A child may be less distractible yet continue to have conflict, academic underachievement, poor peer functioning or family strain. Conversely, a family may report smoother routines while impairing symptoms remain insufficiently controlled. The clinician should therefore specify the target outcome before declaring a treatment successful or unsuccessful. That discipline prevents both premature medication switching and the equally common error of continuing a psychosocial intervention without checking whether it is addressing the problem for which it was selected.

Multimodality is also a way of managing uncertainty. ADHD commonly appears with difficulties that change the treatment task, and the child's needs can differ between home and classroom. A formulation should identify the dominant impairment, available supports and barriers to implementation. The behavioural and school-based components are described in the relevant treatment sections; here, the key point is that they must be coordinated with medical care rather than treated as a competing ideology.

RULE **Match each treatment component to a defined impairment and a measurable outcome.** Medication, parent work and school support should be selected because each has a role in the formulation, not because "multimodal" sounds comprehensive.

15.2 Why the MTA study is clinically useful

The MTA enrolled children with **DSM-IV ADHD Combined Type**. This scope matters when interpreting the evidence. The study provides strong evidence about the population it studied, but it should not be converted automatically into a claim about every presentation, age group or clinical setting. Good evidence use starts with asking whether the child in front of us resembles the study population and whether the care system can deliver an intervention of similar intensity.

The randomised comparison had **medication management, behavioural treatment, combined treatment and routine community care**. These arms were not simply labels for a tablet, a few counselling sessions and "usual care." They represented treatment strategies. The medication arm involved systematic clinical management; the behavioural arm was a deliberately intensive package; the combined arm brought both strategies together. Community care was crucial because it asked whether a carefully delivered study strategy offered more than what families ordinarily received.

The primary comparison was made at **14 months**. This is the anchor for the initial result, not a licence to describe all later observations as though they were part of the same randomised treatment exposure. Once the intensive phase ended, treatment in the real world changed. Subsequent findings therefore illuminate the durability and transportability of early advantage, but they answer a different question from the primary randomised comparison.

For candidates, the study is useful because it tests propositions that are often blurred in clinical discussion:

- Whether a structured medication strategy improves core symptoms more than behavioural treatment alone or community care.
- Whether adding behavioural treatment improves core symptoms beyond well-managed medication.
- Whether a combined plan has advantages on outcomes that extend beyond the core symptom count.

MNEMONIC

Symptoms, Settings, Sustenance

Read the MTA by asking what happens to core symptoms, what changes across home and school settings, and whether the early advantage is sustained when care becomes naturalistic.

15.3 The initial result: symptom control is not the whole result

At the primary endpoint, **medication management and combined treatment** were superior to behavioural treatment alone and routine community care for core ADHD symptoms. This is the headline finding, and it supports a clear clinical conclusion: when core symptoms are the immediate source of impairment, a carefully managed medication strategy is an important part of evidence-based care. It does not imply that behavioural work is unimportant; it means that behavioural treatment alone did not match the symptom effect of the study medication strategies in this comparison.

Just as important, there was **no significant difference between combined treatment and medication management alone for core ADHD symptoms**. This is the sentence that protects against the simplistic claim that every child requires every component to obtain symptom control. Adding a component should be justified by the child's residual problems, comorbidity, family goals and functional setting, rather than by an assumption that a larger package must produce a larger symptom effect.

The combined arm nevertheless showed advantages on **non-core and functional outcomes**, including domains of behaviour, emotional symptoms, social competence, parent-child relations and reading achievement where medication management alone did not show the same advantage. This is not a contradiction. Core symptoms and functioning are related but separable targets. Behavioural and educational work can create opportunities for practice, reduce conflict and change environmental contingencies even when the additional effect on the core symptom outcome is not demonstrably greater.

QUESTION	MTA-INFORMED ANSWER	CLINICAL READING
Core ADHD symptoms	Medication management and combined treatment outperformed behavioural treatment and community care.	Do not mistake a broad plan for a substitute for adequate symptom treatment.
Combined versus medication alone	No significant core-symptom advantage was demonstrated for combined treatment.	Add components for a defined additional target.
Broader functioning	Combined treatment had advantages in selected functional and associated symptom domains.	Ask about relationships, school functioning and emotional burden, not symptoms alone.
Medication dose requirement	The combined arm required a lower average daily medication dose than medication management alone.	Do not translate this finding into an individual dose rule.

TRAP **"Combined treatment was not better, so behavioural work has no role."** This confuses a core-symptom comparison with the full treatment task. Functional outcomes and comorbidity can make a combined plan clinically preferable even when symptom scores do not separate the medication-containing arms.

15.4 What the comparison with community care actually shows

The community-care comparison is often misread as medication versus no medication. It was not. The study medication strategy was superior to **community care despite medication use within community care**. The clinically defensible interpretation is that treatment quality matters: diagnostic review, deliberate titration, follow-up, target monitoring and communication with the family are part of the intervention. A prescription without a management system is not equivalent to structured medication care.

This has a practical implication for follow-up visits. The clinician should not ask only whether the child is "better." Review should be tied to target symptoms, settings, adverse effects, adherence, practical obstacles and the family's account of benefit. When school feedback is available, it can test whether improvement seen in the consulting room transfers to the environment where sustained attention, organisation and inhibition are demanded. The precise medication regimen belongs with stimulant pharmacotherapy; the MTA lesson is about the quality and continuity of the strategy rather than a dose schedule.

It also explains why service context matters. Community care is heterogeneous. Some families receive fragmented reviews, limited school communication or an intervention that cannot be delivered consistently; others receive careful longitudinal care. The trial should therefore make the clinician more demanding about the process of treatment, not contemptuous of community clinicians or families. The question is whether the care plan has a feedback loop that can identify nonresponse, partial response, changing impairment and obstacles to adherence.

IN INDIA

A multimodal plan must be feasible for the family. Build the plan around realistic follow-up, a parent's capacity to carry out home strategies, and a school contact who can observe change. If intensive specialist behavioural input is not locally available, preserve the logic of coordination rather than offering a long, impracticable list of referrals.

15.5 Behavioural treatment in a combined plan

The MTA behavioural intervention was not a token add-on. It was an intensive package combining **parent training, a child-focused summer treatment programme and teacher consultation with classroom support**. This matters for interpretation: a trial finding about such a package should not be casually applied to a brief, poorly coordinated intervention that happens to be called behavioural treatment. Intensity, fidelity and cross-setting implementation influence what an intervention can plausibly achieve.

For the clinician, behavioural work is most useful when it addresses a problem medication alone cannot solve. Examples include conflict around routines, inconsistent reinforcement, difficulty

generalising gains across settings, a child's need for structured skill practice, or family distress that interferes with treatment implementation. Its role is not to prove that the child can manage without medication, nor is it to make parents responsible for a neurodevelopmental condition. It is a way of changing the contingencies and interactions through which impairment is maintained or expressed.

The MTA-derived clinical lesson is that **concomitant behavioural treatment may add benefit in comorbidity**, particularly when anxiety or oppositional defiant disorder is present. This is a formulation-based indication, not a universal rule. In such situations, the treatment plan needs targets that are wider than inattention and activity level: emotional distress, coercive family interactions, oppositional behaviour, avoidance, peer difficulties and school participation may require direct attention. The disorders themselves are addressed in the Child behavioural, emotional and other disorders notes.

GOOD TO REMEMBER

When a child has a satisfactory symptom response but remains impaired, ask what is still failing: the family routine, emotional symptoms, oppositional behaviour, peer functioning, reading, school accommodation or treatment implementation. The residual impairment, not a doctrine of "combination," selects the next component.

PITFALL

Do not call an intervention multimodal merely because several professionals have seen the child. Without shared targets, feedback and role clarity, parallel inputs can burden the family while leaving important impairments unaddressed.

15.6 Stimulant-response figures: define the denominator before quoting one

The MTA is also quoted for stimulant response, but the figure depends on the construct being described. The study reports a **77%** response rate in the medication titration context. This is a useful anchor when discussing response to the initial stimulant strategy, but it should not be made to answer a different question, such as cumulative response after an additional stimulant trial or maintenance of a particular regimen.

A separate framing describes cumulative response to the first or second stimulant trial as **about 90%**. It includes response to an initial methylphenidate trial and a subsequent dextroamphetamine trial. These figures are not interchangeable because the treatment exposure and denominator differ. In an examination answer, state what the number denotes. In a clinical conversation, avoid allowing a group response figure to become a promise about an individual child.

This distinction has broader value. "Response" can refer to symptom change, clinician judgement, parent report, school report, tolerability or continuing treatment. Before using response to guide a decision, define the target and obtain information from the setting in which impairment matters. A child may have a meaningful reduction in symptoms but an incomplete functional

recovery, or may stop a helpful medicine because the balance of benefit and burden is unacceptable. Neither situation is captured by a bare percentage.

15.7 Follow-up: early randomised advantage and later convergence

At **24 months**, the advantage of the medication strategy over behavioural and community care persisted, but was smaller than at the primary endpoint. This is a transition point in interpretation. It does not erase the early evidence for structured medication management; it indicates that effect sizes and between-group differences must be read in the context of changing treatment exposure and ordinary developmental and environmental change.

By **36 months**, the original treatment groups did not differ significantly on outcome measures, and the earlier medication-algorithm advantage was no longer apparent. This is not evidence that the initial result was false. Rather, it warns against treating the original randomisation as a permanent treatment state once families move into naturalistic care. Follow-up answers a different question: what happens to an initially randomised cohort after treatment pathways, adherence and circumstances have had time to diverge.

The follow-up samples remained substantial: 540 of 579 participants, or 93%, contributed at the earlier follow-up, and 485 of 579 participants, or 83.8%, participated at the later follow-up. Retention helps confidence in the observations, but it does not restore the original contrast once treatment is no longer controlled in the same way. Candidates should avoid claiming either that medication has no long-term value or that an early trial advantage proves an unchanging long-term between-group effect.

Across the cohort, **symptoms improved from baseline regardless of original assignment**. Initial severity, comorbidity, public assistance and parental ADHD predicted poorer later outcomes independently of the assigned treatment. This finding shifts the long-term clinical emphasis toward ongoing formulation and review. Treatment is not a single event at diagnosis. The clinician revisits impairment, context, comorbidity and supports as the child's developmental and educational demands change.

15.8 How to use MTA evidence in an individual formulation

The most useful MTA-informed formulation begins with a hierarchy of targets. If core symptoms are driving current impairment, make sure there is an adequately managed symptom treatment strategy. If the child also has family conflict, emotional symptoms, oppositional behaviour, social difficulty or academic impairment, decide which additional intervention has a credible mechanism for that particular target. Build review around observable change in the relevant setting. This is more rigorous than asking whether "multimodal treatment" has been given.

There are limits to what the trial can answer for an individual child. It does not replace assessment of learning, language, developmental history, safeguarding concerns, family stress or treatment preference. It does not tell the clinician which school accommodation will be feasible, nor does it replace a careful adverse-effect review. Those matters belong to the assessment, school management and medication-monitoring sections of this chapter. The MTA supplies a framework for integrating their findings, not a substitute for them.

Finally, communicate the evidence without polarising the family. Explain that medication can be important for core symptoms, that behavioural and school interventions can address meaningful functional problems, and that the plan will be revised according to the child's actual progress. This stance validates parental effort without implying that good parenting is a treatment for ADHD, and it avoids presenting medication as the whole of care. Coordinated, outcome-focused follow-up is the practical form of multimodal treatment.

> The MTA supports structured medication management for core ADHD symptoms, while combined care earns its place by targeting functional impairment, comorbidity and the child's real-world context.

ADHD beyond childhood and its outcome

16 · ADHD in adolescents and adults (persistence, transition)

Why this matters clinically. ADHD does not end at the clinic door when a young person leaves school. The developmental task is to recognise continuity without assuming that the childhood picture has remained unchanged. The adult consultation therefore asks a different question from the paediatric consultation: not merely whether symptoms are still present, but how their current form, context and functional consequences connect with a developmental history.

For the resident, this is a transition problem as much as a diagnostic one. A person may no longer look like the child described in an old school report, yet may still be impaired by a pattern that has changed in visibility rather than disappeared. Conversely, a current complaint of poor concentration should not be made to carry a childhood diagnosis without reconstructing its course. Good adult ADHD work holds both possibilities in mind, uses the patient's account respectfully, and actively tests it against available developmental evidence. That distinction affects engagement and planning as well as diagnostic accuracy.

16.1 Persistence is not an all-or-none outcome

The useful starting concept is **persistence**. It means that clinically meaningful ADHD may continue beyond childhood, but does not imply that every person retains the same symptom burden or the complete diagnostic syndrome. Follow-up findings differ according to how persistence is defined and how information is obtained. That methodological variation is not a reason to dismiss the finding; it is a reason to explain clearly what kind of persistence is being discussed.

One estimate suggests that ADHD persists in some form for **about 65%** of people with childhood ADHD. A separate estimate places persistence into early adulthood at **about 70%**. These figures should be read as convergent support for a substantial developmental continuity, rather than as competing verdicts about one fixed fate. The examiner is usually looking for the distinction between persistence of clinically relevant difficulties and persistence of the entire childhood syndrome.

Full diagnostic syndrome is the narrower outcome. It is retained by **about 15%** of childhood cases in adulthood. This is not a contradiction of the larger persistence estimate. It identifies the subgroup whose adult presentation continues to satisfy the full diagnostic threshold, while other people remain symptomatic or functionally affected without that full syndromal picture.

Partial remission is often the clinically more useful middle category. It refers to a developmental course in which difficulties remain important but no longer constitute the full syndrome. The proportion described in this range is **40% to 60%**. It prevents an unhelpful binary in which a patient is considered either wholly recovered or unchanged. In practice, partial remission may still matter greatly when the person's work, relationships or self-management demands have increased.

about 65%	about 15%	40% to 60%	about 2.5%
PERSIST IN SOME FORM	FULL SYNDROME	PARTIAL REMISSION	ADULT PREVALENCE

RULE **Persistence means continuity of clinically relevant ADHD, not automatic retention of the full childhood syndrome.** State this distinction before interpreting any adult symptom count or outcome label.

Adult ADHD is best understood as a developmental continuation whose expression may be full, partial, or no longer syndromal.

16.2 The adult presentation is a change in expression

Development alters the clinical surface of ADHD. The relevant shift is in the **symptom profile**: hyperactivity and impulsivity tend to decline across adolescence and early adulthood, whereas inattention often persists. The important word is "tend". A developmental tendency should guide enquiry, not become a stereotype that makes the clinician overlook an individual's current difficulties.

In adulthood, diminished overt motor activity may be experienced or described as inner restlessness, impatience, a sense of being driven, or difficulty slowing down. These descriptions need to be placed in the person's developmental narrative rather than treated as self-explanatory. They can be clinically relevant precisely because the visible childlike form has attenuated. The task is not to reproduce a classroom description in an adult consultation; it is to identify whether the present experience belongs to a persisting developmental pattern.

Inattention is often more durable and may be recognised through the person's account of organisation, task initiation, follow-through, distractibility and the effort required to maintain direction. Functional demands can expose these difficulties differently over time. An adult may have less externally imposed structure but more responsibility for creating structure. This can make an old vulnerability newly visible without proving that the disorder is newly acquired.

DEVELOPMENTAL FEATURE	ADULT EXPRESSION TO EXPLORE	CLINICAL IMPLICATION
Overt hyperactivity	Restlessness or difficulty settling	Ask about subjective experience, not appearance alone.
Impulsivity	Hasty responding or difficulty pausing	Place the report in the wider developmental pattern.
Inattention	Persistent difficulty directing and sustaining effort	Explore its functional expression in current roles.
External structure	Greater need to organise one's own tasks	Assess how context reveals or contains difficulty.

The table is a prompt for clinical translation, not a replacement for a developmental history. The core phenomenology of ADHD is addressed elsewhere in this chapter. Here, the key point is that the adult form is neither a miniature copy of the child form nor an unrelated concentration complaint. The meaning of the complaint emerges from its longitudinal pattern.

GOOD TO REMEMBER

When an adult says, "I was never hyperactive," clarify what they mean by hyperactive. A denial of visible childhood behaviour does not settle whether restlessness, impulsive action or attentional difficulty has followed a developmental course.

16.3 Predictors guide vigilance, not deterministic counselling

Persistence is associated with childhood symptom severity, childhood comorbidity and **parental mental health**. These are predictors of a course, not a checklist that can determine an individual outcome. Their clinical value lies in identifying who may need a more deliberate transition review and in prompting the clinician to look for persisting needs that may have been obscured by a change of setting.

Severity matters because a more prominent childhood burden may be more likely to remain clinically relevant. Childhood comorbidity matters because ADHD rarely appears in a vacuum, and the developmental story can become harder to interpret when another condition has affected functioning or reporting. Parental mental health belongs in the formulation as part of the developmental context and may also affect the quality and availability of collateral information. None of these factors should be used to convert a probability into a prognosis delivered as certainty.

An equally useful examination contrast is what should not be overread. **Individual IQ**, socioeconomic status and the quality of the parent-child relationship show no apparent impact on persistence. This does not make those matters irrelevant to care, opportunity or the patient's lived experience. It means that they should not be presented as established predictors of whether ADHD itself persists. The distinction protects against the common error of turning every contextual fact in a history into a causal explanation.

This distinction is also ethically important. A difficult family history, social disadvantage or an uneven educational opportunity may shape the consequences of ADHD and the help a person

can obtain. They should be addressed in care for that reason. They should not be casually recast as proof that the developmental condition will persist, nor should a favourable circumstance be treated as evidence that current impairment is implausible. Formulation is wider than prediction.

- Use recognised predictors to decide how carefully to review continuity.
- Separate a predictor of persistence from a factor that changes access to support.
- Keep comorbidity in the formulation without allowing it to erase the ADHD trajectory.
- Explain uncertainty honestly when discussing an individual course.

MNEMONIC

TRACE

Track the developmental course, **R**eview changing expression, **A**sk the adult, **C**heck collateral, and **E**xamine alternative explanations. It is a consultation spine, not a diagnostic shortcut.

16.4 Transition should preserve the developmental narrative

Transition is vulnerable when responsibility for care changes before the explanatory story has been carried forward. The young person may experience the move to adult services as a demand to begin again, while the receiving clinician may see only current complaints. A useful transition record therefore states the childhood pattern, the way the presentation has changed, the current areas of difficulty, the patient's own priorities, and the evidence that supports continuity. It is a clinical bridge, not an administrative summary.

Adolescent autonomy should be actively respected. The person's account becomes central, and it may differ from the family account without either account being discarded. The consultation should make room for privacy, consent and the patient's developing ownership of treatment decisions. At the same time, it should explain why a developmental condition may require carefully chosen collateral rather than relying on a single present-tense narrative.

Educational, occupational and domestic demands can change during this period. Do not assume that a change in achievement either proves remission or proves persistence. A person may be supported by a setting that compensates for difficulties, or may be struggling despite an outwardly acceptable record. The clinically relevant question is how attention, self-organisation, activity regulation and impulsivity affect the tasks the person is trying to perform, and whether that pattern is continuous with earlier life.

Transition is also a point at which the clinician should reconsider formulation rather than simply renew an inherited label. Current symptoms may have multiple meanings. The developmental history provides an anchor, but it does not excuse a failure to assess alternative explanations for present distress or impaired concentration. This preserves diagnostic rigour without making access to adult care depend on a perfect archive.

IN INDIA

When care moves across settings, create a concise handover that the patient can understand and retain. Agree with the patient whether family collateral may be sought, record what evidence is available, and do not allow missing paperwork to substitute for a developmental enquiry.

PITFALL

Equating an absent school record with an absent childhood history is unsafe reasoning. Records may be unavailable for many reasons; the correct response is to seek a careful developmental account and any feasible collateral, not to manufacture certainty in either direction.

16.5 The adult patient is the primary informant, but not the only source

Adult assessment begins from the patient's account. **Adult self-report** is ordinarily the primary source of information, unlike childhood assessment where parents and teachers are primary informants. This shift follows the patient's autonomy and direct knowledge of current inner experience. It also changes the clinician's stance: the patient is not a bystander to a history obtained from others.

Primary does not mean sufficient in every case. Adult ADHD requires a developmental account, and current self-report cannot independently recreate childhood. Collateral, past records and reports from people who know the person in relevant settings can help test continuity and clarify discrepancies. They should be sought with consent and used to add perspective, not to overrule the adult patient automatically. The quality of collateral depends on its proximity to the period and behaviour being described.

A good interview distinguishes present symptoms, remembered childhood experiences and the patient's interpretation of both. The adult may have learned explanatory language from prior contact, media, family discussion or their own reading. That does not make the account untrustworthy. It means the clinician should ask for concrete developmental examples and functional consequences rather than rewarding a fluent diagnostic narrative.

Collateral is especially valuable when the question is onset and course. It is less useful when it is treated as a vote on whether the person is "really" impaired. Informants observe different settings and may have their own blind spots. The clinician's role is to integrate accounts, identify the common developmental thread, and document remaining uncertainty rather than forcing consensus.

TRAP **Do not mistake "the patient is the primary informant" for "the patient's recall alone establishes childhood onset."** Adult autonomy and collateral history are complementary, not competing, principles.

16.6 Retrospective recall needs methodological humility

Self-report has a known limitation. **Young adults** are frequently poor reporters of ADHD symptoms, although reliability improves later in adulthood. In addition, both adults and parents may recall childhood ADHD poorly. This is not a moral failing and it is not peculiar to one family.

Retrospective memory reconstructs the past through current knowledge, current difficulties and the fragments that remain available.

Where prospective documentation exists, recalled onset may be reported **up to 4 years later** than the onset recorded at the time. The practical lesson is not that retrospective history is useless. It is that its time-line should be treated as an estimate requiring corroboration when the diagnostic question depends on it. A confident narrative can still be imprecise; an uncertain narrative can still contain a true developmental signal.

The consultation becomes stronger when it asks how a conclusion was reached. Explore what the patient personally remembers, what others observed, what documentary traces exist, and where the account remains inferential. This is a clinical reasoning exercise, not an interrogation. It enables the clinician to weigh evidence while preserving rapport and avoiding the false comfort of a single source.

- Separate current experience from remembered childhood experience.
- Ask what supports the proposed developmental time-line.
- Record discrepancy rather than editing it out of the history.
- Use uncertainty to guide further enquiry, not to prematurely close the case.

16.7 Adult-onset presentations remain a live controversy

Adult-onset ADHD is an emerging and unsettled idea. Emerging evidence has suggested that ADHD may arise in adulthood, challenging the assumption that it must always have a childhood neurodevelopmental origin. This should be presented as a controversy under examination, not as permission to abandon developmental assessment or as proof that every adult attention complaint represents a new disorder.

The controversy matters because it sharpens the clinician's reasoning. When symptoms appear to begin in adulthood, ask whether earlier symptoms were absent, unrecognised, compensated for, poorly recalled, or obscured by context. Then ask whether the current syndrome may be better explained by another process. The answer should come from a careful developmental reconstruction and a broad clinical formulation, not from allegiance to one side of a debate.

For examinations, the balanced formulation is strongest: adult presentations are clinically real and deserve assessment; continuity from childhood is often important; retrospective evidence has limitations; and the proposition of adult onset remains provisional. This avoids both extremes. One extreme dismisses adult suffering because childhood documentation is incomplete. The other accepts a current concentration complaint as ADHD without sufficient developmental or clinical scrutiny.

The accompanying prevalence figure reinforces that adult assessment is not a marginal afterthought to child psychiatry, even where the adult's account must still be weighed alongside developmental evidence. It is a distinct clinical task requiring developmental continuity, current functional understanding and disciplined handling of uncertainty.

17 · Prognosis and long-term outcome of ADHD

Prognosis in ADHD is a formulation, not a verdict. The diagnosis names a pattern of difficulty; it does not by itself describe how a particular person will function in later life. A useful account of outcome asks what difficulties have continued, what impairment has accumulated, which comorbid pathway is active, what supports are available, and whether treatment has been sustained. This matters because families often hear prognosis as a prediction of identity or worth, while the clinician needs to translate it into a plan for reducing avoidable harm and preserving participation in ordinary developmental roles.

For the postgraduate trainee, the central task is to move beyond the false choice between "will grow out of it" and "will always be disabled by it". Both statements collapse a heterogeneous course into a slogan. Prognosis should instead be written as a **developmental formulation**: current symptoms, functional demands, coexisting disorders, exposures that amplify risk, and interventions that may change the pathway. The companion discussion of adult presentation and transition belongs in the section on ADHD in adolescents and adults; the present focus is how to reason about long-term outcome without turning a population association into a prophecy about an individual.

Course	Function	Context	Risk
FOLLOW CHANGE OVER TIME	ASK WHAT PARTICIPATION COSTS	IDENTIFY SUPPORTS AND STRESSORS	LOOK FOR THE CONDUCT PATHWAY

17.1 What "outcome" should mean in ADHD

A long-term outcome is broader than whether a diagnostic label is still applied at a later assessment. It includes the person's ability to use attention and self-regulation in the settings that matter to them, to maintain relationships and work roles, to make safe choices, and to access care when needs change. This is a **functional outcome** perspective. It prevents the familiar error of judging success only by visible restlessness, while overlooking disorganisation, conflict, repeated underperformance, demoralisation, or dependence on others to keep daily life on track.

The same symptom pattern can carry different consequences in different environments. A person whose surroundings provide structure, reminders, predictable expectations, and a non-shaming response may have a very different experience from a person facing repeated criticism, unstable routines, academic exclusion, or unrecognised comorbidity. This is not a reason to make prognosis vague. It is a reason to describe the conditions under which difficulty becomes impairment. In clinical notes, it helps to distinguish the symptom burden from its consequences and from the supports that are currently compensating for it.

Outcome is also not restricted to a binary question of remission. A person may show fewer overt difficulties and yet continue to require considerable effort, environmental scaffolding, or treatment to function well. Conversely, an individual may retain symptoms but achieve stable participation when demands fit their strengths and support needs. The clinician should therefore ask about the quality and cost of functioning. This language is less deterministic, more useful for shared decisions, and kinder to the patient without minimising genuine risk.

- Describe the current pattern of impairment rather than assuming that symptom visibility captures the whole problem.
- Identify settings in which the person functions better, because these often reveal usable supports rather than a lack of disorder.
- Separate a present difficulty from an irreversible life conclusion.
- Revisit the formulation when developmental demands, living circumstances, or comorbid symptoms change.

RULE **In ADHD, prognosis is best expressed as an evolving risk-and-function formulation, not as a promise of recovery or decline.** The formulation makes explicit what is known now, what may change, and what can still be modified. It also protects against the clinical laziness of treating the diagnosis as the explanation for every later difficulty.

17.2 Course begins with the early clinical picture

When ADHD is identified in the preschool period, clinicians sometimes assume that the label is merely a transient description of high activity. The available follow-up evidence does not support casual reassurance of that kind. In children with **preschool ADHD**, the diagnostic picture was relatively stable across **6-year follow-up**; the reported course was generally chronic, with substantial symptom severity and impairment, particularly where the presentation was more severe, despite medication.

The correct teaching point is neither fatalism nor therapeutic nihilism. Early identification should prompt a careful longitudinal plan: clarify impairment, obtain collateral information, look repeatedly for changing needs, and support the adults who organise the child's environment. The persistence of difficulty in a follow-up cohort means that an early diagnosis deserves clinical seriousness. It does not mean that every child will have the same later experience, or that treatment has no value because symptoms remain.

Longitudinal thinking also corrects a common sequencing error. Prognosis should not be deferred until a crisis in schooling, family life, substance use, or the law has already developed. From the first assessment, the clinician can record what is impairing, what reduces impairment, and what risks would require a change in the care plan. This makes later review cumulative rather than reactive. It also allows the patient and family to understand that follow-up is not a sign of failure: it is the mechanism by which care responds to changing demands.

GOOD TO REMEMBER

At review, ask what has changed in the person's actual life, not only whether the original symptom description still sounds familiar. A functional account of outcome is more informative than a label carried forward without re-examination.

17.3 Heterogeneity is clinically important

ADHD is not a uniform pathway. The same diagnosis can coexist with very different temperaments, family resources, educational experiences, psychiatric comorbidities, and

opportunities for treatment. Prognostic work therefore begins by identifying **risk stratification** variables rather than searching for a single trajectory. The important question is not "what happens to ADHD?" but "what is happening to this person, through which pathway, and what can be changed?"

Such a formulation has practical consequences. It guides the intensity of follow-up, the urgency of collateral assessment, the need to involve family or other supports, and the threshold for addressing safety-related behaviour. It also disciplines communication. Patients should be told when an association is relevant, but should not be told that an associated outcome is inevitable. The clinician can be honest about risk while leaving room for agency, treatment, and the many contextual factors that influence a person's path.

PROGNOSTIC QUESTION	WHAT IT CLARIFIES	CLINICAL USE
What is the current impairment?	Which activities and roles are being affected	Sets a meaningful target for care
Which difficulties are persistent?	Whether support must be sustained across changing demands	Prevents premature discharge from follow-up
Is a comorbid pathway present?	Whether risk is being attributed too simply to ADHD	Directs assessment beyond core symptoms
What is helping already?	Which environmental or therapeutic supports are protective	Preserves effective supports during transition
What new exposure changes the risk?	Whether the formulation needs revision	Triggers timely intervention rather than retrospective explanation

This approach avoids two opposite mistakes. The first is diagnostic overshadowing: every academic, occupational, relational, or behavioural problem is automatically assigned to ADHD. The other is fragmentation: ADHD is treated as irrelevant once another problem appears. A sound formulation holds both possibilities in view. It asks whether ADHD is contributing to the burden, whether another condition better explains the change, and whether the interaction between them creates a new clinical priority.

MNEMONIC

COURSE

Current function, **O**utcomes already emerging, **U**nderlying comorbidity, **R**isks in the setting, **S**upports, and **E**ngagement with care. Use this as a structure for a prognostic review rather than as a substitute for clinical judgement.

17.4 The conduct-disorder pathway and severe adult outcome

The most consequential prognostic discriminator in the available evidence is not ADHD in isolation. **Comorbid juvenile conduct disorder** is the strongest predictor of severe adult outcomes. This changes the clinical formulation at once. It tells the trainee not to use ADHD as a

shorthand explanation for all externalising behaviour, and not to understate the significance of conduct problems when they are present.

The relevant severe outcomes include increased risk of **substance use disorders, criminality, and early mortality**. These are associations that demand careful assessment and preventive work; they are not labels to apply to a child. Their purpose in a textbook is to sharpen clinical attention to a higher-risk pathway, not to stigmatise young people or make families fear a predetermined future.

A candidate should be able to explain why this distinction matters. If the clinician describes the risk as "the outcome of ADHD", the patient may receive an incomplete assessment and the family may hear an inaccurate moral story. If the clinician identifies the **conduct-disorder pathway**, assessment can focus on behaviour, context, safety, substance exposure, peer influences, family stress, and engagement with care. The disorder itself is discussed in the Child behavioural, emotional and other disorders notes; here, it is the prognostic modifier that must be recognised.

Risk communication must be proportionate. State the association clearly, identify what needs closer review, and describe what the care team can do next. Avoid using severe outcomes as a threat to enforce adherence. Such communication invites shame and concealment, precisely when reliable collateral and continued contact are most needed. A better stance is firm, nonjudgmental, and behaviourally specific: name the concern, assess its current expression, and make a plan with the patient and caregivers.

TRAP **Do not attribute the worst adult outcomes to ADHD alone.** This erases the distinction between ADHD and the conduct-disorder pathway, and can lead to both stigma and an inadequate assessment of the actual risk pathway.

17.5 Substance use: risk, prevention, and causal humility

The substance-use question needs its own clinical discussion within a long-term prognostic review. It should be approached as a problem to detect early and manage collaboratively, not as evidence of personal failure. A useful review asks about use, consequences, attempts to reduce use, circumstances in which use becomes more likely, and the patient's own account of what the substance is doing for them. That conversation is often more informative than a moral warning.

The evidence also supports a potentially protective association: **early and sustained medication treatment** of childhood ADHD is associated with a reduced risk of substance use disorder in young adulthood. The wording matters. An association is not proof that medication alone caused the later difference, nor is it a guarantee for an individual. Treatment continuity may travel alongside many other influences, including engagement with care and the family's capacity to sustain a plan.

For clinical decision-making, causal humility does not mean inaction. The finding supports taking childhood ADHD treatment seriously and avoiding the simplistic claim that appropriate pharmacological treatment inevitably creates later substance misuse. It also reinforces the need to review treatment over time rather than treating a prescription as an isolated event. Medication is

part of a broader care plan that must address impairment, comorbidity, environment, adherence, adverse effects, and emerging risk. Detailed pharmacotherapy and monitoring are covered elsewhere in this chapter.

- Discuss substance use directly and without accusation when the clinical picture raises concern, and explain associations as risk information rather than certainty about the patient's future.
- Keep medication decisions linked to the wider formulation rather than fear-based assumptions, while escalating support when risk is active and maintaining a stance that invites disclosure.

PITFALL

Stopping at a generic statement about substance risk is clinically weak. It obscures the conduct-disorder pathway, ignores current context, and can turn a preventable problem into a stigmatising prediction.

17.6 Treatment changes prognosis, but does not abolish uncertainty

Prognosis is partly a statement about modifiable conditions. The aim of treatment is to improve the fit between a person's capacities and the demands placed upon them, support safer decision-making, and limit avoidable failure experiences. It should not be presented as a promise of a uniform future. The patient may need different forms of help as educational, occupational, relational, and health demands change, and the plan should be revised accordingly.

The preschool follow-up finding is especially useful here. Persistent symptoms or impairment despite medication should not be used to declare treatment futile. It should prompt a review of the formulation: whether the target is clear, whether the treatment is being taken and tolerated, whether environmental demands have changed, whether a comorbid disorder is contributing, and whether additional supports are required. In other words, lack of complete resolution calls for better clinical reasoning rather than either blame or resignation.

The phrase **protective factor** is often used too loosely. In prognosis, it should refer to something that can plausibly reduce exposure to risk or improve functioning, not merely something reassuring to mention. A supportive caregiver, reliable routines, treatment engagement, school accommodation, or a therapeutic alliance may each matter, but their relevance must be demonstrated in the person's own life. The clinician should preserve what works and investigate why it works before changing the plan.

Equally, treatment discussions must be transparent about uncertainty. It is reasonable to say that a treatment is intended to reduce impairment and potentially alter later risk, while also saying that outcome depends on more than a prescription. This protects informed consent and improves adherence because the patient understands the rationale for review. It also keeps the therapeutic relationship honest when progress is uneven.

17.7 Communicating prognosis in Indian clinical practice

Families may arrive with sharply polarised expectations: that ADHD reflects a temporary discipline problem, or that it forecloses education, employment, marriage, and independence. Both assumptions can distort care. The clinician's job is to replace them with a **shared prognostic formulation** that links current difficulty to concrete supports, identifies comorbid risk, and gives the family a reason to remain engaged even when improvement is gradual.

IN INDIA

Prognostic conversations need to account for the patient's family structure, school or workplace demands, access to follow-up, and the practical person who can help organise care. Do not assume that a recommendation is usable merely because it is clinically sound. Build a plan around the supports actually available and revisit it when circumstances change.

This is also where language matters. Avoid saying that a child is "bad", that an adult is "irresponsible", or that a family has failed. Such phrases confuse impairment, behaviour, and moral judgement. Instead, describe observed difficulties, their consequences, and the next workable intervention. When risk is present, be direct about it without presenting it as destiny. When progress occurs, name the supports that made it possible so they are not withdrawn prematurely.

Transition planning deserves the same clarity. The person should know which parts of the care plan need to travel with them, who can provide collateral when appropriate, and what changes should trigger renewed assessment. The detailed assessment battery and service pathways are addressed in the Child psychiatry: assessment, treatment, services and protection notes. The principle here is simpler: a good prognosis is made more useful by continuity of information, realistic expectations, and a plan that remains understandable to the patient.

17.8 Writing the prognostic formulation

A concise prognostic formulation can be organised around present function, course to date, comorbidity, active risks, protective supports, and engagement with treatment. It should identify the conduct-disorder pathway when present, describe substance-related concerns without moralising, and record what requires monitoring. It should also state what remains uncertain. **Clinical uncertainty** is not an omission when it is named and paired with a plan to reduce it through follow-up and collateral information.

This style of formulation is more clinically useful than an isolated phrase such as "guarded prognosis". A label of that kind does not tell another clinician what is driving the concern, what action is needed, or what improvement would look like. By contrast, a formulation connects risk to a next step. It can be updated when treatment engagement changes, when comorbidity emerges, or when a previously effective support is lost.

The prognosis of ADHD is shaped by functional course and modifiable context, but it must distinguish the higher-risk conduct-disorder pathway from ADHD alone.

Specific learning disorder

18 · Diagnostic criteria of SLD (DSM-5, ICD-11)

Why the criteria matter clinically. A learning complaint is not itself a diagnosis. Children, adolescents and adults may struggle because the teaching has been interrupted, the language of instruction is not yet secure, a sensory difficulty has not been corrected, or another developmental or mental disorder is shaping performance. The diagnostic task is therefore to show a persistent, functionally important and developmentally situated difficulty in a circumscribed academic skill, while actively considering better explanations. This prevents both the casual labelling of ordinary variation and the equally harmful dismissal of a person whose difficulty has been repeatedly explained away as poor effort.

DSM-5 specific learning disorder is diagnosed through a clinical synthesis rather than through a score, a school report, or a parental account in isolation. The framework has **four diagnostic criteria, A-D**. Its structure is useful because it forces the clinician to connect the presenting academic problem with its course, measured impact, developmental timing and exclusions. The diagnosis should read as a reasoned formulation of evidence, not as a label appended to a report.

18.1 The diagnostic architecture

The four criteria ask progressively different questions. Is there a persistent problem in an academic skill? Is the attainment meaningfully lower than expected and impairing? Did the difficulty begin in the developmental period relevant to learning? Is there a more adequate account of the presentation? Keeping these questions separate is an excellent safeguard against premature diagnosis. A learner can have an unmistakable complaint yet fail the diagnostic threshold if the complaint is transient, uncorroborated, not impairing, or better explained by circumstances outside a learning disorder.

A-D	1 of 6	6 months	mild to severe
DIAGNOSTIC ARCHITECTURE	ACADEMIC-SKILL SYMPTOMS	PERSISTENCE DESPITE SUPPORT	CURRENT-SEVERITY RANGE

RULE **Diagnose a disorder only when the whole pattern is coherent.** Criterion A establishes the academic difficulty, but the remaining criteria determine whether it is clinically significant, developmental and not better explained by another condition or context.

The wording also guards against a common false dichotomy: a child need not have difficulty in every academic area to have the disorder, and a person with broad educational disadvantage should not be presumed to have a neurodevelopmental disorder merely because attainment is low. The unit of reasoning is the individual learner in a particular educational and developmental context. That is why history, school information and psychometric evidence are interpreted together rather than treated as competing verdicts.

18.2 Criterion A: persistent difficulty in a taught skill

Criterion A academic-skill symptoms require **at least 1 of 6 listed symptoms**. The symptom domains cover inaccurate or slow effortful word reading, difficulty understanding what has been read, spelling difficulty, difficulty with written expression, difficulty mastering number facts or calculation, and difficulty with mathematical reasoning. These are not interchangeable labels for a generally weak student. They direct the interview toward the actual operation that is breaking down: decoding, extracting meaning, producing written language, retrieving or calculating number information, or reasoning with mathematical relationships.

The qualifier in Criterion A is as important as the symptom label. Difficulties must persist for **at least 6 months** despite targeted intervention. This does not mean that every learner must receive identical remedial input before diagnosis, nor does it turn diagnosis into a bureaucratic waiting exercise. It asks whether a relevant, intelligible attempt to help has led to adequate progress. Restricted progress or failure to catch up despite such help strengthens the inference that the problem is not simply a short-lived gap in exposure.

MNEMONIC

POSS

Persistent academic difficulty, **O**bjective low attainment, **S**chool-age onset and **S**creening for better explanations. This is a memory aid for the diagnostic spine, not a substitute for clinical judgement.

In practice, ask what was taught, what support was actually delivered, and what changed afterwards. A vague assurance that the learner “received tuition” is weaker evidence than a clear account of the target skill, the learner's engagement, the observed response and the continuing functional consequence. The diagnosis is not contingent on blaming the child, family or school. It depends on establishing that the academic problem persists even when a reasonable opportunity to learn and respond has been provided.

18.3 Criterion B: low attainment and functional interference

Criterion B achievement threshold requires the affected skill to be substantially and quantifiably below chronological-age expectation, confirmed by individually administered standardized achievement measures. The low attainment must also interfere significantly with academic work, occupational functioning or activities of daily living. This criterion prevents a diagnostic leap from a subjective complaint to a disorder. It asks both for corroboration of the skill deficit and for evidence that the deficit matters in the person's life.

Standardized assessment informs, rather than replaces, judgement. Scores need to be read with the referral question, educational history, language exposure, test behaviour and the particular skill measured in mind. For greatest diagnostic certainty, the diagnostic features describe performance at **1.5 SD below the population mean, a standard score <=78 and below the 7th percentile; clinical judgement may use a more lenient 1.0 SD threshold**. These boundaries are necessarily pragmatic because academic skills vary along a continuum. A clinician

should neither reify a single cut-off nor use the existence of a score just above it to disregard an otherwise compelling, impairing pattern.

Functional interference is the bridge between test performance and clinical relevance. It may be seen in the disproportionate effort required to complete ordinary academic tasks, inability to work independently in the affected area, persistent errors that compromise written communication, or difficulty using numerical skills in everyday demands. The precise manifestation changes with age and educational demands, but the diagnostic question remains the same: does the difficulty create a meaningful limitation in expected participation?

Criterion B is best understood as a convergence requirement. A low score that is inconsistent with the learner's observed work, language background or educational opportunity needs explanation before it is given diagnostic weight. Conversely, a highly coherent history of impairment should prompt careful review of whether the assessment sampled the relevant academic operation. The psychiatrist need not become a psychometric technician, but must be able to distinguish evidence of an affected skill from evidence that merely reflects an unfamiliar task, acute distress, poor attendance or an unsuitable testing context. The formulation becomes stronger when its different strands point in the same direction.

GOOD TO REMEMBER

A report is most clinically useful when it identifies the affected academic operation and links it to a real-world consequence. “Low score” alone is not the formulation; the formulation explains what the learner cannot do reliably and why that limitation matters.

18.4 Criterion C and Criterion D: developmental timing and exclusions

Criterion C onset places the learning difficulty during school-age years. It may not be fully apparent until academic demands exceed the learner's capacity, so a later presentation does not by itself contradict a developmental disorder. The useful question is whether credible history points back to difficulty during the school years, rather than simply when the family first sought help. Later demands can expose a longstanding vulnerability that earlier tasks did not reveal.

Criterion D exclusions require that the academic difficulty not be better accounted for by intellectual disability, uncorrected visual or auditory acuity problems, other mental or neurological disorders, psychosocial adversity, limited proficiency in the language of instruction, or inadequate educational instruction. The point is explanatory priority, not a simplistic rule that one diagnosis automatically cancels another. When a possible exclusion is present, determine whether it more convincingly accounts for the particular academic profile and its course.

- Consider intellectual functioning and adaptive functioning when the difficulty appears broad rather than circumscribed.
- Clarify whether sensory limitations have been recognized and corrected before attributing reading or writing difficulty to a learning disorder.
- Examine mental, neurological and psychosocial contributors in relation to onset, fluctuation and the affected skill.

- Establish the learner's opportunity to acquire the language and academic content in which difficulty is being judged.

The diagnosis generally presumes intellectual functioning above **about 70, allowing plus or minus 5 points**. This is a boundary aid, not permission to reduce assessment to an intelligence quotient. The clinical distinction from intellectual disability requires attention to the overall pattern of functioning, while the detailed differential is addressed in the Intellectual disability and autism spectrum disorder notes.

TRAP **Do not mistake an exclusion screen for a list of automatic exclusions.** The criterion asks whether another condition or circumstance better explains the learning difficulty. A coexisting problem may need treatment or accommodation without being the sole explanation for the academic pattern.

PITFALL

In multilingual settings, low performance in the language of instruction can be mislabelled as a learning disorder without documenting language exposure or teaching opportunity. This is precisely the contextual error Criterion D is designed to prevent.

18.5 Integrating evidence and diagnosing beyond school

The DSM formulation is made from history, school reports and psychoeducational assessment. Each source answers a different question. History establishes development, course and prior help; school information shows the learner's performance in the ordinary educational environment; formal assessment quantifies the relevant academic skill. Discordance is not a nuisance to be averaged away. It is a prompt to ask whether the tested construct, the teaching context, language demands or the time course explains the mismatch.

For people **17 years and older**, documented history of impairing learning difficulties may substitute for standardized assessment. This provision is clinically important when a person presents after leaving school or when an appropriate current assessment cannot be obtained. It does not lower the standard of reasoning. Documentation should still establish a credible history of impairment, developmental onset and absence of a better explanation.

IN INDIA

Educational histories may span changes of school, medium of instruction, curricula and access to remediation. The clinician should record these transitions explicitly before interpreting an academic complaint. The same score can carry very different meaning when opportunity to learn the tested language or skill has differed.

The full psychoeducational assessment process belongs in the assessment section of this chapter. At the diagnostic stage, the psychiatrist's responsibility is to ensure that the evidence has been put into a coherent clinical question: which skill is affected, how has it persisted, what is the functional consequence, when did it begin, and what competing explanation has been

considered? This is also the point at which a referral becomes a meaningful multidisciplinary collaboration rather than a request for a test to “confirm dyslexia”.

18.6 DSM recording and current severity

DSM recording specifies the affected domain or domains. The corresponding ICD-10-CM recording entries are **F81.0 impairment in reading; F81.81 impairment in written expression; F81.2 impairment in mathematics**. Each impaired domain is recorded separately. This matters because a single broad label can obscure the actual target for educational planning and follow-up. The descriptive terms commonly used for reading, written expression and mathematics should not be allowed to replace a clear account of the specific skill impairment.

Current severity runs across mild, moderate and severe levels, graded by the domains affected and the intensity of support needed. Severity is not a moral judgement about intelligence, effort or family engagement. It is a practical description of how much specialist teaching, accommodation and sustained support are required for adequate participation. A learner may show substantial difficulty in one domain and relative strength in another; severity should preserve that clinical texture rather than flatten it.

Severity should also be revisited when the educational context changes. The same underlying difficulty may become more or less disabling as demands alter, supports are introduced or a learner moves into work that depends differently on reading, writing or mathematics. The diagnosis names the disorder; the severity specifier communicates the present support burden.

18.7 ICD-11 developmental learning disorder

ICD-11 uses **6A03 developmental learning disorder**, replacing the older separation into scholastic-skill disorders. Its **essential features** are a significant and persistent limitation in reading, writing or arithmetic that is markedly below age expectation despite appropriate instruction, begins in early school years, is not attributable to external factors, and is not better explained by disorder of intellectual development or another neurodevelopmental, motor or sensory disorder. The overall clinical logic therefore closely resembles DSM reasoning: a persistent, developmentally arising academic limitation must be distinguished from contextual or broader developmental explanations.

The ICD-11 area-of-impairment options are **6A03.0 reading; 6A03.1 written expression; 6A03.2 mathematics; 6A03.3 other specified impairment of learning; 6A03.Z unspecified**. More than one area-of-impairment specifier may be applied. This is clinically useful when the learner's profile crosses domains, while retaining the discipline of describing each affected area rather than treating all academic difficulty as a single undifferentiated problem.

A key contrast is that ICD-11 has **no fixed persistence-despite-intervention duration**. It requires the limitation to be significant and persistent, whereas DSM makes the duration-and-response-to-targeted-intervention requirement explicit. This difference should not be turned into a superficial coding trick. In either system, the clinician still needs a defensible account of persistence, appropriate teaching and the absence of a better explanation.

18.8 Using the two systems without losing the patient

CLINICAL QUESTION	DSM APPROACH	ICD-11 APPROACH
Core academic problem	Symptom-based criterion linked to affected skills	Persistent limitation in reading, writing or arithmetic
Evidence of low attainment	Quantified low achievement and functional interference	Marked limitation below age expectation despite appropriate instruction
Developmental timing	School-age onset, even if demands reveal it later	Onset in early school years
Context and alternatives	Explicit exclusion criterion	External factors and developmental, motor or sensory explanations considered
Persistence wording	Explicitly linked to targeted intervention	Persistent limitation without a fixed numerical duration
Profile description	Affected domains and current support-related severity	Area-of-impairment specifiers, including multiple areas where relevant

The systems should be used to make documentation clearer, not to generate artificial disagreement. Both require an academic difficulty that is substantial, persistent, developmental and not better explained by another condition or by the learner's circumstances. The DSM framework is particularly explicit about the response to targeted help and the integration of standardized achievement evidence. ICD-11 foregrounds the developmental learning disorder category and allows the affected academic area to be specified. In either case, the diagnostic formulation should be intelligible to the family, school and clinician who will act on it.

When criteria are applied well, diagnosis does not end the enquiry. It creates a shared description from which educational intervention, accommodation and follow-up can be planned. When criteria are applied poorly, the same label can become an excuse for unexamined educational failure or for overlooking a remediable sensory, language or psychosocial contributor. The clinical discipline is to retain both truths: a genuine developmental learning disorder deserves recognition, and the learner's context must remain visible throughout the diagnostic process.

> Specific learning disorder is a diagnosis of a persistent, impairing and developmentally arising academic skill deficit after better explanations have been considered.

19 · Why specific learning disorder happens

Why mechanism matters clinically. A learning disorder is not explained by laziness, poor motivation, or a simple failure to try harder. Mechanistic models help the clinician translate an observed academic difficulty into a hypothesis about the mental operations that may be inefficient. That translation matters because children, families, and schools often describe the same problem in moral language: careless, inattentive, slow, or not interested. A mechanism-

based account replaces blame with a more useful question: which part of the journey from spoken language or visual symbols to fluent academic performance is breaking down?

Mechanism is not a diagnosis and does not substitute for a proper psychoeducational assessment. It is a framework for understanding patterns, anticipating associated difficulties, and explaining why two children with apparently similar reading complaints may need different forms of support. The discussion below concentrates on reading disability because its cognitive and neural models are especially well developed. The broader diagnostic framework, the types of specific learning disorder, formal assessment, remediation, and Indian educational provisions are addressed elsewhere in this chapter.

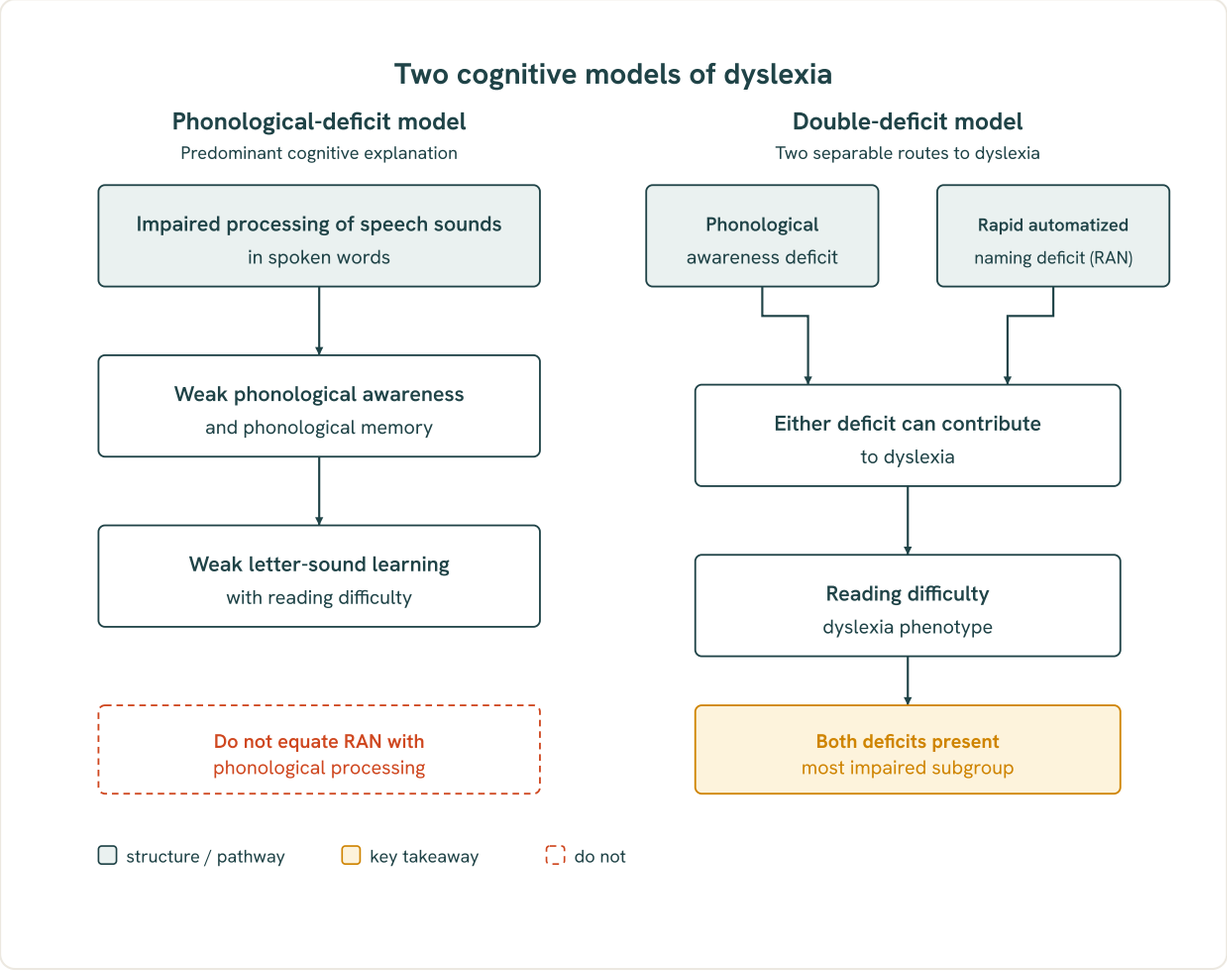


Fig 22.15. Phonological-deficit and double-deficit models of dyslexia.

19.1 From academic failure to component processes

Academic skills are complex achievements. Reading, writing, and mathematics each require a learner to coordinate several processes quickly enough that the task feels automatic. When one process remains effortful, the child may compensate for a time, but the cost is seen in slow output, errors, fatigue, avoidance, or a widening gap as classroom demands become more complex. It is therefore better to ask what operation is vulnerable than to assume that an observed error has a single cause.

The relevant operations are not confined to one sensory channel or one intelligence score. A clinical formulation may need to consider **phonological processing**, orthographic processing,

working memory, executive functions, symbol automatization, perceptual-motor integration, and processing speed. These are best understood as candidate pathways to difficulty, not as interchangeable labels. A weakness in one pathway can affect performance in another, and a child may have more than one weak pathway. The value of this language is that it gives the team a way to describe the pattern without reducing the child to the pattern.

In practice, the distinction between a skill and a process is important. A skill is the observable academic outcome: the child reads inaccurately, cannot spell reliably, or produces work too slowly. A process is a proposed operation contributing to that outcome: retaining speech sounds, linking a symbol to a sound, recognizing a familiar pattern rapidly, holding intermediate information in mind, or organizing a response. The process account should illuminate the observed difficulty. If it becomes a fashionable label with no explanatory link to the child's actual performance, it has ceased to be clinically useful.

- Ask whether the problem is most apparent when language must be analysed as sound, when familiar symbols must be named quickly, or when a written pattern must be recognized efficiently.
- Ask whether the child can demonstrate knowledge orally but loses accuracy or speed when that knowledge must be read, written, or calculated.
- Ask whether errors are stable and patterned rather than simply occurring when the child is distressed, distracted, or unfamiliar with the task.

RULE **Use a process model to explain a pattern of learning, never to replace demonstration of the learning difficulty itself.** The mechanism guides formulation and intervention planning; it does not permit diagnosis from a single cognitive weakness or from a scanner image.

IN INDIA

Language of instruction, home language, exposure to print, and opportunities to learn in a familiar script deserve deliberate attention before a cognitive explanation is fixed. In multilingual classrooms, apparent inconsistency may reflect a mismatch between the language in which a skill was acquired and the language in which it is being demanded. This is a formulation issue, not a reason to dismiss persistent learning difficulty.

19.2 The phonological account of dyslexia

The leading cognitive account of dyslexia is the **phonological-deficit model**. Its central proposal is that the child has difficulty processing the speech sounds that make up spoken words. This is not the same as a problem with hearing ordinary speech in a conversation. The issue is the ability to represent, notice, retain, compare, and deliberately manipulate the sound structure of language when the learning task requires it.

For a beginning reader, print must become connected to speech. The learner has to appreciate that a spoken word can be analysed into smaller sound units and that marks on the page consistently map onto them. If those sound representations are imprecise or difficult to access, letter-sound learning becomes laborious. The child may then rely on guessing from context,

memorizing whole word shapes, or waiting for someone else to read the text. These strategies can conceal the core difficulty briefly, but they do not make decoding automatic.

The model has explanatory reach because it links several commonly observed phenomena without claiming that every child has the same profile. It affects **phonological memory**, awareness of sound structure, and learning of letter-sound relations. Phonological memory matters when a child must hold a sequence of sounds long enough to blend or compare it. Awareness matters when the child must attend to sound as an object of thought rather than simply use language for meaning. Letter-sound learning matters because it provides the bridge by which a new written word can be decoded rather than guessed.

Clinically, this account also explains why comprehension can be misleading. A child may understand a story when it is read aloud and speak with age-appropriate vocabulary, yet struggle substantially when required to derive the same content independently from print. The discrepancy is not proof of a particular diagnosis. It is a cue to distinguish language comprehension from access to the written code. Conversely, weak reading comprehension may arise through several routes, so a phonological formulation should be made only when the pattern supports it.

The practical implication is not that every reading error should be interpreted as phonological. Rather, a clinician should look for convergence: difficulty with sound-based operations, insecure decoding, errors that recur across comparable words, and slow acquisition despite appropriate opportunity. The mechanism is strongest as a coherent account of a pattern, not as an explanation attached to one isolated mistake.

19.3 Naming speed and the double-deficit formulation

A second influential account distinguishes difficulty with sound structure from difficulty with rapid access to familiar verbal labels. **Rapid automatized naming** refers to the ability to name familiar alphanumeric stimuli, such as letters and numbers, and non-alphanumeric stimuli, such as colours and objects, rapidly. It is a marker of naming speed or processing speed and is conceptually distinct from phonological processing. A child may know an item perfectly well but retrieve and articulate its name with insufficient speed for fluent academic work.

This distinction matters because reading fluency is more than correct decoding. A reader who has to pause at each familiar item may eventually identify the word but will lose the rhythm needed to carry meaning across a sentence or passage. Slow naming can therefore make reading effortful even where sound-based work is relatively stronger. It can also help explain why a learner appears accurate in a calm individual setting but struggles to keep up with the pace of classroom reading and written work.

The **double-deficit model** proposes that dyslexia can arise from difficulty in phonological awareness, rapid naming, or both. The combined profile is associated with the greatest impairment. This is a useful corrective to the false choice between a sound-based explanation and a speed-based explanation. They are separable processes, but their effects can accumulate in the

same child: one difficulty makes initial decoding insecure, while the other makes familiar material slow to access.

FORMULATION FOCUS	WHAT IS INEFFICIENT	LIKELY CLINICAL EXPRESSION	REASON FOR DISTINCTION
Phonological pathway	Analysis and retention of speech-sound structure	Insecure decoding and sound-based errors	Explains difficulty linking print to spoken language
Naming-speed pathway	Rapid retrieval of familiar verbal labels	Slow, effortful performance despite recognition	Explains reduced automaticity and fluency
Combined pathway	Both sound processing and rapid access	More pervasive reading difficulty	Prevents an artificially single-cause formulation

The table is a conceptual map, not a substitute for testing. Naming tasks can be influenced by many immediate factors, including familiarity, anxiety, language proficiency, and the child's understanding of the task. Their contribution should be interpreted alongside the developmental and educational history, direct observation, and formal assessment described in the assessment section of this chapter.

TRAP **Do not equate slow naming with low ability or poor effort.** Speeded performance draws on access, coordination, and automaticity. A child may know the answer yet repeatedly fail to produce it fast enough for the task's demands.

19.4 Reading as a distributed neural system

Neural findings should be read as a systems account. Reading is not housed in a single centre; it depends on coordinated activity within a **left-hemisphere reading network** that includes occipito-temporal, inferior frontal, and inferior parietal regions. This network-level view fits the clinical fact that reading combines visual pattern recognition, speech-sound analysis, retrieval, and fluent integration. A disruption at any one point can alter the efficiency of the whole system, while different children may reach a similar behavioural endpoint through partly different routes.

Within this account, altered function of the left occipito-temporal region, often called the **visual word form area**, is relevant to rapid processing of letter and word patterns. This is sometimes described as a ventral route. Its importance is intuitive: fluent readers do not consciously labour over every familiar visual pattern. When recognition remains slow or unstable, reading consumes attention that would otherwise be available for meaning, monitoring, and written expression.

The phonological account has a neural correlate as well. Dysfunction or reduced activation in **left inferior frontal and temporo-parietal cortices** is associated with the phonological deficits of dyslexia. Descriptions of this pathway also include the **mid-temporal lobe**, alongside frontal, parietal, and occipito-temporal reading regions. These findings do not mean that a scan can establish the disorder in an individual child. They provide biological plausibility for a cognitive

model by showing that the processing difficulty corresponds to altered functioning in regions involved in the reading pathway.

It is tempting to turn network language into a neat map in which each area owns one task. That temptation should be resisted. Brain regions participate in interacting circuits; performance depends on connectivity, development, experience, and task demands. The educational consequence is more useful than anatomical reductionism: when a child is struggling, the clinician should describe the observable bottleneck and the support required, rather than claim that a named region has been damaged.

PITFALL

Do not present neuroimaging as an individual diagnostic test for a schoolchild with suspected learning disorder. Group-level evidence can clarify mechanism, but diagnosis remains a clinical and educational judgment based on the child's developmental history and demonstrated academic functioning.

19.5 Genes, families, and the meaning of heritability

Specific learning difficulties commonly aggregate in families. For reading ability and reading disability, heritability is **greater than 0.6**; this is observed across alphabetic and non-alphabetic languages. The clinical meaning is neither that a child's future is fixed nor that family experience is irrelevant. It means that genetic differences make an important contribution to variation in reading, and a careful family history is therefore informative.

Family history should be taken with care. Adults may not have received a formal label, particularly when their education occurred in settings with limited recognition of learning difficulties. Useful questions concern longstanding struggles with reading, spelling, copying, written examination performance, and the extra effort required to complete literacy tasks. A parent may describe having found a workaround rather than having had a disorder. That history can still sharpen the clinician's hypothesis and encourage earlier support for the child.

The observed familial pattern is substantial for both reading and mathematics. The figures below describe relative familial risk, not a prediction that an individual relative will necessarily have a disorder. They should never be used to stigmatize a parent or to imply that parenting caused the child's difficulty. Their value is in deciding who may benefit from attentive developmental surveillance and timely assessment.

4-8 times higher READING SLD IN FIRST-DEGREE RELATIVES	**5-10 times higher** MATHEMATICS SLD IN FIRST-DEGREE RELATIVES	**about 20%** READING-SKILL VARIANCE AT AGE 6	**about 80%** READING-SKILL VARIANCE AT AGE 12

Heritability is also not a fixed property of an individual child. Estimates of variance attributable to genes can change as educational experience becomes more uniform and environmental variation narrows. One account attributes roughly **50%** of variance in reading to genes overall, while the developmental estimates shown above rise as formal schooling progresses. The

important clinical inference is modest: high heritability does not make teaching or remediation futile. It explains why biological vulnerability and educational response must be considered together rather than placed in opposition.

GOOD TO REMEMBER

A positive family history should change the clinician's threshold for asking careful questions and seeking corroborating school information. It should not be used as a shortcut to label a child, and it should never be framed as parental fault.

19.6 Integrating mechanism into clinical formulation

A useful formulation moves in both directions. From the top down, it starts with the child's presenting difficulty: where academic performance is breaking down, how this affects participation, and what the family and school have already observed. From the bottom up, it asks which processes may account for that pattern. The two directions should meet. If a proposed mechanism does not explain the child's actual pattern of difficulty, it is an interesting theory rather than a clinical formulation.

Mechanistic thinking protects against several common errors. It makes it less likely that a child with slow reading will be dismissed as careless, and less likely that a child who understands spoken material will be assumed to have no genuine educational need. It also prevents the opposite error: attaching every academic problem to a reading mechanism. Poor school attendance, unfamiliar language of instruction, emotional distress, sensory difficulty, inadequate teaching opportunity, and attentional symptoms can all alter academic performance. Their assessment belongs in the broader child psychiatric and educational evaluation.

For psychiatry trainees, the most valuable use of these models is explanatory communication. Families benefit from a concrete account of why repeated practice alone may not produce automaticity. Teachers benefit from knowing that a child may need the task broken into the component that is failing rather than simply more of the same task. The child benefits when adults replace criticism with a coherent plan. That plan must remain individualized and should be linked to the formal assessment and remedial approaches discussed elsewhere in this chapter.

- State the academic skill that is impaired before naming a cognitive process.
- Describe the process as a hypothesis supported by a convergent pattern, not as a moral explanation.
- Explain to family and school that a biologically influenced difficulty still responds to appropriate teaching and support.

MNEMONIC

Sound - Speed - Script - System - Story

For a reading-mechanism formulation, consider the sound structure of language, the speed of access to familiar labels, the handling of written patterns, the distributed reading system, and the family story. The sequence is a prompt for formulation, not a diagnostic checklist.

Dyslexia is best understood as a heterogeneous learning difficulty in which phonological processing, naming speed, and the efficiency of a distributed reading network may each contribute to the child's observed pattern.

20 · Definition and types of specific learning disorder (dyslexia, dysgraphia, dyscalculia)

Why this distinction matters clinically. A child who is bright, articulate and curious can still repeatedly fail at a circumscribed school task. If that failure is dismissed as carelessness, poor motivation or a family problem, the child may acquire shame long before anyone identifies the learning need. If it is treated as evidence of globally limited ability, expectations may be lowered unnecessarily. **Specific learning disorder** provides a way of describing persistent, unexpected difficulty in acquiring particular academic skills while preserving the question that matters clinically: what, precisely, is hard for this learner?

The term is useful because it shifts attention from a vague report of "poor studies" to the architecture of the difficulty. Reading a paragraph, producing written work and doing mathematics all draw on several component skills. A learner may struggle in one domain, in more than one domain, or show a profile in which a weakness in one area makes another appear worse. The task of this section is to establish the language of the disorder and the boundaries of its common labels. Diagnostic criteria, formal assessment and intervention follow in their respective sections.

RULE **Specific learning disorder is a disorder of particular academic skills, not a synonym for low scholastic performance.** The clinical description must identify the affected skill and the way the child experiences failure in that skill.

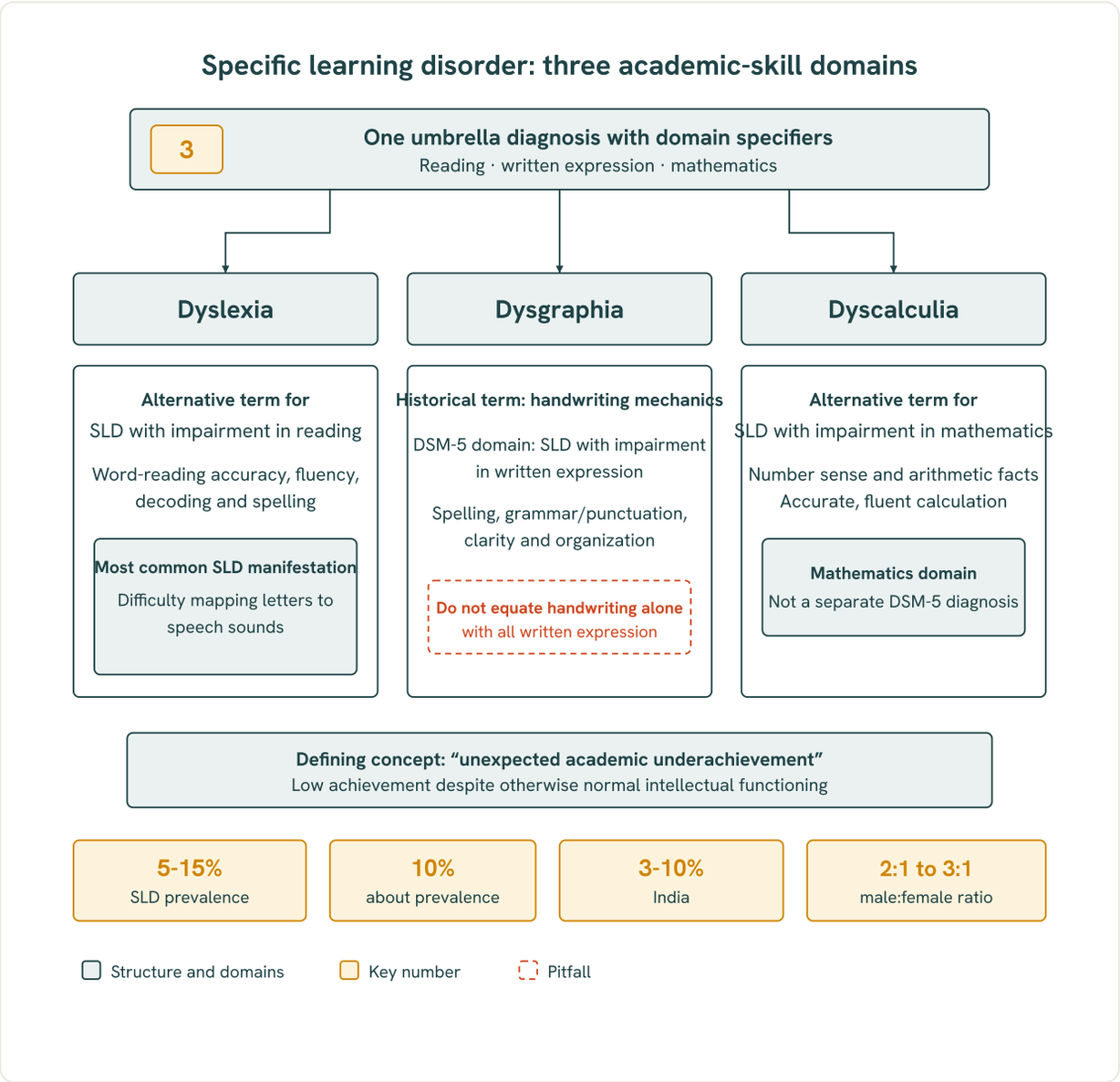


Fig 22.16. Specific learning disorder: dyslexia, dysgraphia and dyscalculia as domain-linked terms.

20.1 The defining clinical idea

The classic clinical idea is **unexpected academic underachievement**. The word "unexpected" is not a casual adjective. It asks the clinician to notice a discrepancy between an otherwise adequate capacity to learn and a sharply impaired route to learning in school. It also protects against a common conceptual error: a child whose schoolwork is poor for broad, pervasive reasons does not automatically have a specific learning disorder. The disorder concerns a selective failure in the acquisition or use of an academic skill.

"Specific" therefore refers to the academic function that is affected, rather than to a trivial or temporary complaint. A child may understand a lesson when it is explained aloud yet be unable to extract the same material from print. Another may answer fluently in class but produce a written answer that does not convey the knowledge they hold. A third may reason sensibly about everyday quantities but become lost when asked to manipulate symbols and procedures. These are not interchangeable presentations, and the label becomes clinically helpful only when it makes the profile clearer.

The phrase should never become a moral judgement about effort. Repeated failure can produce avoidance, irritability, reluctance to attend school, apparent inattention and conflict around homework. Those consequences may be prominent in the consultation, but they should not replace a description of the academic difficulty itself. Equally, a supportive home or a conscientious teacher cannot by itself remove a skill-specific learning disorder. The clinician's role is to translate the complaint into an observable learning problem, while allowing formal assessment to establish its nature and extent.

- Ask which academic activity breaks down first, rather than accepting “weak in studies” as a formulation.
- Ask how the child compensates: by guessing, avoiding, memorising, copying or relying on another person.
- Ask what the child can demonstrate orally that is not evident in written schoolwork.

GOOD TO REMEMBER

A good descriptive formulation names both the academic task and its functional consequence. “Cannot reliably decode unfamiliar written words and avoids reading aloud” is clinically more useful than “has poor scholastic performance.” The latter describes an outcome; the former identifies a learning route that needs examination.

20.2 One diagnosis, domain-based description

DSM-5 specific learning disorder is organised as a single umbrella diagnosis with specifiers for the affected academic domain. This is more than a change in labels. It prevents the clinician from treating reading, writing and mathematics as mutually exclusive illnesses when the same child can have a mixed profile. At the same time, the umbrella category does not erase the practical difference between a child who cannot read accurately and one whose main difficulty lies in constructing written language.

The academic-skill domains are **reading, written expression and mathematics**. The domain language gives a disciplined starting point for history-taking, communication with families and communication with schools. It also avoids treating older informal labels as if each were a complete diagnostic formulation. In clinical notes, the domain of impairment should be named clearly; the familiar term may then be used when it helps the family, teacher or multidisciplinary team understand the pattern.

Reading	Written expression	Mathematics
DOMAIN SPECIFIER	DOMAIN SPECIFIER	DOMAIN SPECIFIER

This approach has an important practical consequence. A child should not be placed in a single informal box merely because one difficulty is most conspicuous. Reading problems may obscure a written-expression problem because the child cannot access the material to be written about. Conversely, a child who reads adequately may still have very impaired spelling, grammar, punctuation, clarity or organisation in written work. Mathematics may be affected alongside

either profile, yet require its own description. The clinical formulation needs enough granularity to guide the next assessment step without converting a classroom observation into a diagnosis.

DOMAIN LANGUAGE	EVERYDAY LABEL OFTEN ENCOUNTERED	CLINICAL FOCUS
Impairment in reading	Dyslexia	Reading words and working with their written forms
Impairment in written expression	Dysgraphia, used loosely in some settings	Putting language into effective written form
Impairment in mathematics	Dyscalculia	Understanding and using numbers and calculations

TRAP **Do not use the umbrella diagnosis as if it made the affected domain unimportant.** "Specific learning disorder" without a domain description is incomplete clinical communication, especially when a school must understand which classroom task is failing.

20.3 Reading impairment and dyslexia

Dyslexia is the alternative term commonly used for specific learning disorder with impairment in reading. Its clinical core is difficulty with word reading, including accuracy, fluency, decoding and spelling. These components matter because the child's complaint is not always simply "I cannot read." Some children read slowly and laboriously, some misread familiar or unfamiliar words, some guess from context, and some avoid reading because the effort required is out of proportion to the task.

Decoding refers to working out the spoken form of a printed word. Accuracy concerns whether the word is read correctly. Fluency concerns the ease and pace with which reading proceeds once basic word recognition is attempted. Spelling is included in this reading-related profile because it requires stable knowledge of written word forms. In the consultation, these distinctions help convert a parent's broad concern into a useful question: is the principal difficulty recognising words, working them out, reading them efficiently, or retaining their conventional written forms?

Reading impairment is the **most common manifestation of specific learning disorder**. This does not permit the clinician to assume that every struggling reader has the same problem, nor does it justify overlooking writing and mathematics. It does explain why dyslexia is often the first label a family hears. A careful clinician should use the familiar term as an entry point, then clarify what the child can and cannot do with print.

The emotional meaning of dyslexia is often shaped by the classroom. Reading aloud may expose errors in front of peers; homework can become prolonged negotiation; a child who has learned to avoid print may appear oppositional or disengaged. Such secondary behaviours are understandable adaptations to repeated difficulty. They should be explored respectfully, but they do not define the reading disorder. The central description remains the impairment in the reading skill itself.

- Word-reading accuracy: the child reads a word incorrectly or substitutes another word.

- Reading fluency: the child can read but does so with marked effort, slowness or loss of continuity.
- Decoding and spelling: the child has difficulty moving reliably between written letters and spoken word forms.

20.4 Written expression and the careful use of dysgraphia

Dysgraphia is a historical term that strictly refers to the mechanics of handwriting. It is often used more broadly in schools and in informal discussion, which is why clinicians must be precise rather than dismissive. The contemporary diagnostic domain is specific learning disorder with impairment in written expression. That domain concerns the written product as language and communication, including spelling, grammar, punctuation, clarity and organisation of writing.

The distinction is clinically useful. Handwriting may be difficult to read, slow or effortful, yet the child may be able to formulate a coherent answer when allowed another means of expression. Conversely, handwriting may be adequate while the child cannot translate an idea into a logically ordered written answer. A child may also have both forms of difficulty. Calling every weak written output "dysgraphia" collapses these different questions and can send assessment in the wrong direction.

Written expression makes demands that oral conversation does not. The learner has to select words, hold a plan in mind, build sentences, apply conventions and monitor whether the reader can follow the argument. In an examination answer, the problem may appear as scant content, disconnected statements, repeated spelling errors or an answer whose organisation obscures what the child knows. The clinician should avoid inferring laziness from an untidy or sparse notebook. The notebook is evidence of difficulty, but it must be interpreted as part of a wider learning profile.

> **PITFALL**
>
> Do not use "dysgraphia" to mean every problem in written work. A handwriting-mechanics complaint and a written-expression complaint overlap in everyday language but focus the clinical enquiry differently. Document the observed difficulty in plain terms, then use the domain terminology accurately.

For families, this distinction can be reassuring without being falsely simplifying. It explains why a child may be able to tell a detailed story yet produce only a few disorganised lines when asked to write it. It also explains why improving handwriting alone may not resolve the difficulty in composition. The purpose of the label is not to create a hierarchy of deficits, but to make the source of the educational barrier visible.

20.5 Mathematics impairment and dyscalculia

Dyscalculia is the alternative term for specific learning disorder with impairment in mathematics. The mathematics profile includes difficulty with number sense, arithmetic facts and accurate or fluent calculation. Number sense refers to an intuitive grasp of quantity and numerical relationships. Arithmetic facts are the basic numerical combinations that should

become available for use. Calculation concerns carrying out procedures correctly and with sufficient ease to support more complex work.

The presentation can be missed when adults focus only on whether answers are right or wrong. A child may arrive at an answer through an unusually effortful route, be unable to judge whether an answer is plausible, lose track of a procedure, or rely heavily on counting strategies when peers have moved to more efficient methods. These observations are clinically more informative than a blanket statement that the child is "weak in maths." They point towards the particular numerical function that needs formal exploration.

Mathematics also places language, attention and working habits under pressure, so a poor score alone cannot settle the nature of the difficulty. The clinician should describe the numerical difficulty before attributing it to a learning disorder. This discipline matters particularly when there are coexisting concerns in reading or written expression: a child may misunderstand the language of a problem, fail to record steps clearly, or have a separate difficulty in numerical understanding. The domain formulation permits these possibilities to remain visible rather than forcing an early, simplistic explanation.

In everyday life, families may notice difficulty with quantities, money-related tasks, time-related calculations or following a numerical sequence. Such reports can guide questioning, but they should not be treated as a substitute for an academic profile. The diagnosis concerns academic skills, and the assessment section addresses how that profile is established. At this stage, the teaching point is narrower: dyscalculia names a mathematics-specific learning difficulty, not a general lack of intelligence or interest.

20.6 Mixed profiles and clinical communication

The **three** domains are analytically separate, but children do not experience schoolwork in separate compartments. Reading supports access to instructions and textbooks. Written expression is required to display knowledge in many examinations. Mathematics problems are often presented in language and require written working. A child with difficulties in more than one domain may therefore present with a broad academic crisis even when the underlying weaknesses can be described separately.

This is why clinical communication benefits from both the umbrella diagnosis and the domain description. The umbrella term acknowledges that the child's learning needs may be interconnected. The domain wording prevents the formulation from becoming vague. It also keeps the conversation with teachers practical: which activity should be observed, what form of schoolwork best demonstrates the problem, and which accommodations or remediation questions should be taken forward? The answers belong to assessment and management, but the quality of those later steps depends on the precision of the initial language.

MNEMONIC

Read - Write - Calculate

Use this simple clinical sweep when a family reports poor scholastic performance. Ask separately about reading printed words, expressing ideas in writing and handling numbers. It is a history-taking prompt, not a diagnostic shortcut.

Do not infer causation from a mixed presentation. It is tempting to explain all failure by the most obvious domain, especially reading, but that can conceal an independent difficulty in written expression or mathematics. Similarly, do not convert secondary distress into the primary disorder. School refusal, low self-confidence and anger around study are important consequences that may need attention, yet they do not tell the clinician which academic skill is impaired.

Name the affected academic domain before using the familiar label: dyslexia for reading, dysgraphia carefully for handwriting mechanics or written expression, and dyscalculia for mathematics.

20.7 Frequency, sex pattern and Indian relevance

Specific learning disorder is common enough that psychiatrists working with children should expect to encounter it. In school-age children, reported prevalence across the academic domains is **5-15%**. A lifetime estimate in the population is **about 10%**. These figures are best read as a reminder of clinical visibility rather than as a substitute for careful local assessment. Prevalence varies with the population studied, the educational context, the method used to identify difficulty and the threshold applied.

IN INDIA

Indian studies of schoolchildren have reported a prevalence range of **3-10%**. For clinical work, the immediate implication is not to apply a prevalence figure to an individual child. It is to recognise that a persistent, specific academic difficulty is a familiar developmental and educational problem in Indian classrooms, including in children whose distress is initially presented as a behavioural or emotional concern.

Specific learning disorder is more common in males, with a reported male-to-female ratio of **2:1 to 3:1**. The practical safeguard is to let the learner's profile, rather than a stereotype about who is likely to have a learning difficulty, determine the enquiry. Avoidance, compensatory effort, internalised distress and disruptive responses to failure may each bring a child to attention, but none is itself the definition of the disorder.

A psychiatrist's contribution is often to make the hidden learning problem discussable without reducing the child to it. Explain that the diagnosis describes a particular route through which academic learning is difficult; it does not describe the whole child, their intelligence, their character or their potential. When questions arise about global developmental functioning or related neurodevelopmental conditions, use the broader framework in the Intellectual disability

and autism spectrum disorder notes. When the concern is whether apparent inattention reflects ADHD, the careful comparison belongs in the chapter section on differentiating SLD from ADHD and slow learner.

21 · Assessment of learning disorder (psychoeducational testing, NIMHANS battery)

Assessment is the point at which a complaint about poor school performance becomes a defensible clinical formulation. The task is not to locate a single low score, nor to decide that a child is unmotivated, inattentive, or simply struggling. It is to establish the pattern of difficulty, its educational consequences, the conditions under which the child performs better or worse, and the alternative explanations that remain plausible. A careful assessment gives the family and school a shared description of the problem. It also prevents the psychiatrist from attaching a diagnostic label to a difficulty that has not been properly characterised.

For the postgraduate candidate, the marks lie in describing a reasoned process rather than naming a test. The assessment must connect the referral concern to the child's developmental and educational history, direct clinical observation, cognitive data, and evidence of actual academic performance. This fragment addresses that psychoeducational work. Diagnostic criteria, remedial planning, educational provisions, and the discrimination from other neurodevelopmental conditions are dealt with in their respective sections of this chapter and in the Child psychiatry: assessment, treatment, services and protection notes.

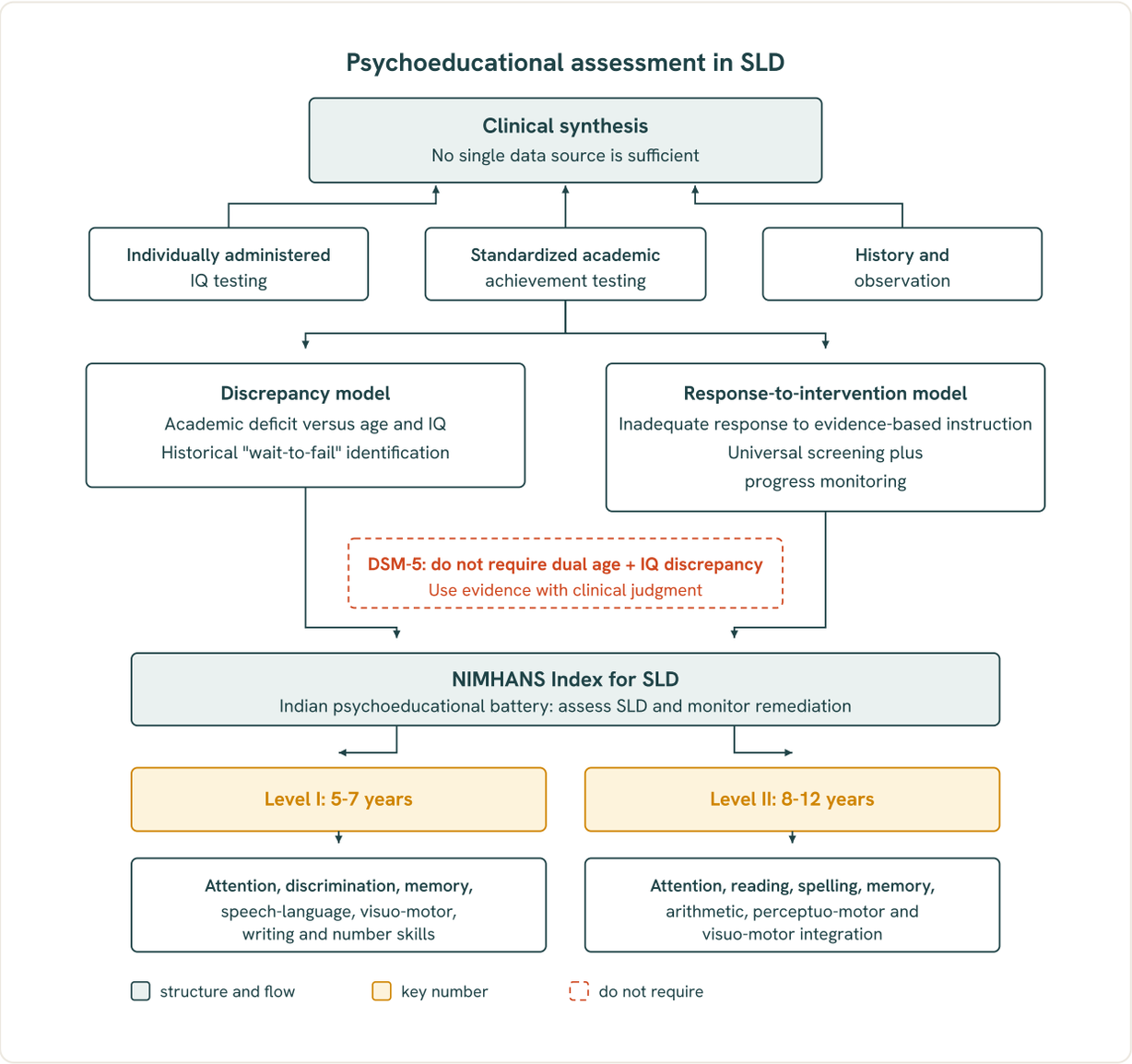


Fig 22.17. Psychoeducational assessment combines testing with clinical synthesis; the NIMHANS Index structures Indian SLD assessment across two age levels.

21.1 The purpose and architecture of psychoeducational assessment

A **psychoeducational assessment** asks a clinical question: does the child's attainment show a circumscribed and meaningful difficulty in learning, and what information is needed to explain it responsibly? It combines individually administered IQ testing, standardised academic-achievement testing, and history with observation. None of these sources can carry the diagnosis alone. A score only acquires meaning when it is interpreted alongside the child's opportunity to learn, language of instruction, behaviour during testing, and the family and school account of how the difficulty has unfolded.

RULE **Interpret the child, not an isolated score.** Cognitive testing, attainment testing, history, and observation must converge before the assessment can support a learning-disorder formulation.

The referral question should be made explicit before testing begins. “Poor studies” is a presenting complaint, not a useful assessment question. Clarify whether the concern is decoding written material, reading fluency, spelling, written expression, number work, classroom pace, or an

uneven profile across these areas. Ask what work is manageable without help, what elicits avoidance, which tasks require disproportionate time or adult scaffolding, and whether the pattern remains similar across settings. This turns a broad complaint into observations that can later be compared with formal findings.

Why the history remains indispensable. Testing samples performance in a bounded setting. The history supplies its ecological validity. It establishes the educational trajectory, changes in demands, attendance and interruptions, teaching language, access to teaching, previous support, and the child's response to such support. It also identifies emotional distress, behavioural resistance, sensory or neurological concerns, sleep problems, medication effects, and family stressors that may alter performance. These possibilities do not invalidate testing; they determine how cautiously a result should be interpreted.

ASSESSMENT STREAM	QUESTION IT ANSWERS	CONTRIBUTION TO FORMULATION
Referral clarification	What is actually failing in daily schoolwork?	Defines the target for assessment.
Developmental and educational history	How has the difficulty evolved in context?	Tests whether the narrative coheres with the measured pattern.
Clinical observation	How does the child approach, sustain, and recover from tasks?	Qualifies the validity and interpretation of performance.
Cognitive assessment	What is the profile of cognitive strengths and vulnerabilities?	Helps interpret the nature of difficulty, not merely its presence.
Academic-achievement assessment	What can the child demonstrate in school-relevant skills?	Documents the functional academic problem.
Clinical integration	Do the strands point to the same explanation?	Produces a usable formulation and report.

The psychiatrist's contribution is often synthesis rather than test administration. The report should be read as a description of performance under stated conditions, not as a verdict on ability or effort. When data conflict, the discrepancy is clinically informative. A child who appears competent in conversation but fails written tasks may need achievement assessment to make the hidden demand visible. Conversely, a weak test performance obtained amid marked distress, refusal, fatigue, or poor comprehension may require corroboration rather than premature certainty.

21.2 From referral complaint to testable clinical questions

Begin by listening to the words used by the child, caregiver, and teacher, but translate them into observable learning behaviours. "He does not study" may describe task avoidance after repeated failure. "She is careless" may refer to omissions in written work, loss of place while reading, inconsistent spelling, or errors under time pressure. The clinician should ask for concrete samples of classwork, homework, notebooks, and examination scripts when available. These reveal whether errors are stable, whether the presentation is uneven across subjects, and whether the school complaint matches the child's own experience.

Observation during the interview and assessment adds a different kind of evidence. Notice how instructions are understood, whether the child asks for clarification, how errors are handled, whether the child can explain a strategy, and whether performance changes with encouragement or structure. Observe the emotional meaning of schoolwork. Shame, anticipatory defeat, irritability, and disengagement may be consequences of chronic academic struggle; treating them as proof of laziness is both clinically crude and practically harmful.

- Clarify the principal academic complaint in the language of actual tasks.
- Map the child's learning history, including changes in curriculum, school, language, and support.
- Obtain collateral that describes classroom functioning rather than only examination results.
- Review representative written work for recurrent rather than incidental errors.
- Record factors during the session that could strengthen or limit confidence in the findings.

TRAP **Do not convert a complaint of inattention into a learning-disorder assessment, or a learning complaint into an attention diagnosis.** The complaint directs the enquiry; the pattern across history, observation, and formal assessment determines the formulation.

It is tempting to use familiar labels to shorten this work. That shortcut obscures the clinical task. The psychiatrist should hold competing explanations in mind without turning the assessment into a catalogue of diagnoses. If broader developmental concerns become evident, follow the relevant assessment pathway and use the Intellectual disability and autism spectrum disorder notes and the Normal child development and milestones notes for the appropriate conceptual framework. The purpose here is to determine what the psychoeducational evidence can and cannot establish.

GOOD TO REMEMBER

Parents often bring a global account of decline, whereas the child's work shows a stable and specific bottleneck. Asking for examples makes the assessment more respectful as well as more accurate: it shows the family that the clinician is interested in the child's actual effort and experience, not merely in a label.

21.3 Cognitive and attainment evidence: complementary, not interchangeable

Individually administered cognitive assessment is useful because it provides a structured account of how the child performs on tasks that draw on different cognitive processes. It should not be treated as a measure of school achievement. An academic-attainment measure is needed because the clinical problem concerns learned skills in educational tasks. The important interpretive question is how the cognitive profile, attainment profile, history, and observed approach to tasks fit together.

The older **IQ-achievement discrepancy model** treated a learning disorder as an academic deficit significantly discrepant from expectations for both age and IQ. Under **DSM-IV**, this dual discrepancy was required. The subsequent approach abandoned that requirement in **DSM-5**.

This historical shift matters because a candidate may still encounter discrepancy language in reports, schools, or older examination answers. It should be recognised as a framework that influenced identification, not used mechanically as the sole gatekeeper for a clinically meaningful learning problem.

Discrepancy thinking had an intuitive appeal: it seemed to identify a child performing below an apparent potential. Its weakness is that it can turn assessment into a search for a sufficiently dramatic gap and postpone help until the gap is conspicuous. It can also make the IQ score appear more decisive than the child's demonstrated difficulties. In clinical practice, the central question is not whether a calculated contrast is impressive. It is whether reliable evidence shows persistent academic difficulty that requires explanation and support.

A cognitive profile may nevertheless deepen the formulation. In the **WISC profile, performance IQ is usually higher than verbal IQ, with an ACID pattern of weaker Arithmetic, Coding, Information, and Digit-span**. Weaknesses in verbal comprehension, working memory, and processing speed may also be relevant. These observations are profile findings, not diagnostic signatures. A profile can prompt more focused enquiry, but it cannot replace evidence from academic achievement or the child's educational history.

> **PITFALL**
>
> Do not tell a family that an IQ result proves or excludes a learning disorder. Such a statement confuses cognitive assessment with attainment assessment, and it can falsely reassure or unnecessarily stigmatise a child whose school difficulties have not yet been directly measured.

Standardised attainment measures make the academic domain visible in a way that a general interview cannot. The available batteries include the **WRAT, WIAT, Woodcock-Johnson III/IV, and KTEA**, among others. Their names are less important than their function: they sample specific academic skills in a standardised manner and permit the clinician to compare the reported problem with observed performance. Selection should be guided by the referral question, the child's language and educational context, and the competence of the assessor.

21.4 Response to instruction as assessment evidence

The **response-to-intervention model** approaches identification differently. Rather than waiting for an IQ-attainment discrepancy, it considers whether the child shows an inadequate response to evidence-based instruction. Universal screening and progress monitoring are central to this approach. The clinical attraction is obvious: it focuses attention on the child's learning trajectory and on what happens when teaching is deliberately matched to the problem.

This approach does not mean that every child who needs extra help has a learning disorder. Nor does it make the school's provision irrelevant. A poor response must be interpreted in context. The clinician needs to know what was offered, whether it was delivered consistently, whether the child could access it, and what changed in observable learning behaviour. The same phrase, "did not improve," can mean very different things when the instruction, attendance, language demands, or emotional state are different.

For psychiatry, response evidence is valuable because it links assessment to ordinary functioning. It shifts the conversation from an abstract contrast between test scores to a practical question: after appropriate teaching has been tried, what still remains difficult, and in what form? It also reduces the tendency to wait for repeated failure before taking a child's difficulties seriously. Yet it must be integrated with individual assessment rather than substituted for it. Inadequate response is evidence to be understood, not a standalone diagnosis.

MNEMONIC

Ask, Observe, Measure, Integrate

Ask what the learning problem is in daily work; observe how the child tackles it; measure cognition and attainment where indicated; integrate every source before writing the conclusion.

A useful report states both findings and limits. It should distinguish direct observations from informant accounts, identify where the data converge, and say when a conclusion is provisional. This is not defensive writing. It protects the child from categorical interpretations based on incomplete evidence and gives the referrer a clear account of what further information would resolve uncertainty.

21.5 The NIMHANS Index in Indian psychoeducational assessment

Why this matters in Indian practice. The **NIMHANS Index of Specific Learning Disabilities** is the most commonly used SLD assessment battery in the Indian context, with established reliability and validity. It is an Indian psychoeducational battery and is administered by clinical psychologists or special educators. For the psychiatrist, its value is not simply local familiarity. It offers a structured way to document the child's pattern of learning-related skills while retaining the clinical obligation to interpret that pattern in educational and developmental context.

IN INDIA

When a referral asks for assessment of specific learning difficulty, know the NIMHANS Index well enough to explain what it examines and what its findings mean. The report is strongest when the clinician links its findings to the child's lived classroom difficulties and to school-based evidence, rather than presenting the battery name as the conclusion.

The Index has distinct levels aligned to the child's age. **Level I is for ages 5-7 years**, while **Level II is for ages 8-12 years**. This structure encourages the assessor to ask developmentally appropriate questions rather than assuming that the same demonstration of skill is expected across childhood. The age band should guide test selection; it does not relieve the assessor of judging whether the child understood the task and whether the results reflect the referral concern.

5-7 years	8-12 years	Assessment + monitoring
LEVEL I	LEVEL II	INDEX FUNCTION

INDEX LEVEL	AGE GROUP	SKILLS SAMPLED	CLINICAL USE
Level I	5-7 years	Pre-academic skills: attention, visual and auditory discrimination, visual and auditory memory, speech and language, visuo-motor, writing, and number skills	Characterises early learning-related vulnerabilities.
Level II	8-12 years	Attention, reading, spelling, perceptuo-motor, visuo-motor integration, memory, and arithmetic skills	Characterises the profile of academic and associated skills.

At the earlier level, the emphasis is on **pre-academic skills**. This is clinically useful because a concern about later academic failure may have a history of difficulty in the foundational processes sampled by the assessment. At the later level, the child's profile includes **reading, spelling, perceptuo-motor functioning, visuo-motor integration, memory, and arithmetic skills**. The value of this organisation is that it preserves the distinction between a broad learning profile and the specific school complaint that led to referral.

The Index is used both to assess SLD and to **monitor progress after remediation**. This is a major practical advantage. A baseline assessment should not be filed away after a diagnostic discussion. It can organise subsequent review around the skills that were difficult at baseline and clarify whether a change in functioning is visible after targeted educational work. Monitoring is most meaningful when the same questions are asked each time: what has changed in daily academic work, what has the school observed, and how do updated findings relate to the original formulation?

21.6 Interpretation, reporting, and the limits of test findings

Interpretation is an act of clinical reasoning. The assessor should ask whether the measured pattern is coherent with the referral complaint, whether it is consistent with available school evidence, and whether the testing conditions permit confidence in the result. A report that merely lists subtests gives the referrer data without a formulation. A report that announces a conclusion without explaining the evidence gives the family no basis for understanding it. The useful middle path is a concise narrative of the problem, the sources of evidence, the observed pattern, and the implications for further assessment or educational planning.

Language deserves particular care. The language spoken at home, the language of instruction, and the language used in assessment can each shape apparent performance. The same applies to familiarity with test materials and prior opportunity to learn. These are not excuses to abandon assessment. They are reasons to record context explicitly and avoid interpreting a language-mediated difficulty as a fixed deficit without adequate corroboration.

The clinician should also avoid turning test labels into explanations. A child may have a recognisable profile and still need a careful account of emotional response, classroom demands, family understanding, and practical obstacles to attendance or study. Conversely, distress around schoolwork should never be used to dismiss the possibility of a genuine learning difficulty. Assessment is strongest when it respects both: the measurable pattern and the child's subjective experience of repeatedly encountering it.

> Psychoeducational assessment is a clinical synthesis of cognitive evidence, academic performance, history, and observation - never a single score or battery name.

21.7 Communicating the formulation and using assessment over time

Feedback is part of assessment, not an administrative afterthought. Families need a clear explanation of what was assessed, what the findings support, what remains uncertain, and what the findings do not mean. Use plain language without collapsing the clinical formulation into blame. Children should hear a description that protects dignity: the assessment has identified areas in which learning is harder, not evidence that they are unintelligent, lazy, or beyond help.

For the school, translate the report into observable needs. A teacher can act on a description of the tasks that become difficult, the conditions that support performance, and the evidence required for later review. The psychiatrist should avoid prescribing a generic educational programme from a test score alone. Detailed remedial planning belongs with professionals and settings able to implement and review it; management and remedial education are addressed elsewhere in this chapter.

Reassessment should be purposeful. It is indicated when the clinical question has changed, when progress is being reviewed, when the original testing conditions limited confidence, or when a major educational transition requires an updated account of functioning. Repeating a battery merely because time has passed produces information only if the result will change understanding or action. The clinician should state the question that the follow-up assessment is expected to answer.

Finally, preserve diagnostic humility. A robust assessment can make a strong formulation, but the child continues to develop and the educational environment continues to change. Keep the report open to new evidence, document the basis for conclusions, and coordinate with the relevant child mental-health and educational professionals. That is how psychoeducational testing becomes clinically useful rather than a bureaucratic endpoint.

22 · Management and remedial education for SLD

Management is an educational treatment, not an afterthought. Specific learning disorder is managed by converting a carefully described pattern of difficulty into teaching that the child can actually use. The psychiatrist does not substitute for the educator. The clinical task is to define the functional problem, explain it without blame, coordinate the adults around the child, and protect participation while the missing academic skill is being taught. A useful plan is therefore neither a

generic tuition referral nor a collection of concessions. It is a linked programme of skill teaching, access support, monitoring, and family-school collaboration.

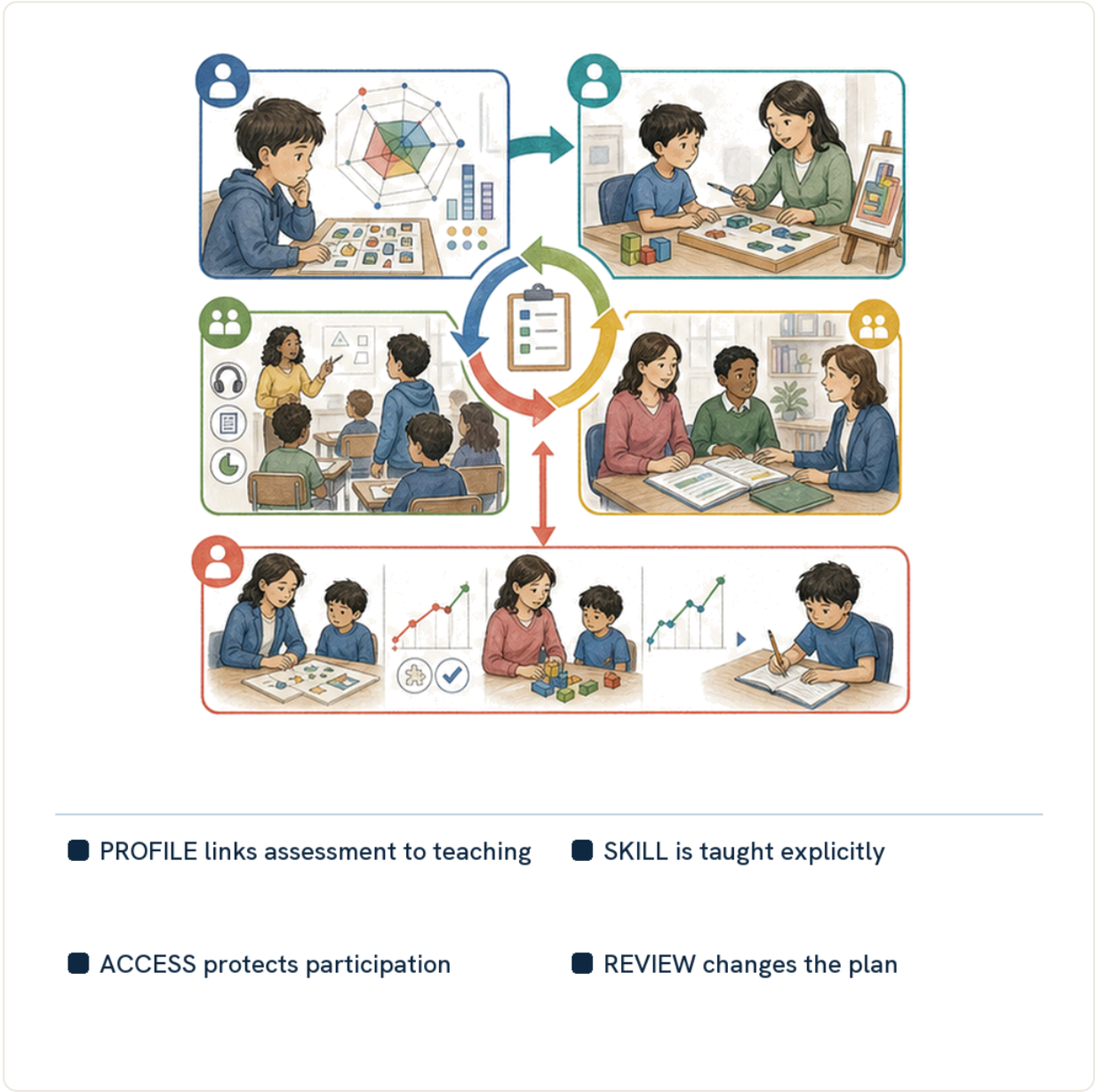


Fig 22.18 Management of specific learning disorder links the assessed learning profile to explicit skill teaching, protects participation through access support, and changes the plan through repeated review. It is an educational treatment, not generic tuition.

The marks in this area are usually earned by making a distinction that is easy to say but often poorly applied: treatment should both change what can be changed and reduce the immediate cost of a continuing difficulty. The child needs an explicit learning plan, rather than repeated exhortations to work harder. When this is done well, schoolwork becomes a source of graded mastery rather than a daily confirmation of failure.

PROFILE	SKILL	ACCESS	REVIEW
LINKS ASSESSMENT TO TEACHING	IS TAUGHT EXPLICITLY	PROTECTS PARTICIPATION	CHANGES THE PLAN WHEN NEEDED

22.1 Therapeutic frame and goals

Remedial education means planned teaching directed at the academic skill that is not developing adequately. It is not merely extra time spent on the same worksheet, and it should never be presented as punishment for poor effort. Its purpose is to build **age-appropriate foundational academic skills** through teaching that matches the child's pattern of strengths and difficulty. The practical implication is that the learning profile must shape the intervention. A child whose difficulty lies in decoding needs a different teaching emphasis from a child whose main barrier is written output or calculation, even when both are described by adults as "weak in studies".

The initial conversation has therapeutic value in its own right. Families and teachers may have accumulated explanations based on laziness, carelessness, oppositionality, or low intelligence. The clinician should reframe the difficulty as a specific problem in learning a particular academic skill. This is not an excuse for abandoning expectations. It is a reason to make expectations teachable, observable, and fair. The child should hear that difficulty is being taken seriously, that improvement requires practice, and that adults will alter the route to learning rather than simply demand a result.

RULE **Teach the impaired skill explicitly, then judge progress against that skill.** A remedial plan begins with the academic task that breaks down, identifies the component skill to be learned, and gives practice at a level where correction can be used. Repeating an activity that the child cannot decode, spell, write, or calculate independently rehearses failure rather than competence.

Goals should be functional and intelligible to the people implementing them. They may concern more accurate reading of instructional material, greater independence with written work, or reliable use of an agreed support. The point is not to promise a global transformation of school performance. A good goal defines what the child will be able to do more effectively and how adults will know whether the teaching approach is working. It also preserves the child's dignity by separating a learning problem from personal worth.

22.2 Designing the remedial programme

The intervention must be **individualized education program** work: systematic, structured skill-building tailored to the child's cognitive profile and the severity of the academic difficulty. Individualized does not mean improvised. It means that teaching content, pace, practice, correction, and review are selected after considering the child's actual performance. Structured does not mean rigid. It means that the teaching sequence is visible, cumulative, and capable of being adjusted when evidence from the child shows that a prerequisite has not been mastered.

- Translate assessment findings into a small set of observable learning targets.
- Identify the prerequisite skill that is preventing success with the current classroom demand.
- Arrange direct teaching, guided practice, and independent application in a predictable sequence.

For the psychiatrist, the formulation protects against a common systems error: referral without communication. A report that merely labels the disorder leaves the educator to guess what to teach. The useful clinical document describes the functional bottleneck, the child's relative strengths, the anticipated emotional consequences of repeated academic failure, and the need for a structured plan. It should support collaboration while respecting the educator's expertise in instruction. The psychiatrist remains responsible for the wider clinical picture, including distress, avoidance, family strain, co-occurring conditions, and whether a mismatch between school demand and support is amplifying impairment.

CLINICAL QUESTION	EDUCATIONAL RESPONSE	WHAT TO REVIEW
Which academic activity repeatedly fails?	Specify the component skill to be taught.	Whether the target matches the observed difficulty.
What can the child already do?	Begin from an accessible level and build from relative strengths.	Whether teaching is sufficiently challenging without becoming overwhelming.
Where does participation break down?	Provide an access support while remediation proceeds.	Whether support is enabling work rather than replacing teaching.
What is maintaining demoralisation?	Give feedback that identifies effort, strategy, and progress.	Whether avoidance, shame, or conflict is reducing engagement.

A programme should be documented so that it survives changes in personnel and can be discussed at review. Recording the target, method, response to correction, practice completed, and barriers to implementation makes the plan clinical rather than aspirational. It also lets the team distinguish a teaching approach that requires adjustment from a plan that was never delivered consistently. The aim is not bureaucratic perfection. The aim is continuity for a child who is often asked to begin again with every new adult.

GOOD TO REMEMBER

Ask the school to describe the task at which the child stops being independent, not simply the subject in which marks are low. That description is often the most useful bridge between a psychiatric formulation and a teachable target.

22.3 Reading remediation: the instructional core

Where reading difficulty is central, remediation should teach the relationship between spoken language and print directly. The core content is **phoneme awareness**: learning to hear and work with the sound units in words, including taking them apart and joining them. This is paired with **phonics**, in which the learner is taught the correspondence between letters and sounds. Contextual reading practice then gives the child an opportunity to use these skills in connected material rather than leaving them as isolated exercises.

The educational logic matters. Reading is not improved by asking a child to memorise larger and larger sets of words when the child does not have a dependable way of mapping print to sound. Nor is it enough to practise isolated sound exercises without helping the child apply them to text.

Direct work on sound structure supports decoding; explicit letter-sound teaching gives a route from print to speech; reading in context tests whether that route is becoming useful. Instruction should make errors visible and correctable. A child who guesses a word needs feedback that returns attention to the print and the sound pattern, not praise for a plausible guess that bypasses the skill being learned.

Multisensory structured language instruction is a helpful organising principle for this work. The teaching remains phonics-based and structured, but it deliberately gives the learner more than a purely passive encounter with print. The point is not novelty for its own sake. It is to make the sound-symbol relationship explicit, actively practised, and repeatedly retrieved in a coherent sequence. Such teaching should remain clear enough for the educator to observe whether the child is learning the intended correspondence.

MNEMONIC

Hear - Map - Read

Use this as a teaching spine: hear the sound structure in spoken words, map sounds to letters, then read the pattern in connected text. It keeps remediation directed at a usable reading skill rather than at nonspecific classroom activity.

TRAP **Do not mistake more reading exposure for reading remediation.** Exposure is valuable only when the child has a supported way to process the print. Unstructured repetition of material beyond the child's current decoding capacity can deepen avoidance and may persuade adults that the child lacks motivation when the actual problem is an unaddressed skill.

22.4 From accuracy to fluent, meaningful reading

Accuracy is necessary, but it is not the whole endpoint. **Repeated oral reading** can be used to improve fluency. It allows the child to revisit the same passage with feedback until word recognition becomes less effortful. This should be understood as supported practice, not as public performance. A child who has experienced correction as humiliation may avoid reading aloud altogether; the remedial setting must make error correction routine, private, and useful.

Fluency work should not be treated as proof of comprehension. A learner may become more rapid while still failing to derive meaning from what is read. The clinician should therefore keep comprehension in view as part of the wider language task. When a child understands spoken material better than independently read material, the barrier may lie principally in access to print. When understanding remains limited even after print has been supported, broader language comprehension becomes important to the educational formulation. This distinction prevents a narrow fluency goal from being mistaken for the child's full learning need.

At review, ask what changed in the child's everyday academic functioning. Has the child begun to approach text with less avoidance? Can the learner use the taught strategy in unfamiliar material? Is reading still so effortful that content learning is blocked? These questions keep teaching linked to participation rather than allowing a practice task to become an end in itself. They also help the

psychiatrist identify the point at which emotional support, classroom access, and remediation need to be intensified together.

22.5 Remediation and accommodation serve different jobs

The distinction is clinically decisive. **Remediation** builds a deficient skill. **Accommodations** enable access to educational material without changing that skill. These approaches work best as partners rather than competitors. The child may need access support now because a current curriculum cannot be put on hold while skill development proceeds. At the same time, access without teaching leaves the underlying academic difficulty untouched.

QUESTION	REMEDIATION	ACCOMMODATION
Primary purpose	Build the impaired academic skill.	Enable participation despite the current barrier.
Immediate focus	Direct, structured instruction and practice.	How the learner receives, produces, or demonstrates educational work.
Clinical error if used alone	Ignoring the child's present access needs.	Assuming that access has taught the missing skill.
Examples	Teaching directed at the identified learning target.	**Audiobooks, spell-checkers, and assistive technology** when these enable access.

An accommodation should be chosen by asking what unwanted barrier it removes. If a support lets a child obtain the meaning of material despite a reading barrier, or express knowledge despite difficulty with mechanics, it may protect access to the curriculum. It should not be framed as an unfair advantage. Equity means that the child is given a route to show learning that is not needlessly dominated by the disability being treated. The detailed statutory, certification, and examination route is outside the scope of this clinical management discussion.

PITFALL

Do not use an access support as a reason to stop remediation. A tool can reduce the immediate penalty of a learning difficulty, but it does not by itself establish the academic skill that the child is still being helped to acquire.

22.6 Working with family, school, and the child

Management fails when adults hold incompatible explanations. Parents may be asked to supervise exhausting homework that does not teach the relevant skill; teachers may interpret slow output as defiance; the child may conceal difficulty to avoid embarrassment. The psychiatrist should bring the discussion back to a shared formulation: which task is difficult, what skill is being taught, what support allows participation, and how progress will be recognised. This gives each adult a role without turning the family home into a remedial classroom.

- Explain the learning difficulty in language that separates it from intelligence, effort, and character.

- Agree on a consistent channel for communication between home, school, and the treating team.
- Notice avoidance, anxiety, irritability, and loss of confidence as signals that the educational burden needs review.

The child's view is indispensable. Ask which classroom moments feel impossible, which supports feel exposing, and what kind of feedback encourages continued effort. This is not merely rapport-building. A plan that is technically sound but experienced as shaming will be poorly used. Conversely, a child who can identify a successful strategy is more likely to apply it outside the remedial setting. Where co-occurring attentional, emotional, behavioural, communication, or developmental concerns affect learning, they should be assessed and managed in their own right rather than being used to explain away the specific learning problem.

IN INDIA

Access to trained remedial educators and assistive tools may differ sharply across schools and localities. The clinical plan should therefore state the instructional principle clearly enough that it can guide whatever educational resource is available, while avoiding a vague recommendation for "special help" that no adult can operationalise. The statutory and examination pathway belongs to the educational provisions section of this chapter.

22.7 Starting early, monitoring honestly, and sustaining hope

Remedial action should begin when the pattern of difficulty is clear enough to justify help; it should not be postponed while adults wait for a formal dyslexia label or for another episode of academic failure. Delay has consequences beyond marks. Repeated failure can reshape the child's expectations, reduce willingness to attempt difficult work, and make school refusal or behavioural conflict appear to be the primary problem. Early, specific teaching is therefore also preventive mental-health care.

The plan should be reviewed using direct information from the learning setting: whether the child is receiving the intended teaching, whether the selected task has become more manageable, whether supports are being used, and whether emotional strain is reducing. Lack of progress is not a cue to intensify blame. It is a cue to reconsider the match between the child's profile, the teaching target, the instructional method, and the environmental demands. Sometimes a target was too broad; sometimes a prerequisite was missed; sometimes implementation was inconsistent; sometimes a co-occurring problem requires parallel attention.

Progress review is also an opportunity to preserve coherence. The family may report a small but important change that is invisible in a broad school result, such as willingness to attempt a previously avoided task or use of a taught strategy without prompting. The school may identify a barrier that was not apparent in the clinic. Bringing these observations together prevents premature abandonment of a useful approach and prevents persistence with an approach that has lost its fit. The question is always practical: what should the child, educator, and family continue, modify, or stop doing?

Prognosis should be communicated with realism and confidence. With appropriate remedial education and relevant provisions, **most children** can achieve academic competence. This statement should not be converted into a promise of effortless parity in every academic task. Its clinical value is that it replaces fatalism with a process: identify the barrier, teach the skill, maintain access, and revise the plan from observed response. It gives the child and family a credible reason to remain engaged.

> Remediation teaches the skill; accommodation protects access while that teaching is taking effect.

23 · Certification and educational provisions for SLD in India

Why certification matters. In specific learning disorder, a clinical formulation does not by itself unlock educational support. Certification is the bridge between a child's demonstrable academic difficulty and enforceable participation measures in school and examinations. The psychiatrist therefore needs to understand the route well enough to guide families, interpret what a certificate does and does not establish, and avoid converting a school complaint into either a global cognitive label or an administrative shortcut.

The legal bridge is deliberately narrow here. **Specific learning disability is a specified disability under the Rights of Persons with Disabilities Act, 2016**. That status places the child within a disability-rights framework, but it does not replace careful clinical assessment, psychoeducational evaluation, or a school plan. The Act's general machinery is dealt with in the Intellectual disability and autism spectrum disorder notes; the present discussion concerns the SLD-specific statutory and educational route.

LAW	SCHOOL	TEAM	BOARD
RIGHTS ROUTE	SCREENING ROUTE	ASSESSMENT ROUTE	ACCESS ROUTE

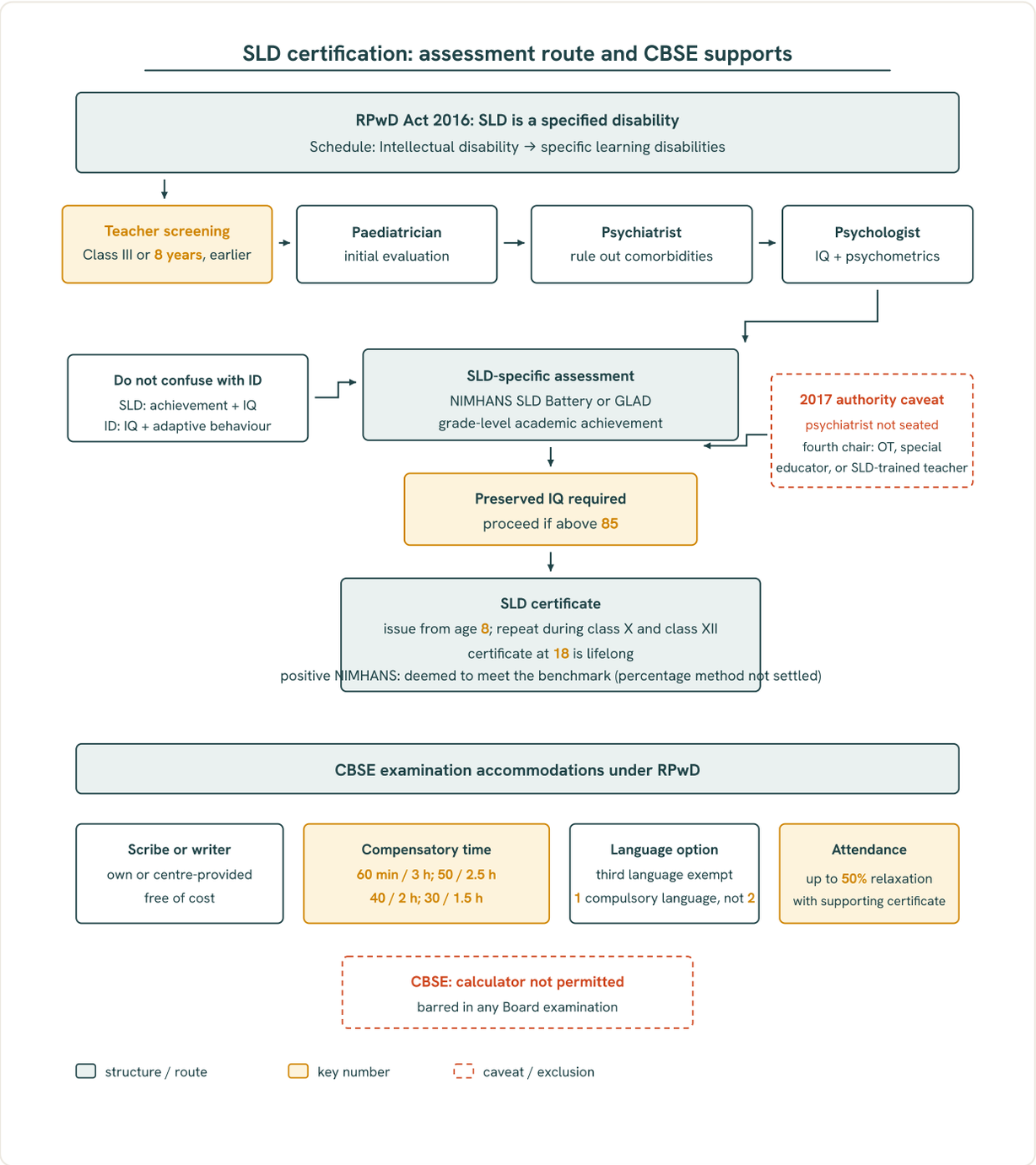


Fig 22.19. Indian SLD certification pathway and CBSE examination accommodations.

23.1 Statutory location and its clinical meaning

The first distinction is between a statutory description and a psychiatric taxonomy. The Act places SLD under the Schedule head concerned with intellectual disability: its **Schedule placement** is as "specific learning disabilities" under that head, alongside autism spectrum disorder. This grouping should not be read as equating SLD with intellectual disability. It is a legislative arrangement for specified disabilities, whereas clinical differentiation rests on the pattern of functioning and the assessment route.

The **statutory definition** describes a heterogeneous group in which difficulty in processing spoken or written language becomes evident in comprehension, expression, reading, writing, spelling, or mathematical work. Its wording includes perceptual disabilities, dyslexia, dysgraphia,

dyscalculia, dyspraxia and developmental aphasia. This is wider than a neat examination list of academic skill deficits. A candidate should neither force all of these labels into a psychiatric diagnosis nor discard a child's functional difficulty because it sits awkwardly beside a clinical classification. In certification work, the relevant question is whether the child's documented pattern fits the notified route.

IN INDIA

Use the statutory language when explaining eligibility and the clinical language when formulating the disorder. They overlap but serve different purposes. Confusing them produces opposite errors: treating every poor scholastic performance as a disability, or assuming that a clinically meaningful learning difficulty cannot attract support because its label is not a familiar diagnostic heading.

RULE **Certification follows the SLD-specific educational assessment route, not a global-intelligence label.** The legal category creates access to support; it does not collapse SLD into intellectual disability.

23.2 From school concern to formal evaluation

School recognition is not a casual referral note. It is a structured initial filter intended to identify children whose persistent academic difficulty warrants a fuller pathway. Under the certification guidance, school-based teacher screening begins at **Class III or 8 years of age, whichever is earlier**. The screening committee is led by the principal, and teachers administer the questionnaire in public as well as private schools. This is useful because teachers see the curriculum demand, the child's response to repeated instruction, and the practical consequences of the difficulty.

Screening is an entry point, not a diagnosis. A teacher can appropriately identify a child who repeatedly fails to acquire expected academic skills despite classroom opportunity, but the teacher cannot determine the cognitive basis, psychiatric comorbidity, sensory contribution, or validity of a disability certificate. Conversely, a normal-looking classroom behaviour profile does not settle the matter if a child is using avoidance, copying, memorisation, or family support to conceal a marked skill deficit.

After a positive screen, the **multidisciplinary pathway** moves through an initial paediatric evaluation, psychiatric assessment for comorbidity, and psychometric and IQ testing by a psychologist. It protects against premature attribution. The paediatric assessment addresses medical and developmental context; psychiatric review asks whether comorbidity is altering performance or participation; and the psychologist documents the psychometric profile. Each professional answers a different question. A referral letter that merely says "rule out SLD" is less useful than a concise account of the scholastic complaint, prior support, course, school observations and relevant emotional or behavioural symptoms.

- Clarify the academic task that is failing, rather than accepting "poor studies" as a formulation.
- Ask what teaching and remedial opportunity the child has actually received, because achievement cannot be interpreted without opportunity.

- Seek school work and collateral that show the pattern over time, not only the family's account of a recent examination result.
- Screen clinically for comorbidity that may coexist with, amplify, or mimic academic underperformance.

GOOD TO REMEMBER

The psychiatrist's most useful contribution is often not administration of an academic battery. It is protecting the formulation from diagnostic overshadowing: anxiety, mood symptoms, attentional symptoms, developmental language difficulty, sleep disturbance, adversity, or a neurological history may change how the child performs and what support is needed.

23.3 Assessment logic and the boundary with intellectual disability

The assessment route differs in kind from the route used for intellectual disability. SLD certification rests on psychoeducational, grade-level academic-achievement assessment with preserved intellectual functioning, whereas intellectual disability certification uses an IQ-plus-adaptive-behaviour route. This distinction is clinically important. A child can be severely disabled in a particular academic domain while showing no global pattern of limitation that would justify intellectual-disability certification.

In the notified SLD pathway, SLD-specific assessment proceeds when IQ is **above 85**. This is not a reason to use an IQ score as the explanation for a child's scholastic struggle. It is a gate within this certification route, intended to separate the educational-achievement assessment from the intellectual-disability pathway. Clinically, the clinician must still consider the quality of the testing, language and schooling context, effort, emotional state, and the consistency of the profile with the child's real-world work.

QUESTION	SLD CERTIFICATION ROUTE	INTELLECTUAL DISABILITY ROUTE
Central concern	Specific academic achievement	Global intellectual and adaptive functioning
Assessment emphasis	Psychoeducational and grade-level work	IQ together with adaptive behaviour
Clinical implication	Plan targeted access and learning support	Plan support around broader functioning
Common error	Calling all low marks SLD	Calling a focal academic deficit global disability

That table is deliberately an assessment distinction, not a substitute for diagnostic criteria. The clinical definition and diagnostic criteria of SLD are addressed elsewhere in this chapter, while the broader differential including slow learner is addressed in the chapter's discrimination section. In practice, the safe sequence is to establish the child's functional academic pattern, examine the testing context, integrate psychiatric and developmental information, and only then determine whether the notified certification threshold and pathway apply.

TRAP **Do not treat the IQ gate as the diagnosis.** A score used for eligibility cannot explain a child's reading, writing, spelling, or mathematical difficulty, and it cannot replace a grade-level achievement assessment.

23.4 Approved batteries and what a result means

The notified academic tools are the **NIMHANS SLD Battery** and the **Grade Level Assessment Device (GLAD)**. Their value is not that they provide a mechanical label. They make the academic judgement auditable by linking the child's performance to expected grade-level work. The report should preserve the profile of strengths and weaknesses, the language and educational context, the source of collateral, and the implications for accommodations and remediation.

The choice of battery must be appropriate to the child's schooling context and the skills being examined. It is tempting to treat any cognitive test, informal dictation exercise, or school mark sheet as interchangeable with a notified achievement battery. They are not interchangeable. Informal material can sharpen the clinical question and can be valuable evidence of functional impairment, but certification needs the designated psychoeducational route. The task for the psychiatrist is to ensure that the evaluation answers the practical question being asked, not simply to accumulate test names.

Current guidance describes a positive result on the NIMHANS Battery as meeting the **benchmark-disability determination**, while not providing a graded percentage method for SLD. Thus, SLD certification is best understood as a positive-or-negative determination based on the notified battery, rather than as a ladder of progressively assigned disability percentages. The cited guidance itself identifies a need for clarification about the continuing application of this position. In a certificate-related consultation, it is prudent to document the source report precisely and avoid inventing a severity percentage that the SLD framework does not supply.

PITFALL

Do not translate a psychoeducational result into a generic "percentage disability" in clinic correspondence. That may sound administratively helpful, but it can misstate the SLD-specific framework and obscure the assessment on which eligibility rests.

23.5 Certificate timing, review and professional roles

Certification is reserved for children **aged 8 and above; the current notified guidelines schedule repeat certification during class X and class XII, and a certificate issued at 18 is valid lifelong**. This schedule recognizes that educational demands and the documented profile need review as the child progresses through schooling. Families should be told early that certification is part of a continuing educational record, not a one-time diagnostic performance. Delayed referral can therefore have practical consequences when schools and examining bodies need documentation within their own processes.

There is an important nuance about the psychiatrist's place in the process. The certifying medical authority described in the earlier rules does not seat a psychiatrist; its additional position may be held by an occupational therapist, special educator, or teacher trained in SLD. This **board-**

composition limitation must not be distorted into "psychiatrists have no role." The amended diagnostic pathway separately describes psychiatric assessment to rule out comorbidity. The sensible reading is functional rather than territorial: the psychiatrist contributes clinical formulation and comorbidity assessment, while certification is completed through the designated authority and educational assessment process.

This distinction also helps with interprofessional communication. The psychiatrist should not demand to control an academic determination, and the school or assessment team should not dismiss mental-health symptoms as irrelevant to performance. A good report states what the psychiatric assessment establishes, what it does not establish, and which part of the certification record must come from the appropriate educational and certifying process.

MNEMONIC

Screen - Sort - Study - Support

Screen at school, **sort** medical and psychiatric contributors, **study** the psychoeducational profile, then arrange certified **support**. The phrase is a workflow memory aid, not a diagnostic criterion.

23.6 Examination accommodations: access, not advantage

Educational accommodations aim to reduce the disability-related barrier to showing knowledge. They should not be presented as rewards for a diagnosis or as a promise that marks will improve. The key question is whether the examination format places a disproportionate barrier on the student's ability to demonstrate the intended competence. The **CBSE scribe or writer facility** permits an eligible candidate to use either a personal writer or a writer provided without charge by the examination centre. A personal writer must have a lower qualification than the candidate. A reader may be used when the candidate does not opt for a writer.

Compensatory time is a distinct accommodation. It may be taken instead of, or in addition to, a writer where the rules permit. In the relevant board schedule, the **compensatory-time allocation is 60 minutes for a 3-hour paper, 50 minutes for 2.5 hours, 40 minutes for 2 hours, and 30 minutes for 1.5 hours**. The clinical point is that extra time addresses speed and written-output burden; a writer addresses a different barrier. A certificate alone does not tell the school which arrangement will preserve the examination's purpose. That decision should be grounded in the documented functional difficulty.

PROVISION	WHAT BARRIER IT ADDRESSES	CLINICAL CLARIFICATION
Writer or scribe	Written output	Do not assume it is needed for every student with SLD
Compensatory time	Slower processing or output	It can be relevant even when a writer is not used
Language option	Additional language demand	It changes subject requirements, not the underlying learning need
Attendance relaxation	Difficulty meeting attendance requirement	Requires the stipulated supporting recommendation

For the language provision, eligible candidates are exempt from the third language and may take a reduced compulsory-language requirement. The **CBSE language exemption** is therefore a defined curricular concession, not a broad waiver from language learning. Counselling should be careful and non-stigmatising: the relevant choice may reduce an avoidable barrier, but it should be considered alongside the child's educational goals, strengths, and confidence rather than imposed as a default.

Attendance relaxation is similarly conditional rather than automatic. The **CBSE attendance relaxation** can extend up to **50%** when the prescribed attendance requirement cannot be met, on the school principal's recommendation and supporting certification from a registered medical practitioner or authorised psychologist. In clinical letters, describe the actual disability-related functional issue and avoid certifying a benefit whose educational criteria have not been met.

23.7 The calculator question and board-specific advice

One of the most persistent sources of misinformation is the assumption that dyscalculia automatically permits a calculator. For examinations conducted by CBSE, use of a calculator is barred. The **CBSE calculator provision** is therefore a prohibition, despite the fact that calculator access is often repeated in generic lists of concessions and may be available in other board settings. This is a useful example of why clinicians should never promise an accommodation from memory.

Advice to families must be board-specific and document-specific. The psychiatrist can explain the functional rationale for an accommodation and can provide an accurate clinical report. The school and examination authority determine what their current rules allow. Where a family is considering subject choices, a writer, extra time, or language exemption, encourage early verification with the relevant authority rather than a late appeal after examination arrangements have closed.

TRAP **Do not promise a calculator for dyscalculia.** A commonly repeated concession is not a universal entitlement, and for CBSE examinations the rule is explicitly restrictive.

23.8 A practical psychiatrist's approach

For the resident, the high-yield approach is to hold the clinical and administrative tasks together without confusing them. Begin with the child's functional academic complaint and the evidence from school. Establish whether the concern has been adequately assessed through the designated psychoeducational pathway. Review psychiatric comorbidity and contextual factors that could alter performance. Explain the certificate as an access document rather than a total account of the child. Then help the family translate the documented functional profile into a realistic school and examination plan.

Communication is often the intervention that prevents harm. A child who has repeatedly been called careless or lazy may hear certification as proof of incapacity; a family may hear it as a guaranteed route to concession. Both interpretations are damaging. The better formulation is that a specific barrier has been identified and documented, and that targeted supports are meant to

allow fair demonstration of learning. Remedial education remains central; accommodations do not teach the skill, and teaching alone may not remove an examination barrier.

- Use school evidence to define the functional problem before discussing a certificate.
- Refer through the notified educational assessment route rather than relying on an informal impression.
- Record psychiatric comorbidity clearly, while avoiding the claim that it establishes SLD.
- Match accommodation discussion to the documented barrier and the applicable board rule.

Treat SLD certification as a psychoeducational access pathway: document the academic profile, assess comorbidity, use the designated authority, and verify each accommodation against the relevant board rule.

Communication and motor disorders

24 · Communication disorders (language, speech sound, childhood-onset fluency, social communication)

Communication is a clinical function, not merely a school subject. A child may have difficulty understanding language, formulating it, producing intelligible speech, maintaining fluent speech, or using communication appropriately with other people. The diagnostic task is to locate the impaired function, establish its developmental pattern and functional consequence, and then ask whether another condition explains the presentation more parsimoniously. These distinctions matter because a child who cannot make an intelligible request, follow a classroom instruction, or understand the implied meaning of a peer's remark will be impaired in a different way, even when the family describes all of them as “speech delay”.

The **communication disorders** are developmental disorders of communication. They sit beside, rather than inside, the broader assessment of neurodevelopmental functioning. A careful formulation therefore separates the child's linguistic or speech difficulty from hearing, oral-motor, neurological, structural, intellectual, emotional, and environmental contributions. It also avoids treating a language difference in a multilingual family as proof of disorder. The relevant developmental context is addressed in the Normal child development and milestones notes, and a full service-based child assessment is addressed in the Child psychiatry: assessment, treatment, services and protection notes.

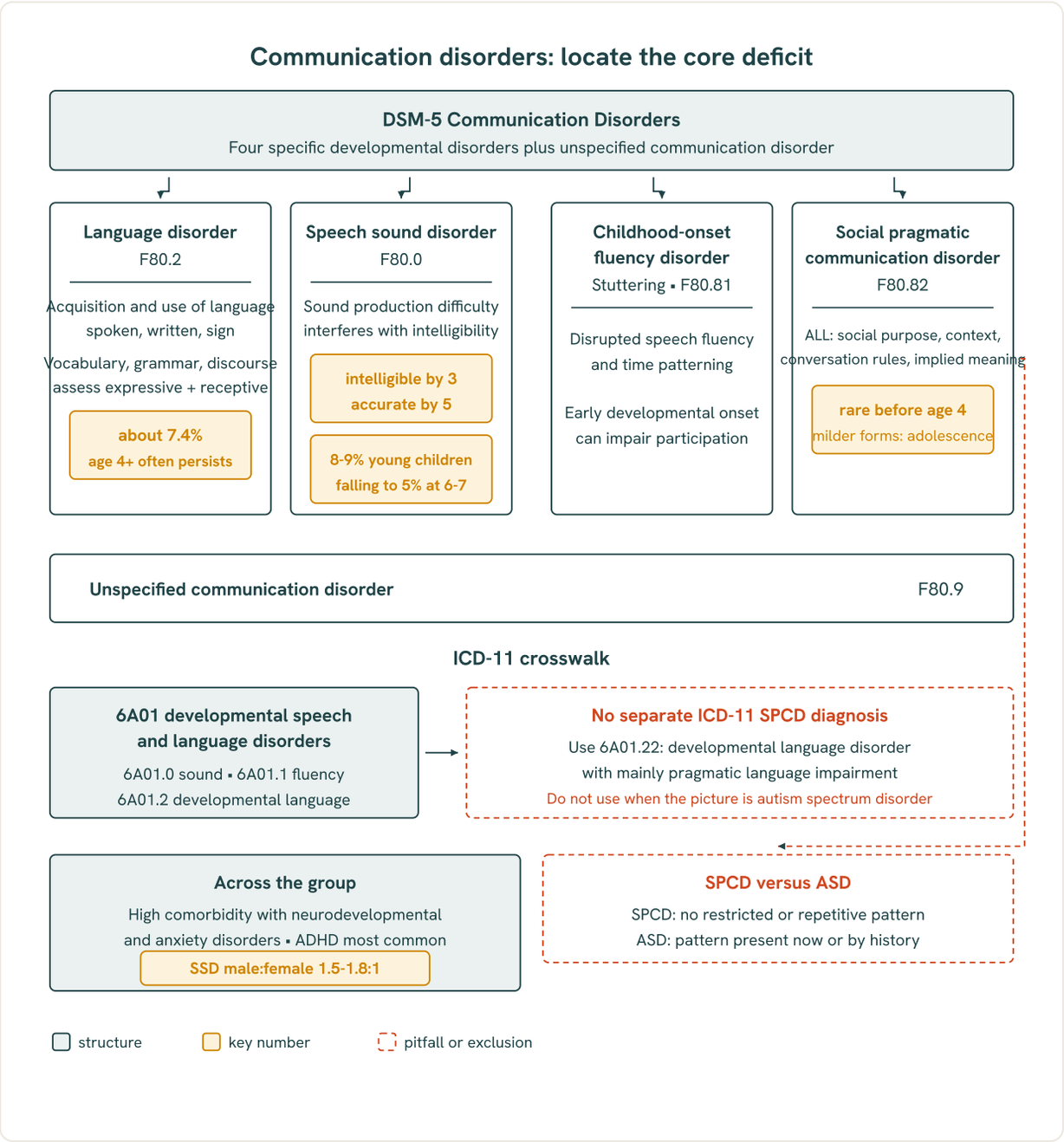


Fig 22.20. Communication disorders map: core deficit, ICD-11 crosswalk and the SPCD exclusion.

24.1 Diagnostic map and the unit of impairment

The DSM communication-disorder group includes **language disorder**, **speech sound disorder**, **childhood-onset fluency disorder**, **social (pragmatic) communication disorder**, and an unspecified category. The names identify the principal clinical bottleneck. Language concerns understanding and expression of meaning through an organised symbolic system. Speech sound concerns the production of sounds that make spoken output intelligible. Fluency concerns the temporal flow of speech. Social communication concerns whether verbal and nonverbal communication is used effectively with another person in a context.

For documentation and examination answers, the corresponding DSM coding labels are language disorder **F80.2**, speech sound disorder **F80.0**, childhood-onset fluency disorder **F80.81**, social (pragmatic) communication disorder **F80.82**, and unspecified communication disorder **F80.9**.

Coding is not a substitute for formulation. A code tells the reader where the principal problem has been placed; the formulation must still say how it affects participation, learning, relationships and family life.

The ICD approach groups developmental speech and language conditions together, including language, speech sound and fluency presentations. This is useful to remember when records use different classificatory languages. The important clinical question remains unchanged: which communicative operation is persistently compromised, and is that compromise the primary explanation for the observed impairment?

RULE **Name the impaired communication function before naming the diagnosis.** "Speech problem" is an initial complaint, not a formulation. Decide whether the child cannot understand, formulate, articulate, speak fluently, or use communication socially.

- Ask what the child understands when contextual cues are removed.
- Ask how the child conveys a novel idea, need, or narrative.
- Listen for intelligibility, sound-pattern errors, effort and fluency.
- Observe reciprocity, turn-taking, repair after misunderstanding and sensitivity to context.

These observations should be gathered from more than the consulting room. A child may speak freely with a parent yet fail when required to comprehend decontextualised classroom language, explain an event, negotiate with peers, or respond to an unfamiliar adult. Conversely, silence in a strange clinic can be an anxious state rather than evidence that language has not developed. The clinician should use the child's strongest available means of communication and seek examples that show both capacity and performance.

24.2 Language disorder: a disorder of learning and using language

Language disorder is characterised by persistent difficulty acquiring and using language across spoken, written, or signed modalities. The deficit may involve comprehension, production, vocabulary, grammar, sentence organisation, or discourse. In assessment, **receptive and expressive language** must both be examined. A child with apparently fluent output can still have poor comprehension, while a child who says little may understand considerably more than they can express. The distinction changes both formulation and prognosis.

Clinically, the difficulty is not simply an absence of a few words. It is a problem in building a usable language system: attaching stable meanings to words, combining them according to rules, understanding relationships within a sentence, and using connected language to explain, recount, infer and learn. The impairment must be persistent and consequential. A quiet child, a child who chooses brief answers, or a child who is still adapting to the language used at school should not be relabelled on the basis of a single brief encounter.

The disorder begins in the developmental period. Before 4 years, ordinary variation can be difficult to distinguish from an enduring disorder; by that age, individual differences become more stable and informative, and a disorder diagnosed then commonly continues into adult life.

This does not mean that a clinician should wait passively when a child is struggling. It means that the assessment should record the developmental trajectory, repeated functional observations and response to appropriate support rather than claiming false precision early on.

The profile may be predominantly expressive, predominantly receptive, or mixed. **Receptive impairment** carries a less favourable outlook and is more resistant to intervention than a largely expressive presentation. This is clinically intuitive: when comprehension is compromised, the child has less reliable access to the language input from which learning, conversation and teaching are built. It should prompt a careful search for the child's actual understanding, not an assumption that fluent repetition or a few familiar routines demonstrate comprehension.

GOOD TO REMEMBER

When a parent says, "He knows everything but does not speak," test that proposition gently. Ask the child to show understanding of unfamiliar instructions, relationships, sequence and implied meaning, using familiar language and low-pressure interaction. The answer often determines whether the formulation is expressive alone or includes comprehension.

Language disorder can affect academic work without being reducible to an academic diagnosis. Classroom tasks place heavy demands on understanding instruction, learning vocabulary, constructing explanations and following discourse. Socially, a child may appear inattentive, oppositional or immature because the conversational load has exceeded their comprehension. These are hypotheses to test, not labels to attach automatically. The evaluation of specific learning disorder is covered elsewhere in this chapter, while the wider assessment of attention and behaviour must preserve the possibility that communication difficulty is contributing to the observed behaviour.

24.3 Speech sound disorder: intelligibility is the functional anchor

Speech sound disorder is a persistent difficulty in producing speech sounds that reduces intelligibility or prevents effective verbal communication. It may reflect difficulty with phonological knowledge, articulatory coordination, or both. The diagnosis requires that the presentation is not better explained by a hearing, structural or neurological cause. This is why "mispronunciation" alone is an inadequate conclusion: one must decide whether the pattern is developmental variation, a primary speech sound difficulty, or a manifestation of another condition.

The clinical anchor is **speech intelligibility**. The question is not whether an adult can identify an occasional imperfect sound after listening carefully. The question is whether the child's usual speech can be understood sufficiently for ordinary communication with familiar and unfamiliar listeners. The functional impact may become conspicuous when the child is expected to answer in class, make needs known outside the family, participate in group play, or be understood over a telephone or audio-only interaction.

Speech development must be interpreted against developmental expectations. Overall speech is ordinarily intelligible by 3 years, whereas at 2 years only about 50% may be understandable; most

words are accurate by 5 years. These anchors prevent two opposite errors: pathologising expected immaturity and reassuring a child whose intelligibility has remained functionally limiting beyond the point at which ordinary maturation is a sufficient explanation.

about 7.4%	about 8-9%	about 5%	about 1.5-1.8:1
LANGUAGE DISORDER AT KINDERGARTEN ENTRY	SPEECH SOUND DISORDER IN YOUNG CHILDREN	SPEECH SOUND DISORDER, SCHOOL AGE	BOYS:GIRLS IN SPEECH SOUND DISORDER

Speech sound disorder is common in young children and becomes less frequent later in childhood. Boys are more likely than girls to be affected. The useful examination point is not to overinterpret the epidemiological figure, but to connect it to the clinical interview: a common presentation still requires a structured differential, and male predominance never makes the diagnosis automatic in a boy or implausible in a girl.

PITFALL

Do not equate a regional accent, home-language transfer, or an isolated unfamiliar sound with disorder. Evaluate the child's speech pattern in the languages and settings in which the child actually communicates, and focus on persistent functional intelligibility rather than an adult's preference for a particular pronunciation.

24.4 Childhood-onset fluency disorder: identify it, then keep the boundary

Childhood-onset fluency disorder is the fluency member of the communication-disorder group. It should be considered when the central difficulty is the flow and temporal organisation of speech rather than language formulation or sound production. Families may use the word "stammering" for many forms of hesitant speech, including a child searching for words, anxiety-linked inhibition, or a normal transient disfluency. The clinician must first establish what is actually occurring during speech and how the child responds to it.

The initial interview should attend to the child's own experience, avoidance, anticipation of speaking, and the contexts in which fluency changes. It should also ask whether the apparent disruption is better accounted for by a primary language difficulty, a motor or neurological condition, medication or substance exposure, a hearing problem, or a situational emotional state. These questions prevent a descriptive label from obscuring the relevant formulation.

This section deliberately does not reproduce the syndrome's features or management. Those belong to the dedicated discussion of stuttering elsewhere in this chapter. Here, the practical point is diagnostic placement: do not call a child's speech "language delay" when the language system is intact and the principal difficulty is fluent delivery; do not call it speech sound disorder when intelligibility is reduced by interruptions in flow rather than sound-pattern production.

TRAP **Do not use "speech delay" as a catch-all.** It collapses language, articulation and fluency into one label, conceals the actual impairment, and leads to an unhelpful referral question.

24.5 Social (pragmatic) communication disorder: language in relation to another mind

Social (pragmatic) communication disorder concerns persistent difficulty in the social use of verbal and nonverbal communication. The problem is not merely shyness, politeness, vocabulary size or grammatical correctness. It is the failure to deploy communication effectively for social purposes: to greet and share information, adjust expression to context, follow conversational and narrative conventions, and understand nonliteral or implied meaning. In this diagnostic construct, all of these pragmatic deficits are required.

Pragmatics are most visible in interaction. The child may give an answer without recognising what the listener needs to know, continue speaking without detecting that the partner is disengaged, take an idiom literally, or fail to repair a misunderstanding. A structured history should seek examples from home, school and peers. Clinic conversation is informative but can be falsely reassuring when the adult carries the conversational burden, supplies the topic, overlooks missed cues, or accepts answers that a peer would not understand.

The disorder begins in the developmental period, but a diagnosis is unusual before 4 years because sufficient speech and language must first be available to judge social use. Milder difficulties may become apparent only in early adolescence, when conversation becomes less scripted and social demands depend more heavily on inference, narrative, tact and flexible adaptation. This later recognition does not make the difficulty newly acquired; it can reveal a longstanding vulnerability exposed by a more complex social environment.

Classification systems describe this area differently. DSM retains a standalone diagnosis. ICD does not use a separate social-pragmatic disorder; it places a predominantly pragmatic profile within developmental language disorder. The distinction is administrative as well as conceptual, so the clinical formulation should describe the observed social-communication pattern rather than rely on the diagnostic label alone.

24.6 Differential diagnosis: use the discriminator, not a superficial resemblance

The essential differential for social-pragmatic communication difficulty is autism spectrum disorder. The discriminator is the presence or absence of **restricted and repetitive patterns** of behaviour, interests or activities. Social (pragmatic) communication disorder requires their absence; autism spectrum disorder requires their presence currently or by history. Similar social-communication symptoms do not settle the question. The history must actively look for the restricted or repetitive dimension rather than infer its absence because it was not volunteered in a brief interview. The wider assessment of autism is covered in the Intellectual disability and autism spectrum disorder notes.

Social anxiety disorder can also resemble social-pragmatic difficulty, but the developmental sequence is decisive. In social anxiety, effective social communication was present and is not used because anxiety inhibits its use. In social (pragmatic) communication disorder, effective social communication has not been established. The observed silence, avoidance or awkwardness may look similar; asking what the child could do before the anxiety emerged often clarifies whether the underlying skill was available.

CLINICAL QUESTION	LANGUAGE DISORDER	SPEECH SOUND DISORDER	SOCIAL-PRAGMATIC DISORDER
Primary difficulty	Learning or using language	Producing intelligible speech sounds	Using communication effectively with others
Useful observation	Understanding and formulation	Intelligibility in ordinary speech	Reciprocity, context and implied meaning
Misleading shortcut	"Quiet means expressive delay"	"Any mispronunciation is pathology"	"Awkward social communication equals autism"
Key corrective step	Assess receptive as well as expressive ability	Exclude hearing, structural and neurological explanations	Ask specifically about restricted and repetitive patterns

Hearing impairment, intellectual developmental disorder, neurological and structural conditions, and selective performance problems should be considered whenever they plausibly account for the communication profile. This does not imply that a communication disorder cannot coexist with another neurodevelopmental condition. It means the psychiatrist should state whether the communication difficulty is expected from the other condition, disproportionate to it, or independently impairing. Intellectual disability and autism require their own full assessment in the Intellectual disability and autism spectrum disorder notes.

24.7 Assessment, comorbidity and care planning

Assessment begins with the referral language, then moves from labels to observable functions. Elicit the developmental history of communication, languages used at home and school, hearing and medical history, family observations, school examples, peer functioning, and the child's own account of difficulty. Observe spontaneous communication and structured demands separately. Clarify what is understood, what is produced, what is intelligible, what happens to fluency, and whether the child can adapt communication to the listener and setting.

Communication disorders show male predominance and commonly coexist with other neurodevelopmental disorders and anxiety disorders. The associated neurodevelopmental conditions include autism spectrum disorder, ADHD, specific learning disorder and intellectual developmental disorder; ADHD is the most common psychiatric comorbidity. Comorbidity should broaden assessment, not erase the communication formulation. For example, inattention may make a child miss an instruction, but poor language comprehension may itself produce behaviour that resembles inattention. The clinician must establish which mechanism is operating in each setting.

IN INDIA

In multilingual practice, document the languages the child hears, understands and uses, and obtain school examples in the language of instruction. An apparent deficit may reflect a mismatch between the language sampled in clinic and the language in which the child is most competent. A communication disorder is identified by persistent functional difficulty, not by departure from the clinician's preferred language or accent.

Care planning should translate the formulation into a functional question. What communication barrier currently blocks participation: understanding instructions, being understood, entering peer interaction, or speaking without avoidance? The psychiatrist coordinates assessment of associated developmental, sensory, neurological and emotional concerns, explains the profile to caregivers and school, and ensures that communication goals are concrete and observable. The intervention plan belongs to the relevant communication and educational professionals, while psychiatric follow-up monitors participation, comorbidity, family burden and barriers to sustained engagement.

MNEMONIC

MAPS the communication problem

Meaning and comprehension, **A**rticulation and intelligibility, **P**ace and fluency, **S**ocial use. It is a bedside organising aid, not a diagnostic instrument.

Classify communication disorders by the function that is persistently impaired, then use development, functional impact and the differential to decide whether that impairment is primary.

25 · Stuttering (childhood-onset fluency disorder) features and management

Why it matters clinically. A child who stutters is often heard through the discomfort of listeners rather than through the child's own communicative experience. The task is not to reward a fluent performance or to make the child speak faster. It is to recognise a disturbance in fluency, establish its developmental course, identify the patterns that create struggle or avoidance, and arrange help that protects participation as well as speech.

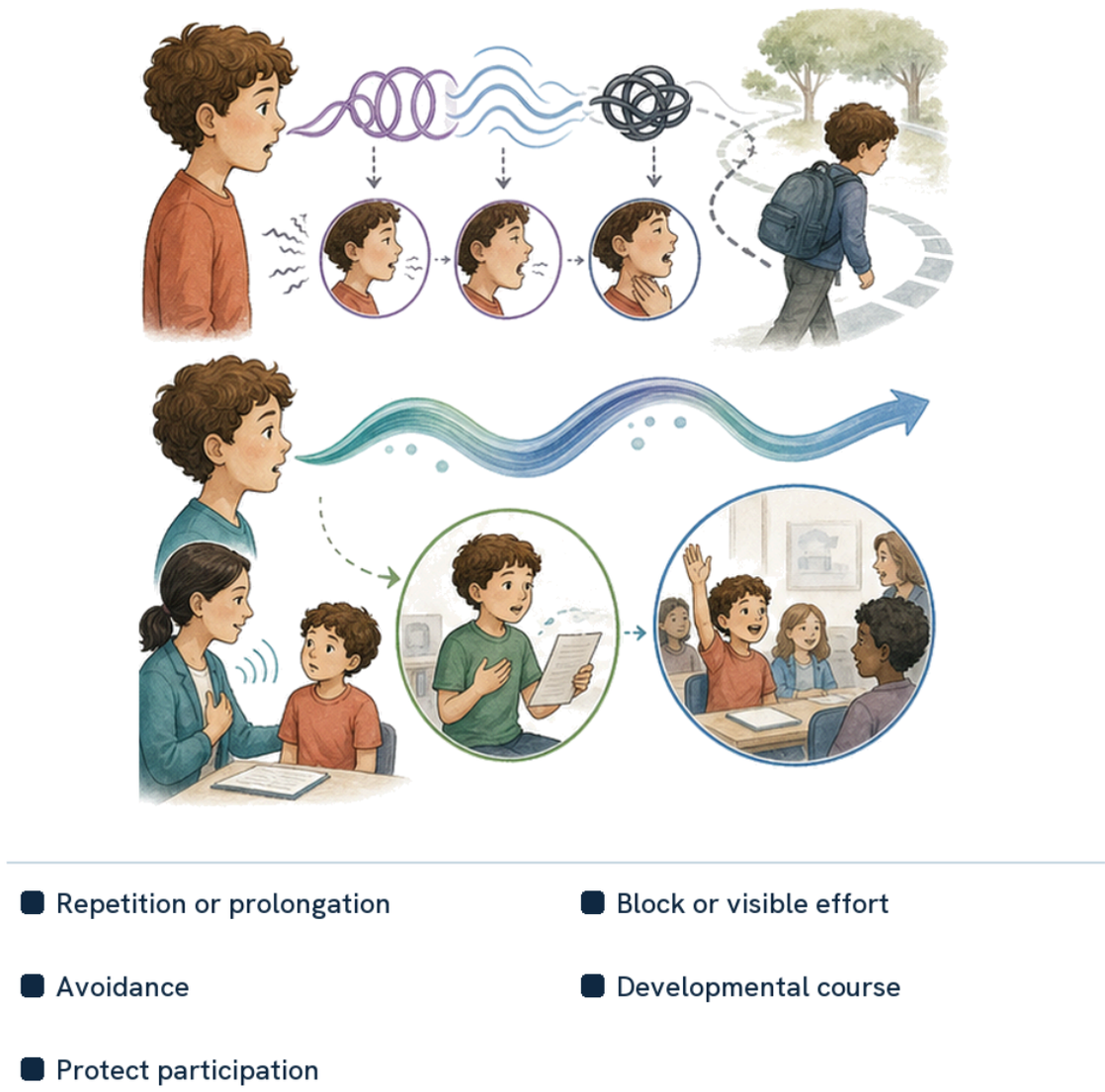


Fig 22.21 Childhood-onset fluency disorder is assessed through the form and developmental course of dysfluency, visible struggle, avoidance and its effect on participation. Management does not demand faster or perfect speech; it protects communication while arranging proportionate speech-language help.

Childhood-onset fluency disorder, commonly called stuttering, is a developmental disorder of speech fluency. It is coded **F80.81** in a diagnostic classification and **6A01.1** in the international classification. The marks are usually won by describing the speech phenomena accurately, distinguishing a transient developmental pattern from a persistent disorder or an acquired change, and offering a proportionate management plan rather than a reflex prescription.

25.1 What the clinician is hearing

Fluency is the ease and temporal flow with which speech is produced. In stuttering, the disruption is not merely an occasional hesitation. The child may repeat a sound or syllable, prolong a sound, break a word, stop in the middle of an intended utterance, substitute a less difficult route around a word, or force a word out with visible effort. A **block** may be audible, or it may be a silent arrest in which the child appears unable to initiate the intended sound. Whole-

word repetition can also occur, especially when it is brief and effortless, so its meaning depends on the pattern around it rather than on its presence alone.

The useful clinical distinction is between a speaker who is searching for language and a speaker who knows what is to be said but cannot release speech in the expected flow. The latter may show tightening of the face or body, a sudden change of word, reduced eye contact, or an attempt to finish the interaction before the feared word arrives. These are not theatrical additions to a speech problem. They are part of the child's adaptation to an experience of loss of control in communication.

SPEECH OBSERVATION	WHAT TO LISTEN OR LOOK FOR	CLINICAL INTERPRETATION
Repetition	Recurring sound or syllable repetition, especially when effortful	Supports a fluency disturbance when embedded in a broader pattern of dysfluency
Prolongation	A sound carried beyond its usual duration	Suggests difficulty maintaining forward movement of speech
Block	Audible or silent interruption before the intended word emerges	May be missed if the interview attends only to what is spoken
Circumlocution	A word is avoided and the sentence is rerouted	May reveal anticipation and avoidance rather than a vocabulary deficit
Physical effort	Excess tension during word production	Signals struggle and a risk that the speech difficulty is shaping behaviour

The interview should therefore allow enough time for an utterance to emerge. Interrupting, supplying the word, or converting the encounter into a test of speed changes the very phenomenon being assessed. Observe spontaneous conversation and, where feasible, speech with a familiar adult and during a lower-pressure activity. The aim is a description of form, effort, anticipation and effect on communication, not a verdict based on a brief difficult sentence.

25.2 Clinical pattern and situational variation

Stuttering is characteristically variable. Dysfluency may worsen when there is **pressure to communicate** and may be absent while the child reads aloud, sings, or speaks to a pet or an inanimate object. This variation is diagnostically useful because it demonstrates that fluent speech is possible in some conditions. It must not be used to accuse the child of choosing the symptom. The speaking demand has changed: urgency, audience, self-monitoring and fear of interruption may all change at once.

Associated **motor movements**, such as blinking, facial tremor or a head movement, can occur when the child struggles to speak. They should be described in their temporal relation to the dysfluency. A movement that arrives as the child attempts to push through a block has a different clinical meaning from a recurrent vocal or motor tic occurring independently of speech. Stress and anxiety may exacerbate stuttering, but the clinician should avoid the lazy causal narrative

that makes emotional distress the origin of the fluency disorder. Distress can be a consequence of difficult speaking situations and can then maintain avoidance.

RULE **Situational improvement is a clue to speaking demand, not evidence of conscious control.** Ask what the setting changes for the child: time pressure, listener attention, anticipation, fear of interruption, or the need to perform.

In practice, parents may report that the child is fluent at home yet becomes markedly dysfluent when required to answer in class, speak to an unfamiliar adult, or respond before others. Conversely, a parent may notice a change only when the household becomes alert to it. Both reports deserve respect, but neither substitutes for a careful chronology and direct observation. The clinician's language matters here: calling the child "nervous" risks moving attention from communication demands to character.

GOOD TO REMEMBER

Ask the child, in developmentally appropriate language, what happens just before a difficult word and what they do when it happens. This often reveals avoidance, anticipation and the social cost of dysfluency more clearly than an adult observer can.

25.3 Course, frequency and family context

Onset is usually in the preschool period, typically at **2 to 7 years**; by age **6**, onset has occurred in **80 to 90%** of affected people. This developmental timing is why a chronological history is indispensable. Ask when dysfluency was first noticed, whether the onset was gradual or abrupt, whether it has waxed and waned, and how the child and family responded. A late change in fluency requires a different diagnostic frame from a childhood developmental presentation.

about 1%	4 to 5%	about 3 : 1	65 to 85%
CURRENT PREVALENCE IN YOUNGER CHILDREN	EVER AFFECTED IN THE POPULATION	MALE PREDOMINANCE MAY REACH	CHILDREN WHO RECOVER

Current prevalence and the proportion ever affected should not be treated as competing answers. A higher cumulative figure alongside a lower current figure is compatible with substantial natural recovery. For prognosis, severity at age 8 helps distinguish a course that is more likely to recover from one that is more likely to persist. That does not justify either fatalism or reassurance without follow-up. It tells the clinician to observe severity and functional adaptation over time rather than to rely on the first presentation alone.

Stuttering is more frequent in males, with male predominance reported as high as the ratio shown above. Family history is relevant: risk among first-degree biological relatives is more than 3 times that of the general population. A family history should be elicited without implying parental fault. It helps with formulation and vigilance, while the child's current speech pattern and experience remain the basis for clinical action.

Prognostic discussion must be honest and humane. Recovery is common, yet a child who is currently struggling does not experience the problem as a population statistic. The immediate

question is whether dysfluency is narrowing participation, provoking effort, or teaching the child to avoid being heard. This is where apparently reassuring epidemiology can be clinically unhelpful if it is used to minimise a child's present impairment.

25.4 Assessment and differential diagnosis

Assessment begins with a narrative rather than a checklist alone. Establish the onset and trajectory, the observable forms of dysfluency, situations of relative fluency, visible effort, avoidance, the child's own appraisal, and effects at home and school. Invite a parent to describe what they do when the child becomes stuck. The answer often identifies an interactional loop: hurried prompting, sentence completion, repeated correction, or a well-meant demand to begin again. These are modifiable features of the environment, not evidence that the family caused the disorder.

- Clarify whether dysfluency is effortless or accompanied by struggle and physical tension.
- Ask whether the child changes words, remains silent, or withdraws from speaking situations.
- Compare familiar, low-pressure and performance-like situations without treating any setting as a test of sincerity.
- Obtain the school account of participation, oral answering and peer responses.
- Ask about a family history of fluency difficulties in a neutral, non-blaming manner.

Normal childhood dysfluency may include whole-word or phrase repetitions and interjections. The contrast is not made by counting every hesitation. Persistent sound or syllable repetitions, prolongations, silent blocks and visible struggle are more concerning than a relaxed, transient disruption of speech flow. The examination answer should show this distinction clearly: normal dysfluency is a possibility to consider, not a label with which to dismiss a child who is working hard to speak.

Vocal tics can be confused with speech dysfluency when they interrupt communication, but their phenomenology and temporal relationship to intended speech differ. Tourette's disorder and other tic disorders are addressed in the Child behavioural, emotional and other disorders notes. The present assessment should simply determine whether the sound is a disruption of intended verbal output or a recurrent vocal phenomenon with its own pattern.

Adult-onset dysfluency is another important distinction. A new fluency disturbance later in life, particularly in the setting of a neurological insult or medical cause, is not a childhood neurodevelopmental disorder and needs an acquired-disorder evaluation. Do not force a developmental label onto a history that does not fit its course.

TRAP **Do not diagnose from a repetition alone.** A fluent-speech disorder is recognised from the form of dysfluency, effort, persistence, context and effect on communication. Counting a single conversational habit without this frame creates false certainty.

PITFALL

A silent block may be mistaken for refusal, shyness or lack of knowledge because the clinician hears no repeated sound. Watching the attempt to speak, and asking what happened in that pause, prevents a punitive or dismissive response.

25.5 Formulation and the decision to observe or intervene

A useful formulation integrates the speech pattern with its consequences. Describe the predominant dysfluencies, the degree of struggle, triggers that increase speaking demand, avoidance, the child's emotional meaning of the problem, family responses and school impact. This formulation is more useful than a yes-or-no statement that the child either has or does not have stuttering. It tells the treating team what must change: speech motor pattern, anticipatory fear, social participation, listener behaviour, or some combination of these.

Not every preschool dysfluency requires immediate formal treatment. In a preschool child without struggle or self-consciousness, **watchful waiting** with review in about 6 months can be appropriate before speech therapy begins. The point of observation is active surveillance, not abandonment. Parents need a return plan and a clear explanation of what changes should prompt earlier reassessment: increasing visible effort, avoidance, distress, or reduced participation.

Conversely, the presence of struggle or self-consciousness changes the clinical priority. When a child begins to fear a word, to reroute sentences, or to retreat from conversation, waiting can allow the secondary problem to become more entrenched. The decision to refer is therefore based on the child's trajectory and adaptation, not on the clinician's wish to eliminate every imperfect utterance. The child should not be turned into a project for adults who are more uncomfortable with pauses than the child is.

IN INDIA

Explain the referral in functional terms: the aim is to improve ease of communication and participation, not to test intelligence or assign blame. Where specialist speech services are not immediately accessible, the psychiatrist can still prevent harm by coaching the family and school to slow the interaction, allow the child to finish, and avoid public correction while arranging appropriate assessment.

25.6 Speech intervention and psychological support

Speech therapy is the mainstay of management. Its value lies in skilled assessment and in making the work fit the child's actual pattern rather than applying a generic instruction to "speak slowly". Broad therapeutic orientations are useful to understand. **Fluency-shaping** approaches work towards producing more fluent speech. **Stuttering-modification** approaches work towards speaking with less tension, avoidance and interruption even when stuttering occurs. In practice, the clinical aim is not perfection; it is a more manageable, less feared way of communicating.

The psychiatrist's role is collaborative. Ensure that the speech intervention is linked to the child's lived goals, not merely to a listener's judgement of smoothness. Explore embarrassment, anger, anticipatory anxiety, bullying or withdrawal when these are present, and offer counselling for

self-concept effects. Psychological work can reduce the secondary burden of a communication difficulty and help the child re-enter avoided situations. It should not be presented as a substitute cure for the speech disturbance itself.

Psychotherapy alone is not effective for stuttering itself, and anxiolytic or tranquilising medication is not effective for stuttering itself. This is an important corrective to a common psychiatric reflex: anxiety around speech does not make the primary disorder an anxiety disorder. Treat clinically significant emotional consequences in their own right, while maintaining speech-focused intervention as the central treatment for fluency.

Goals should be concrete but person-centred. They may concern initiating a conversation, completing an answer without being rushed, tolerating a moment of dysfluency without abandoning the message, or participating in school despite anticipated difficulty. A good plan makes room for communication agency. It does not tell a child that being an acceptable speaker depends on sounding like everyone else.

25.7 Working with family and school

Families often arrive with a repertoire of intuitive but unhelpful instructions: "take a breath", "think before you speak", "start again", "slow down", or "say it properly". Some children may find a particular cue useful in a therapeutic context, but repetitive correction from every listener can increase self-monitoring and turn speech into a public examination. The more reliable family stance is calm attention to the message, time to finish, and permission not to repair every dysfluency.

School is a treatment setting because it is where speaking is repeatedly evaluated in front of others. The clinician can ask that staff do not complete the child's words, do not demand a restart after dysfluency, and do not use oral performance as a moral test of effort. The child should be offered a predictable, respectful way to participate. This is not an exemption from learning; it is removal of a communication barrier that may otherwise obscure what the child knows.

Parents may need help separating their worry from the child's needs. Persistent watching, recording every disruption, or discussing speech in front of the child can turn an intermittent difficulty into a family preoccupation. Conversely, pretending not to notice when the child is distressed can feel invalidating. The balanced response is simple: notice the effort, listen to the content, make time available, and invite the child to say what kind of help is welcome.

25.8 Review, communication and examination synthesis

Review should return to the same domains used in the initial formulation: speech pattern, effort, avoidance, participation, self-appraisal, listener responses and school experience. Apparent fluency in a brief clinic conversation is not enough to declare success if the child is still avoiding a classroom answer or avoiding particular words. Equally, occasional dysfluency after treatment is not treatment failure if struggle, interruption and fear have diminished and participation has expanded.

For the written answer, lead with the developmental fluency disorder and its characteristic dysfluencies. Then show that age of onset, course, familial risk and situational variation inform formulation. Distinguish normal childhood dysfluency, vocal tics and acquired later-onset dysfluency. Finish with proportionate management: observe selected preschool presentations, refer for speech therapy when indicated, address secondary psychological and social effects, and change the family and school interaction around speech.

> Stuttering management is speech-focused, participation-focused and shame-reducing: assess struggle and avoidance, use speech therapy as the mainstay, and treat the child's communication world as carefully as the dysfluency.

26 · Developmental coordination disorder

Why it matters clinically. A child who is slow with dressing, avoids ball games, produces laborious written work, or repeatedly drops objects can be misunderstood as careless, oppositional, inattentive, or simply insufficiently practised. Developmental coordination disorder is the diagnostic framework for a developmental difficulty in motor coordination when the difficulty is demonstrable, functionally important, early in origin, and not better accounted for by another condition. The task for the psychiatrist is therefore not to label clumsiness. It is to decide whether a recognisable developmental motor difficulty is impairing the child's ordinary participation, while protecting the child from an inappropriate psychiatric explanation for a neurological or sensory disorder.

The diagnostic work is often deceptively demanding because the referral language is usually an activity complaint rather than a motor formulation. A parent may describe untidiness, avoidance, slow self-care, or an inability to keep up with peers. A teacher may describe poor written output, difficulty using classroom materials, or reluctance during play. These observations become clinically useful only when translated into the motor task, the context in which it occurs, the opportunity the child has had to learn it, and the consequence for participation. That sequence is also a good answer structure: establish the motor deficit, establish impairment, establish developmental onset, and exclude better explanations.

26.1 Core clinical construct

The centre of the disorder is **coordinated motor-skill acquisition and execution** that is substantially below what would be expected for the child's chronological age and **opportunity to learn**. Both parts of this formulation matter. A child may know what is wanted, be motivated to do it, and still have trouble converting the intention into a smooth, efficient movement. Conversely, a child who has not had a reasonable chance to acquire a particular skill should not be judged against an assumed competence in that skill.

The clinical picture can involve **fine and gross motor skills**. Fine-motor difficulty may be evident in use of scissors, cutlery, or handwriting, or other tasks requiring control and sequencing. Gross-motor difficulty may be evident while catching, cycling, or participating in sports. Dropping objects and bumping into things convey the everyday meaning of clumsiness,

whereas slowness and inaccuracy show why a child may complete a task only with disproportionate effort. These are examples that make the construct visible; none is diagnostic in isolation.

It is useful to ask what happens when the child repeats the task. The relevant concern is not a single awkward performance in a strange clinic room. It is a consistent pattern across familiar activities, described by people who see the child in ordinary settings. A careful account also distinguishes quality from speed. Some children can eventually complete a task but do so so slowly that its practical use is compromised; others work quickly but inaccurately; still others have both difficulties. The history should preserve this distinction, because it explains the real burden on the child better than the global word "clumsy".

RULE **Diagnose a developmental motor disorder from a pattern of impaired coordination and its consequences, not from an isolated complaint about handwriting or play.** The clinician has to show that the motor difficulty is developmental, materially below expectation after opportunity to learn is considered, and meaningful in the child's life.

26.2 Functional impairment gives the diagnosis clinical weight

Criterion B is not an administrative add-on. It requires **persistent functional interference**: the motor deficit must significantly interfere with age-appropriate activities of daily living and affect participation in school productivity, prevocational or vocational activity, leisure, play, or all of these. The key word is participation. The psychiatrist should ask what the child cannot do independently, efficiently, or reliably enough to take part on the same terms as expected in that setting.

Functional questions convert a vague complaint into an observable formulation. In self-care, ask about tasks that require manipulating clothing or utensils, and whether assistance, extra time, or avoidance is needed. In school, clarify whether the difficulty lies in producing written work, handling materials, copying, or sustaining output over the routine demands of the class. In leisure and play, ask whether the child chooses not to join, falls behind because of motor inefficiency, or is excluded by peers. This approach separates impairment from a parent's understandable worry about performance and also identifies the situations in which support should be designed.

"Persistent" means that the difficulty is not inferred from a transient fluctuation in confidence, a recent injury, or a task that has only just been introduced. Obtain examples over time and across settings, then look for convergence between the child's account, caregiver observations, and school information. A child may minimise embarrassment, while adults may normalise it as a personality trait. The clinician's job is to make the functional cost explicit without converting every difference in skill into pathology.

- Identify the specific motor task that breaks down.
- Ask what the child does instead: avoids it, accepts help, takes excessive time, or persists inaccurately.
- Establish the effect on self-care, school work, play, or leisure.

- Ask whether the difficulty is present in more than one ordinary context.
- Record the child's own experience of frustration, shame, or exclusion without assuming that these feelings constitute the disorder.

GOOD TO REMEMBER

The most useful formulation names an activity rather than merely writing "poor coordination". It links the motor problem to a concrete participation cost, which then gives the family, school, and rehabilitation professionals a shared target.

26.3 Developmental timing and diagnostic caution in young children

The required **early developmental onset** prevents an acquired movement problem from being folded into this diagnosis. The history should seek the earliest recognisable pattern, not merely the age at which a teacher or family first became worried. Delayed motor milestones may be the first sign when intellectual disability is absent, but their presence should lead to a developmental history and examination rather than a reflex diagnosis. Apparent onset is often shaped by the changing demands placed on the child: a difficulty may become obvious only when the child is expected to manage more complex self-care, classroom work, or play.

There is particular value in diagnostic humility in early childhood. Normal variation in motor development is broad at that stage, and performance may be highly dependent on familiarity, attention, confidence, and the demands of the setting. A formal diagnosis **under age 5** is initiated only when impairment is severe; it is usually confirmed with a second motor assessment at least 3 months apart. This is not a reason to dismiss concern. It is a reason to document the observed difficulty carefully, address present functional needs, and revisit the formulation as the developmental picture becomes clearer.

In practice, chronological detail strengthens the history. Ask whether the child has always needed more help with motor tasks, whether there has been loss of a previously acquired ability, and whether the pattern is stable or progressive. Loss or progression changes the clinical question and should prompt reconsideration of the exclusionary assessment. The aim is neither premature certainty nor passive waiting. It is a defensible account of what is known now and what needs reassessment.

IN INDIA

School concerns may reach the clinic through a complaint of slow written work, poor neatness, or avoidance of games rather than through a motor-development referral. Ask the family and school to describe the actual task, the assistance already provided, and the child's opportunity to practise it. This avoids mistaking limited access or unfamiliarity for a developmental motor disorder.

26.4 Exclusion is active clinical work

Criterion D requires that the coordination deficits are not better explained by intellectual developmental disorder or visual impairment, and are not attributable to a neurological condition affecting movement. The relevant **neurological and sensory exclusion** is therefore not a

sentence added after the history. It is the part of the assessment that establishes whether the observed motor difficulty belongs within a developmental coordination formulation at all.

Take a focused account of vision, neurological symptoms, developmental pattern, and change over time, then examine the child sufficiently to decide whether a neurological assessment is needed. Significant ataxia, hypotonia, or asymmetry warrant neurological assessment. A child with such signs should not be reassured by the convenience of a behavioural label. Similarly, when visual impairment or intellectual developmental disorder is present, the question is whether these better explain the motor difficulty, not whether the child also appears awkward. The diagnosis asks for a judgement about explanation, not a checklist of coexisting labels.

Use the examination to test the coherence of the history, not to stage a performance test in front of an anxious child. Observe how the child approaches a task, responds to instruction, corrects an error, and manages the motor demands of the consultation. Then compare that observation with the caregiver's and teacher's accounts of familiar activities. An unexpectedly poor clinic performance may reflect unfamiliarity or distress; an apparently fluent clinic performance does not erase a well-described functional difficulty at home or school. What matters is a reasoned synthesis of longitudinal evidence, direct observation, and the exclusionary examination.

The wording of the final assessment should show this reasoning. State the activity-level evidence, the functional effect, the developmental history, and the findings that make a competing explanation less likely. If an exclusion remains unresolved, record the diagnostic uncertainty and arrange the appropriate assessment rather than treating the provisional label as settled. This is especially important when the presenting complaint is narrow but the examination suggests a wider movement problem.

DIAGNOSTIC QUESTION	WHAT THE CLINICIAN ESTABLISHES	WHY IT CHANGES THE FORMULATION
Motor skill	Motor coordination is materially below expectation after opportunity to learn is considered.	Moves the history beyond a non-specific complaint.
Daily participation	Functional interference is persistent and affects age-appropriate everyday activity or productivity.	Distinguishes a clinically important disorder from an isolated weak skill.
Developmental history	The developmental pattern begins early.	Guards against misclassifying an acquired problem.
Alternative explanation	Alternative explanations have been actively considered.	Protects against diagnostic overshadowing.

TRAP **Do not call every child with poor handwriting "developmental coordination disorder".** Handwriting may be the presenting activity, but the diagnosis requires the full motor, functional, developmental, and exclusionary formulation. A narrow school complaint is a starting point for assessment, not a conclusion.

PITFALL

Do not allow an ADHD label to terminate the motor assessment. Inattention can make performance look disorganised, yet a history of persistent coordination difficulty with functional consequences still needs its own formulation and exclusions.

26.5 Epidemiology and clinically relevant co-occurrence

Among school-age children, the reported prevalence is about **5 to 6%**. This anchors the disorder as a familiar clinical possibility rather than a rare explanation for school difficulty. The estimate is documented across diverse regions, but prevalence should not be used as a shortcut to diagnosis in an individual child. The child still needs the functional and exclusionary work described above. A severe presentation has been reported in about **1.8%** of children at age 7, reminding the clinician that severity is expressed in the extent of everyday burden rather than in the vividness of a single symptom.

Recent population studies report a male:female ratio of about **2 : 1**. This is useful background, not a diagnostic rule. Sex ratio cannot establish or exclude the disorder in a particular child and should never displace the direct account of motor function. Older clinical samples reported higher ratios, which further cautions against making broad inferences from a child's sex.

DCD and ADHD frequently meet in clinical practice. DCD co-occurs with ADHD in about **30 to 50%** of cases. Communication disorders and specific learning disorders may also be comorbid, and inattentive symptoms are most associated with motor problems. The practical implication is not that all difficulties belong to one diagnosis. It is that each domain should be assessed for its independent functional contribution. ADHD is addressed elsewhere in this chapter; communication and learning difficulties should be named and evaluated on their own merits rather than being treated as proof of DCD.

A	B	C	D
MOTOR SKILL	FUNCTIONAL IMPACT	DEVELOPMENTAL ONSET	ALTERNATIVE EXPLANATIONS

26.6 Classification and coding

Cross-system language should be handled precisely. In ICD-11, developmental motor coordination disorder is coded 6A04. The older ICD-10 formulation required an IQ of at least 70 and motor performance at least 2 SD below the mean on a standardised test. DSM-5-TR does not set those ICD-10 numerical thresholds. A candidate who quotes a threshold without naming the classification system creates a false impression of equivalence.

This distinction is more than a coding footnote. Classification language directs the clinician towards different forms of documentation. A descriptive formulation should still state the observed motor difficulty, its functional consequences, developmental timing, and the basis on which alternatives were considered. Coding follows that reasoning; it does not replace it. When reports from different settings use different terminology, make the clinical formulation readable before resolving the administrative label.

RULE **Never transfer a numerical threshold from one classification system into another.** State the system first, then the criterion it actually uses. This preserves diagnostic accuracy and prevents a coding convention from being mistaken for a universal clinical rule.

26.7 From diagnosis to a useful care formulation

A diagnosis is clinically useful only when it clarifies what must change in the child's environment and support plan. Start with the activity that is actually impaired, the setting in which the impairment is most costly, the help already available, and the child's experience of repeated failure. The resulting plan should be coordinated with caregivers, school, and relevant rehabilitation professionals, with goals framed around participation rather than around an abstract wish to make the child less clumsy. Documentation should make it possible to review whether the assistance is reducing the real functional burden.

Psychiatric care also includes protecting the child's self-understanding. Recurrent failure in visible tasks can invite criticism from adults and peers, while the child may respond with avoidance, irritability, or apparent disinterest. These responses require empathic enquiry, but they should not be used to explain away the motor difficulty. Conversely, emotional distress should be assessed on its own terms and not assumed to follow automatically from DCD. A formulation that preserves both the motor problem and the child's psychological experience is more likely to be accurate and humane.

When the diagnostic picture is complex, the broader assessment and service framework is set out in the Child psychiatry: assessment, treatment, services and protection notes. Developmental expectations and milestone interpretation are addressed in the Normal child development and milestones notes. Intellectual disability, autism, and the relevant diagnostic discriminations are addressed in the Intellectual disability and autism spectrum disorder notes. These cross-references prevent a motor formulation from becoming a substitute for a comprehensive developmental assessment.

MNEMONIC

SKILL

Skill deficit, **K**nown functional consequence, **I**nitial developmental onset, **L**ook for better explanations, **L**ink supports to participation. Use it as a sequence for organising the history and examination, not as a replacement for them.

Developmental coordination disorder requires a developmental motor coordination deficit, persistent functional impact, early onset, and exclusion of better explanations.

27 · Stereotypic movement disorder

Why it matters clinically. Repetitive movements are common reasons for referral, but the psychiatric task is not to label every unusual movement as a disorder. The useful distinction is between a pattern that is transient or contained and a pattern whose form, impact, associated

injury, and developmental context demand a diagnostic formulation. **Stereotypic movement disorder** is the diagnosis used when repetitive motor behaviour is apparently driven, non-functional, and often rhythmic. It sits at the junction of developmental psychiatry, behavioural observation, neurological differential diagnosis, and safeguarding. A good answer therefore describes the movement before naming the diagnosis.

The examination value of the topic lies in discrimination. A candidate should be able to recognise a fixed rhythmic movement, determine whether it is impairing or injurious, and distinguish it from tics and compulsions without turning a movement description into a diagnosis by reflex. The same approach matters in practice: the movement may be the most visible part of a broader developmental or medical presentation, while the immediate clinical priority may be the harm it causes or the distress it signals.

27.1 The clinical phenomenon

A stereotypy is best approached as a movement pattern with a recognisable form. It is repetitive, seemingly driven and **non-functional motor behaviour**, often with a rhythmic quality. The term “purposeless” can be useful descriptively, but it should not be mistaken for an accusation that the child is choosing to misbehave. A movement can look non-functional to the observer and still have a subjective regulatory role for the child, for example by easing an aversive internal state. Apparent lack of ordinary purpose does not establish volition, and apparent relief does not turn the movement into a preventive ritual.

The visible repertoire is broad. It may include hand shaking, waving or flapping; body rocking; **head banging**; mouthing objects; self-biting; skin picking; or hitting the body. Describing the exact topography in the history is more informative than recording only “abnormal movements.” Ask what body part moves, whether the sequence is recognisably the same on different occasions, whether it is rhythmic, what precedes it, what interrupts it, and what follows it. This preserves the phenomenology that later permits a defensible differential diagnosis.

There is an important conceptual boundary here. Stereotypic movements are defined by their patterned repetition and relative simplicity, not by their dramatic appearance. A striking movement can be benign in context, while a small repetitive act can deserve urgent attention if it causes injury or derails ordinary activity. The assessment should therefore move from description to consequence rather than allowing the observer’s discomfort with the movement to determine severity.

RULE **Name the movement before naming the disorder.** A precise account of rhythm, form, context, interruption and consequence is the clinical evidence from which the diagnosis follows.

27.2 When the behaviour becomes a disorder

The diagnosis requires more than a movement that is repetitive. The behaviour must produce **interference with social, academic or other activities**, or it may result in self-injury. This threshold redirects attention from oddness to burden. Interference may arise because the movement repeatedly interrupts participation, draws the child out of a task, limits access to

ordinary settings, or creates conflict around the behaviour. It should be documented in concrete functional terms rather than inferred merely because an adult regards the movement as inappropriate.

The safety question comes early. Self-injury changes the urgency and content of the assessment. Clarify the tissue damage or other harm, the circumstances in which it occurs, the ability of caregivers to interrupt it safely, and the immediate environmental risks. The movement itself may be the target of clinical attention, but the formulation must also ask what makes the child vulnerable at the time it occurs: demand, frustration, arousal, sensory context, separation, boredom, discomfort, or an unrecognised medical problem. These are hypotheses to explore, not assumptions to impose.

Onset belongs in the **early developmental period**. This makes developmental history central, not ornamental. Establish when caregivers first noticed the pattern, whether the movement has retained a similar form, and how it sits alongside the child's broader developmental trajectory. Current diagnostic framing does not require the clinician to prove that the movement is intentional. It also does not impose a fixed minimum duration before the movement can be considered diagnostically. These changes matter because an insistence on demonstrated intent or arbitrary waiting can delay attention to a child whose movements are already harmful or disabling.

- Record the movement in plain observable language before using diagnostic terminology.
- Establish functional impact and injury directly rather than treating either as incidental.
- Place the onset and course within developmental history.

> **GOOD TO REMEMBER**
>
> Caregivers may report that the child "does it when upset" or "does it when excited." Treat this as useful context, not as a substitute for describing the movement itself. The same trigger can accompany different movement phenomena, whereas the form and purpose of the behaviour drive the differential.

27.3 Classification and formulation

Classification should support, rather than replace, clinical description. In DSM terminology, stereotypic movement disorder is coded **F98.4**. The diagnosis is specified as with or without self-injurious behaviour. In ICD terminology, the parent code is **6A06**, with further coding that records the self-injury status. The coding distinction is clinically meaningful because self-injury signals a different risk burden and makes the immediate consequences of the behaviour explicit in the record.

The formulation should also state whether the stereotypy is associated with a known genetic or medical condition, a neurodevelopmental disorder, or an environmental factor. This does not reduce the movement to an automatic by-product of an associated condition. Instead, it forces the clinician to decide whether the repetitive behaviour is clinically important in its own right and what context changes its interpretation. In a child with developmental difficulties, for

example, the question is not simply whether stereotypies are "expected," but whether this particular behaviour is causing injury, functional restriction, or caregiver strain.

The specifier is especially relevant where repetitive self-injury becomes a focus of treatment in the context of intellectual disability. It permits the clinical record to represent the behaviour without assuming that intellectual disability alone explains the current problem. Intellectual disability and autism spectrum disorder should be understood through *the Intellectual disability and autism spectrum disorder notes*; those conditions are named here only because they can shape the setting in which stereotypies are seen.

Rhythmic pattern	Early development	Functional impact	Self-injury
CORE DESCRIPTION	EXPECTED ONSET FRAME	DIAGNOSTIC THRESHOLD	ESSENTIAL SPECIFIER

27.4 Developmental context and frequency

Developmental context prevents overdiagnosis. Rhythmic activity may occur in children without disabilities and recede as more complex functional behaviours are mastered. Available data indicate that **about 80%** of children show rhythmic activities that disappear by age 4. Repetitive body rocking is reported in about 20% of this group. These observations do not make all rhythmic movement reassuring; rather, they explain why diagnosis depends on impairment, injury, persistence in a clinically concerning form, and context rather than simple presence of a movement.

Head banging illustrates the same point. Among children without disabilities, the reported frequency is **3 to 15%**; it is reported in about three times as many boys as girls. It commonly emerges between 5 and 11 months, and only about 5% persist beyond age 3. The lesson is not to reassure indiscriminately. A movement that is developmentally familiar may still warrant a full assessment when it causes harm or interferes with ordinary life.

Conversely, stereotypies are particularly salient in people with intellectual disability. They occur in about two-thirds of institutionalised individuals with intellectual disability and in about 20% of those with severe intellectual disability. Self-injurious behaviour is reported from **about 2 to 3%** among community children and adolescents to about 10 to 15% among adults with severe or profound intellectual disability in residential care. These figures cannot predict risk for an individual child. Their clinical value is to make self-injury an active enquiry, especially where communication limitations make pain, distress, or environmental mismatch hard to express directly.

IN INDIA

Children may reach assessment through paediatrics, a school concern, a disability service, or a child mental-health clinic. Whichever route brings the family, the record should preserve the observable movement, injury, functional consequences, developmental context, and family account. This makes later communication across services clearer and avoids a vague label following the child without the phenomenology that justifies it.

27.5 Associations that change the clinical question

Stereotypies and self-injury can feature in **Lesch-Nyhan, Rett, Fragile X, Cornelia de Lange, Smith-Magenis and Cri-du-Chat syndromes**. Stereotypies are also common in blindness and autism spectrum disorder. These associations should prompt a broader formulation, not a shortcut to genetic attribution. The movement alone neither establishes an associated condition nor explains it. Ask whether there are features in the history or examination that make a developmental, genetic, sensory, medical, or neurological context plausible, and pursue that context through appropriate multidisciplinary assessment.

The distinction between association and explanation is clinically protective. Attributing every self-injurious act to a known developmental diagnosis can obscure pain, environmental stress, or another cause requiring attention. The reverse error is to investigate endlessly while failing to address the injury and daily interference already evident. The best formulation keeps the current behaviour and its possible contributors visible together.

Caregivers often need language that avoids blame. Explain that the assessment is trying to understand the pattern and its consequences, not to decide whether the child is "naughty" or whether the family has caused it. This improves the quality of observation supplied by families and helps clinicians obtain reports that separate a repetitive movement from the emotions surrounding it.

MNEMONIC

RIF: Rhythm, Impact, Framework

Use this brief spine when observing a repetitive movement: define its **R**hythm and form, establish its functional **I**mpact and injury, then place it in its developmental and clinical **F**ramework.

27.6 Assessment: from observation to formulation

Assessment begins with a movement description and expands only as the formulation requires. Obtain an account from the people who have seen the child in ordinary settings, then clarify the setting, antecedents, consequences, and attempts to interrupt the behaviour. The clinician should distinguish an observed fact from an interpretation: "repeatedly struck the side of the head in a similar rhythm during waiting" is a useful observation; "attention-seeking" is a hypothesis that requires evidence.

Direct observation is valuable, but absence of the movement during a brief consultation does not invalidate a carefully elicited history. Ask what the movement looks like at its worst, whether it occurs in more than one setting, what adults do when it appears, and whether those responses alter the sequence. Enquire separately about injury, pain, sleep, feeding, sensory difficulties, medication and substance exposure, and neurological or medical symptoms, because the diagnosis must not be made when another explanation better accounts for the movement.

- Describe form, rhythm, complexity, and fixedness of the movement.
- Map the setting, the child's state, functional interference, and self-injury.

- Review developmental, medical, neurological, medication, substance, and collateral context.

This assessment style is deliberately cautious. It avoids treating a family's account as either unquestionable fact or irrelevant anecdote. It also avoids a false choice between "behavioural" and "medical" explanations. A good formulation can identify a stereotyped pattern, retain uncertainty about its drivers, and still make a clear decision about current risk and functional need.

PITFALL

Do not record "self-injury" as if it explains itself. It is a consequence that demands a description of the act, its severity, the context in which it occurs, and possible contributors. Collapsing these questions into a single label makes risk assessment and later review less reliable.

27.7 Differential diagnosis: tics and compulsions

The most tested discrimination is from tics. **Stereotypies** are more likely to be rhythmic, repetitive, simple, fixed, and present from earlier in development. **Tics** are not rhythmic, carry an involuntary quality, and can be suppressed only for limited periods. This is a comparison of movement phenomenology, not a request for the child to provide a sophisticated account of inner experience. Observe what the movement does over time and ask caregivers whether its form shifts, whether it has a recognisable rhythm, and what happens when it is interrupted. Tics and Tourette syndrome are addressed in the Child behavioural, emotional and other disorders notes.

The other essential differential is from obsessive-compulsive behaviour. **Compulsions** are more complex and ritualised, usually non-rhythmic, and are performed to prevent a feared event or relieve a sense of incompletion. Stereotypies are simpler and rhythmic, and they are not preventive acts. The distinction is especially important when a repetitive action is described using words such as "has to." That phrase can reflect an adult's impression of persistence rather than the child's experience of a feared consequence or incompleteness.

FEATURE	STEREOTYPY	TIC	COMPULSION
Pattern	Rhythmic and fixed	Not rhythmic	Usually not rhythmic
Complexity	Relatively simple	Involuntary quality	Complex and ritualised
Function	Not a preventive measure	Suppression is limited	Preventive act or in-completeness-driven

TRAP **Do not call every repetitive act a compulsion.** A compulsion has a ritualised, preventive or incompleteness-driven quality; persistence alone does not supply that meaning.

27.8 Exclusions, synthesis, and the examination answer

The diagnosis should not be made when the movement is better explained by a substance or medication, a medical or neurological condition, tic disorder, obsessive-compulsive disorder, or trichotillomania. These **exclusions** are not a checklist to recite after the diagnosis. They direct

the history and examination: medication and substance exposure may point to a movement effect; medical or neurological findings may redirect the formulation; the structure and subjective meaning of the act may indicate tic, compulsion, or hair-pulling rather than stereotypy.

In an examination answer, begin with the core phenomenon, then state the requirement for impairment or self-injury and early developmental onset. Follow with the self-injury and association specifiers, then contrast the movement with tics and compulsions using rhythm, fixedness, complexity, and preventive function. Conclude by stating that alternative substance-related, medical, neurological, tic, obsessive-compulsive, and trichotillomania explanations must be excluded. This sequence demonstrates clinical reasoning rather than memorised labels.

For the clinician, the same sequence produces a usable record. It identifies what the child does, why it is currently important, what risk is present, where it sits developmentally, and which alternatives need active consideration. The aim is not to eradicate every repetitive movement from childhood. It is to recognise the pattern that has become impairing or harmful, avoid misclassification, and make the formulation clear enough for the family and treating team to act on it together.

> Stereotypic movement disorder is a non-functional, often rhythmic repetitive movement pattern that is fixed, arises in early development, and becomes clinically significant through impairment or self-injury, after relevant alternatives have been excluded.

Discriminate, apply and consolidate

28 · Differentiating SLD from intellectual disability, ADHD and slow learner

Why it matters clinically. A child who is not progressing at school may look inattentive, unmotivated, immature, anxious, or simply "weak in studies". Those descriptions are observations, not formulations. The diagnostic task is to decide whether the difficulty is confined to a particular learned skill, reflects a broad limitation in intellectual functioning, follows from difficulty regulating attention and behaviour, or represents globally lower but non-diagnostic ability. The labels carry different implications for explanation, documentation, educational planning and the conversation with family and school.

The useful organising question is not "How poorly is the child performing?" but **"Is the problem specific or global?"** A second question follows immediately: is there meaningful difficulty managing the ordinary demands of daily life, or is the concern principally academic? This prevents the common error of treating all low achievement as a learning disorder, and the equally damaging error of treating a circumscribed reading, writing or mathematics difficulty as evidence of global intellectual limitation. These distinctions are especially important when the presenting complaint has been compressed into the school's shorthand.

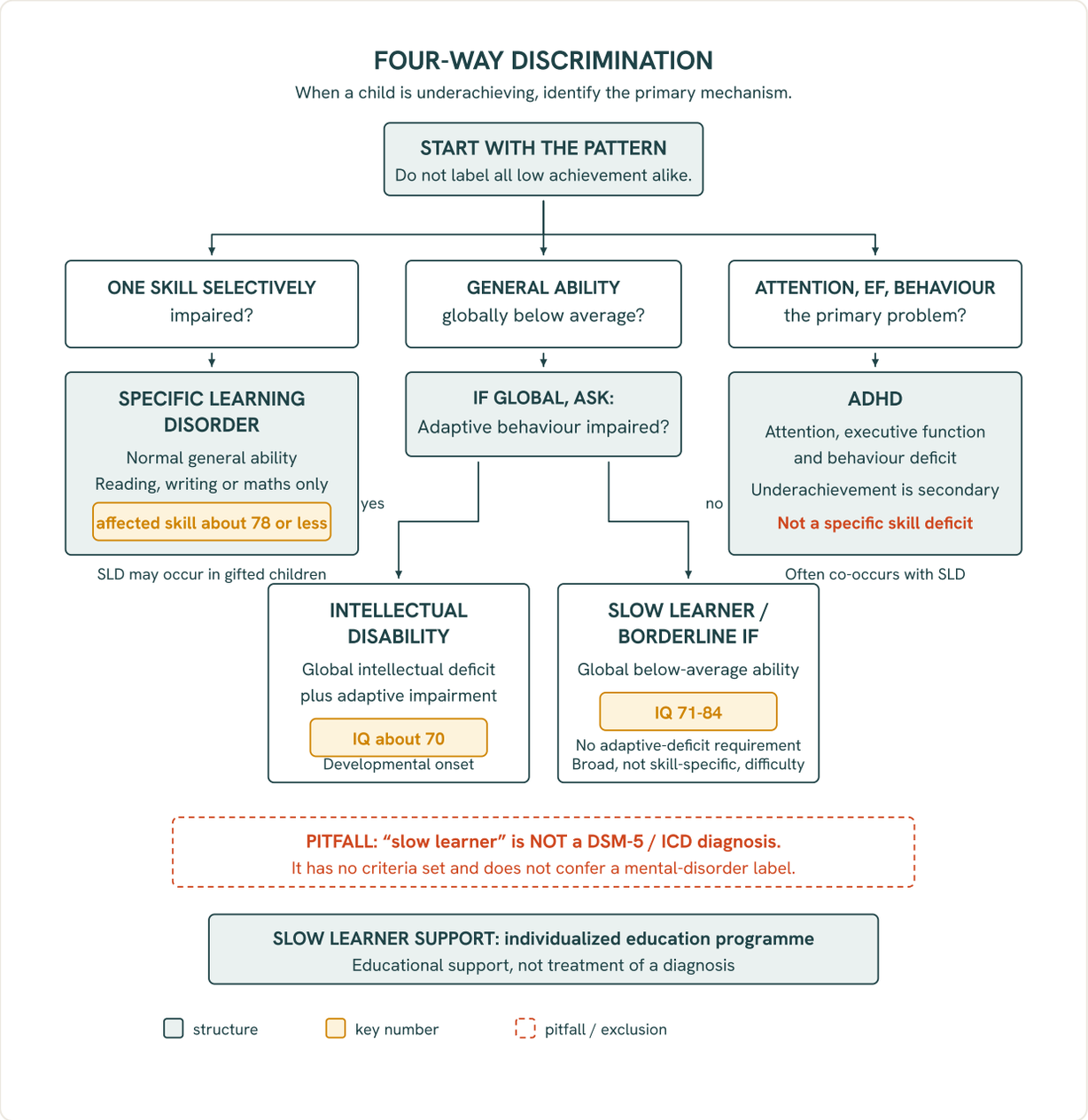


Fig 22.22. Four-way discrimination of specific learning disorder, intellectual disability, ADHD and slow learner / borderline intellectual functioning.

28.1 Start with the pattern, not the school mark

School performance is an outcome produced by several interacting capacities. It is influenced by the match between the child's skills and the curriculum, sustained attention during teaching and independent work, the opportunity to learn, emotional state, language of instruction, attendance, family expectations and the school's response to difficulty. A low mark therefore establishes educational need, but it does not by itself reveal the nature of that need. The clinician should resist premature labels based on a single report such as "poor in everything" or "cannot concentrate".

For differential diagnosis, map the difficulty across tasks rather than accepting a global adjective. Ask whether the child can reason, converse, learn practical routines and understand material when it is presented without the affected academic demand. Then ask whether the failure is sharply concentrated in reading, written expression or mathematics, whether it extends across

school learning, or whether output varies chiefly with the demands on attention and self-regulation. This is pattern recognition, not an exercise in finding a single test score that can settle the case.

Specific	Global	Secondary	Broad
ACADEMIC SKILL	ABILITY PATTERN	ATTENTION EFFECT	EDUCATIONAL NEED

A **specific learning disorder** is suggested when general intellectual ability is in the normal range but achievement in an academic skill is distinctly weak. The weakness is not merely a lower preference for a subject or a temporary fall in performance. It is an isolated deficit in a skill domain against a background of otherwise adequate general ability. A child may show intact oral explanation, practical problem solving and curiosity, yet struggle persistently when required to decode text, produce written work or manipulate numerical material. The discrepancy between what the child can understand and what the child can demonstrate through the affected skill is the clinical clue.

The comparison is not a contest between intelligence and effort. A child with an isolated academic-skill deficit can work very hard and still produce poor output in that skill. Conversely, a child with lower broad ability may be diligent and improve with teaching, while continuing to find the general pace and abstraction of the curriculum difficult. The interview should make room for both truths. Blaming the child obscures the pattern; idealising effort as proof that no disorder is present does the same.

RULE **Classify the shape of the difficulty before naming it.** A skill-bound failure, a broad limitation, and variable work caused by inattention can all produce underachievement, but they are not interchangeable explanations.

28.2 Specific learning disorder and intellectual disability: the central separation

The distinction between specific learning disorder and **intellectual disability** rests on the distribution of impairment. In specific learning disorder, the defining clinical picture is a disproportionate academic-skill deficit with otherwise normal-range general ability. Achievement in the affected skill may be **at least 1.5 SD below** the population mean for age, corresponding to a score of **about 78 or less** on that skill. These figures support the identification of a clinically significant skill deficit; they do not replace the need to understand the child's developmental and educational context.

Intellectual disability is different in kind, not simply in degree. It involves a global deficit across intellectual domains together with significant impairment in **adaptive functioning**, with onset during the developmental period. The relevant intellectual level is approximately **2 SD below** the mean, or an IQ of **about 70**. The decisive clinical addition is adaptive impairment. A child's ability to manage conceptual demands, social judgement and practical everyday tasks gives the score its meaning. Low academic attainment without this broader pattern should not be converted automatically into intellectual disability.

AXIS	SPECIFIC LEARNING DISORDER	INTELLECTUAL DISABILITY
General ability	Normal range overall	Globally impaired
Academic pattern	Deficit concentrated in an academic skill	Difficulty extends across intellectual learning demands
Adaptive functioning	Does not require adaptive impairment	Significant impairment is part of the clinical picture
Clinical inference	Ask what makes the affected skill uniquely difficult	Ask how broad intellectual and daily-life limitations affect support needs

Do not reduce adaptive functioning to academic independence. A pupil may need support with homework because reading is difficult and still manage age-appropriate routines, relationships and practical demands. That presentation fits a skill-specific formulation more readily than a global one. In contrast, when information must repeatedly be simplified across contexts, practical learning is also limited and everyday independence is compromised, the clinician should think beyond a school-skill disorder. Full assessment of intellectual disability belongs with the Intellectual disability and autism spectrum disorder notes; here the point is to preserve the boundary while evaluating the presenting educational complaint.

TRAP **Do not diagnose intellectual disability from school failure alone.** Academic work is only one expression of functioning. The diagnosis requires a global intellectual pattern and adaptive-behaviour impairment, not a disappointing report card or a low score in a single skill.

28.3 Specific learning disorder and ADHD: primary mechanism versus co-occurrence

ADHD is principally a difficulty of attention, executive function and behaviour, rather than a specific academic-skill deficit. Academic underachievement may follow because the child misses instruction, abandons work, makes careless errors, loses materials, rushes through tasks or cannot sustain the sequence needed to complete them. The key clinical question is whether attention-related difficulty explains the underachievement across tasks, or whether a particular skill remains disproportionately impaired even when attention is supported and the child is engaged.

A child with ADHD may perform inconsistently. The same task can be managed better when novelty, structure, supervision or immediate feedback reduces the attentional load, and worse when work is prolonged, repetitive or unstructured. This variability should prompt close examination of the conditions under which work succeeds and fails. It should not be used as a shortcut to conclude that a child with persistent, selective difficulty in reading, writing or mathematics merely has ADHD.

Equally, the presence of a learning disorder does not exclude ADHD. The conditions **frequently co-occur**. In such a child, **secondary academic underachievement** from inattention can coexist with a genuine skill-specific deficit. The formulation must then describe both contributions. If the clinician labels every error as inattentive, the learning need is missed. If the clinician labels every incomplete worksheet as a learning disorder, the behavioural and executive contribution is missed. The task is additive rather than competitive.

- When difficulty is widespread but fluctuates with attention demands, consider whether attention and behavioural regulation are driving the academic outcome.
- When a particular academic skill remains persistently and disproportionately weak, look for a skill-specific deficit even if ADHD is present.
- When both patterns are evident, record both rather than making one diagnosis explain every classroom problem.

The assessment should therefore compare observations from activities with different attentional and academic demands. Review work samples for the nature of errors, not only their quantity. Explore whether the child can explain an answer orally but cannot read or write it, whether calculation fails despite adequate persistence, and whether difficulties are present even in brief, highly supported work. Such questions do not replace formal psychoeducational assessment. They help the clinician decide what hypothesis must be tested and prevent a referral question from becoming the answer.

GOOD TO REMEMBER

When ADHD and a learning disorder coexist, treatment and educational planning must address both. Improvement in attention may make the child more available for teaching, but it does not by itself establish that the academic-skill deficit has resolved.

28.4 Slow learner: an educational descriptor, not a disorder

The term **slow learner** is prominent in Indian educational practice and corresponds to borderline intellectual functioning. It describes globally below-average ability that does not reach the threshold for intellectual disability. The IQ range is approximately **71 to 84**. The term can be clinically useful when it accurately communicates a broad educational vulnerability, but it becomes harmful when treated as a diagnosis, a fixed prognosis or an explanation that ends further enquiry.

Slow learner is **not a diagnosis**. It has no diagnostic criteria set and should not be promoted into a mental disorder merely because a school needs a label. The clinician's responsibility is to describe the observed pattern, identify practical educational needs and avoid granting the phrase a diagnostic authority it does not possess. The distinction matters both ethically and administratively: a non-diagnostic educational descriptor is not a substitute for a careful diagnostic formulation.

Compared with specific learning disorder, the academic difficulty of a slow learner is broad. General ability is lower across domains, and school underachievement tends to reflect that broad pattern rather than a single isolated skill failure. A child may find acquisition slower in several subjects and need more repetition, concrete teaching and a pace matched to capacity. In specific learning disorder, by contrast, general ability is normal range and the prominent weakness is concentrated in an academic skill. The useful contrast is **broad underachievement** versus a circumscribed skill deficit, not "mild learning disorder" versus "severe learning disorder".

Compared with intellectual disability, a slow learner is **above the intellectual-disability threshold** and does not meet the adaptive-deficit requirement. The border can be clinically imprecise, particularly when school reports are sparse or social and practical expectations have been heavily scaffolded by family. That imprecision is an argument for careful assessment, not for casually assigning intellectual disability or for pretending that slow learner has diagnostic status. Where the broader question of intellectual disability remains live, the clinician should assess it explicitly rather than allowing an educational term to conceal uncertainty.

IN INDIA

"Slow learner" is often the phrase brought by parents and teachers. Translate it into a description of broad learning pace and support needs before accepting or rejecting it. An **individualized education programme** can support academic functioning; this is educational intervention, not treatment of a diagnosis.

PITFALL

Writing "slow learner" as the final psychiatric diagnosis can close the assessment prematurely. It may conceal an unrecognised specific learning disorder, ADHD, intellectual disability or an educational mismatch, while also giving a non-diagnostic descriptor an authority it does not have.

28.5 A disciplined route from complaint to formulation

Begin with the exact educational concern. "Cannot read", "does not finish work", "fails in all subjects" and "takes longer than peers" are different referral statements and should not collapse into the same pathway. Establish the temporal course, the settings in which the problem appears, the academic activities that expose it and the activities in which the child is competent. The aim is to define the pattern in the child's actual work, rather than in adult frustration around that work.

Next, examine the breadth of difficulty. A narrow problem in a particular academic skill raises the possibility of specific learning disorder. Difficulty across intellectual learning coupled with limitations in everyday adaptive functioning raises the possibility of intellectual disability. Broad but non-diagnostic lower ability points toward the slow-learner descriptor. Widespread variable underperformance, especially when linked to attention and behavioural regulation, raises the possibility that ADHD is contributing. These are working hypotheses, not labels to be assigned at the first interview.

Then test the hypothesis against disconfirming evidence. A proposed learning disorder formulation should be questioned if difficulties are genuinely global. A proposed ADHD formulation should be questioned if a specific skill remains markedly impaired regardless of structure and effort. A proposed slow-learner formulation should be questioned if performance reveals an unexpectedly sharp, isolated skill deficit or if adaptive limitations are more significant than the school label suggests. This habit of actively looking for what does not fit is what turns a differential list into clinical reasoning.

Finally, state the formulation in layers. Describe the academic symptom pattern, the broad intellectual and adaptive context, the contribution of attention and behaviour, and the resulting educational needs. If evidence supports more than one condition, say so plainly. If the available information supports only a descriptor and educational planning, do not inflate it into a diagnosis. If uncertainty remains, document what needs clarification rather than concealing it beneath a familiar label. Detailed psychoeducational methods are covered in the assessment section on learning disorder, and the broader child psychiatric assessment framework is in the Child psychiatry: assessment, treatment, services and protection notes.

MNEMONIC

Skill - Scope - Supports - State

Ask which **skill** is weak, how far the difficulty extends in **scope**, whether daily-life **supports** are needed because of adaptive impairment, and whether attention and behavioural **state** are altering the child's available performance.

28.6 How the distinction changes clinical communication

The language used with families and schools should explain the pattern without turning it into blame. For specific learning disorder, the central message is that the difficulty is real and confined to an academic skill despite adequate general ability. For intellectual disability, the message concerns broad intellectual and adaptive support needs. For ADHD, explain that attention and behavioural regulation can interfere with learning and may coexist with a skill deficit. For a slow learner, clarify that the term describes a broad educational vulnerability and does not confer a psychiatric diagnosis.

These formulations lead to different practical questions. A skill-specific formulation directs attention to targeted educational support and the school demands that reveal the weakness. A global intellectual and adaptive formulation directs attention to support across daily life as well as learning. An ADHD formulation directs attention to the conditions that help the child engage, organise and complete work. A slow-learner formulation directs attention to expectations, pacing and an individualized education programme. None of these plans should be used as proof of a diagnosis; intervention can begin while assessment is being clarified.

Communication also matters because schools often want a simple binary answer: "learning disorder or not?" The clinician should avoid solving the school's administrative discomfort by erasing complexity. A concise formulation can remain precise: describe whether the evidence is skill-specific, global with adaptive impairment, attention-mediated, broadly lower ability, or mixed. That clarity allows the school to act without asking the child to carry an inaccurate label.

28.7 The synthesis to retain

The most reliable discriminator is the relationship between general ability, academic skill and adaptive functioning. Specific learning disorder has normal general ability with an isolated academic-skill deficit. Intellectual disability has a global intellectual deficit together with adaptive impairment. ADHD affects attention, executive function and behaviour, so academic

underachievement is secondary to those difficulties and may coexist with a learning disorder. Slow learner refers to broadly borderline ability and remains a non-diagnostic educational label. Once that structure is clear, the differential becomes clinically manageable rather than a list of competing school labels.

For the resident, the important discipline is to keep diagnosis, description and support separate. A diagnosis should explain a coherent pattern and meet its defining requirements. A description should be honest about what is observed without claiming more certainty than the evidence permits. Support should be offered because the child needs it, not withheld until every boundary is perfectly resolved. This approach protects against both overdiagnosis and neglect.

> First decide whether the difficulty is skill-specific or global, then determine whether adaptive impairment and attention-related mechanisms change the formulation.

29 · Worked cases

Why vignettes matter. Neurodevelopmental presentations are rarely delivered in the tidy form of a short-answer question. A parent may report that a child is careless, a teacher may report that the child cannot keep up, and the child may describe school as exhausting or humiliating. The task is not to attach the first plausible label to that account. It is to decide what the observed difficulty represents, where it occurs, what demands expose it, and what additional information would change the formulation. The vignettes below rehearse that disciplined sequence.

Use each case as an exercise in clinical reasoning. Begin with the **presenting problem**, but do not stop there. Separate the behaviour that is visible to adults from the function that may be failing for the child. Then seek a **cross-setting pattern**, examine the developmental and educational context, and ask whether the impairment is broad, task-bound, or secondary to another difficulty. A good answer explains both the leading formulation and the reason its nearest rival is less convincing.

Pattern	Context	Demand	Function
WHAT RECURS	WHERE IT EMERGES	WHAT MAKES IT FAIL	WHAT SUPPORT CHANGES

29.1 A method for reading a developmental vignette

A vignette is not a compressed case sheet. It is a deliberately incomplete account designed to test whether the reader knows what is diagnostic, what is contextual, and what remains uncertain. The first move is to translate an adult conclusion such as “lazy,” “naughty,” “weak in studies,” or “not listening” back into observations. What does the child actually do? What happens immediately before the difficulty? What changes when the material is presented differently, when the task is shorter, when the setting is quieter, or when a familiar adult provides structure?

The second move is to identify the **task-specific failure**. A child who loses the thread only when reading is required is presenting a different problem from a child who loses the thread during play, meals, conversation, and written work. Likewise, a child who avoids copying because the

hand is slow or inaccurate may look inattentive to an observer who sees only an unfinished page. The behaviour is real, but its meaning is not yet settled.

- State the difficulty in observable language before naming a syndrome.
- Ask what the child can do when the suspected demand is removed or reduced.
- Compare home, school, and other routine settings without assuming that reports must be identical.
- Look for the emotional consequences of repeated failure, including avoidance, anger, shame, and withdrawal.

RULE **Behaviour is a clue, not a formulation.** A developmental label becomes useful only after the pattern, context, functional impact, and competing explanations have been examined.

Clinical reasoning should remain provisional. In a real assessment, one would return to the child, family, school information, developmental history, physical and sensory considerations, and relevant assessment findings. In a written answer, say what must be clarified rather than pretending that the vignette contains it. This is not evasiveness. It demonstrates that diagnosis rests on converging evidence rather than on a dramatic phrase in the history.

Absence of a reported feature should also be handled with care. A brief school report may be silent about home functioning because no one asked, and a parent may not have observed a classroom difficulty because the setting never places the same demand on the child. Silence in a vignette therefore has different meanings from a clearly stated absence. A defensible answer distinguishes what is present, what is explicitly absent, and what is unknown. This habit protects against premature exclusion as much as it protects against premature diagnosis.

29.2 The child described as careless and disruptive

Vignette. A school-going child is repeatedly sent out of class for calling out, leaving the seat, and abandoning written work. At home, homework becomes a prolonged conflict. The parent says that the child can remain absorbed in a preferred activity but becomes restless when asked to read, copy, or complete a worksheet. The teacher reports that verbal participation is lively, yet work requiring independent reading is often incomplete. The family asks whether this is simply poor discipline.

The tempting answer is to treat every visible behaviour as evidence of **attention regulation difficulty**. That may be part of the formulation, but the vignette has placed a warning sign in plain view: the difficulty intensifies around literacy-heavy demands. The clinician should ask whether inattention and impulsive behaviour are evident across activities that do not rely on reading, writing, or sustained academic decoding. If they are, an ADHD formulation may remain compelling. If the apparent inattention is concentrated around a particular academic demand, a learning disorder may be contributing to the picture or may be the more immediate explanation for the classroom behaviour.

Do not treat focused engagement in a preferred activity as proof against ADHD. The clinically useful question is not whether the child can ever concentrate. It is how attention is allocated when novelty, reward, structure, effort, comprehension, and frustration change. Equally, do not treat classroom disruption as proof of ADHD. A child who expects failure may escape the task, provoke removal from it, or use movement and talking to mask confusion. This is a functional account of behaviour, not an excuse for overlooking impairment.

QUESTION RAISED BY THE VIGNETTE	FINDING THAT WOULD SUPPORT AN ADHD FORMULATION	FINDING THAT WOULD MAKE A LEARNING DIFFICULTY MORE CENTRAL
Where is the behaviour seen?	It recurs across ordinary demands and settings.	It is chiefly linked to a particular kind of school task.
What happens when the task changes?	Organisation and self-regulation remain difficult even when content is accessible.	Behaviour improves when the academic load is presented in an accessible way.
What is the child avoiding?	The pattern is not confined to one academic skill.	A consistent skill demand evokes frustration, delay, or escape.
What should happen next?	Assess the full attentional and behavioural pattern, including impairment.	Clarify the learning profile while also assessing attention where indicated.

The best formulation may include both pathways. Co-occurrence should not be used as an intellectual shortcut, but neither should a search for a single explanation erase a second genuine difficulty. The practical consequence is that management needs to address the mechanism of the unfinished work. Increasing behavioural pressure on a child who cannot access the task is unlikely to restore learning. Providing academic support without addressing pervasive dysregulation may be equally insufficient.

GOOD TO REMEMBER

When a teacher reports inattention, ask for the exact classroom demand that preceded it. The answer often distinguishes a broad self-regulation problem from distress around a specific learning task.

29.3 Uneven attainment, broad difficulty, and the misleading label of slow learner

Vignette. A child is described as quiet, cooperative, and slow to finish schoolwork. The family has accepted the school's description of "slow learner." The child appears comfortable in conversation and is effective in everyday routines, but falls far behind peers in selected academic tasks. Another child in the same clinic struggles more generally with classroom learning, practical problem solving, and independent adaptation to everyday expectations. The referral question is whether both children have the same condition.

They should not be treated as interchangeable. The phrase **slow learner** may express a school's concern about pace or level of performance, but it does not itself explain the pattern. It can conceal a specific learning disorder, broader cognitive difficulty, inadequate opportunity to learn,

emotional distress, sensory problems, language mismatch, or a poorly described classroom environment. It should therefore trigger clarification, not end the assessment.

In the child with uneven attainment, the crucial observation is the contrast between areas of clear difficulty and areas of relative competence. The clinician asks whether the child has had an adequate chance to learn, whether the difficulty persists despite ordinary support, and whether it has functional consequences beyond disappointing marks. In the child with broad difficulty, the question shifts towards a **global learning difficulty** and its relationship to everyday adaptive functioning. The distinction matters because a profile of circumscribed academic difficulty calls for a different educational response from a broadly limited developmental profile.

Intellectual disability must be considered carefully when functioning is broadly affected, but it must not be used as a catch-all explanation for poor school performance. The fuller account of that diagnostic framework is in *the Intellectual disability and autism spectrum disorder notes*. In this chapter, the applied point is simpler: an isolated academic weakness cannot be interpreted without considering the child's broader functioning, and broad difficulties cannot be inferred from marks alone.

IN INDIA

School labels can become part of a family's explanatory model before a clinical assessment occurs. Ask what the school means by "slow," which tasks are difficult, what teaching language is being used, and what support has already been attempted. This protects the child from both inappropriate reassurance and premature diagnostic labelling.

PITFALL

Do not write "slow learner" as though it were a formal diagnosis. It is a prompt to map a learning profile and context, not a conclusion that substitutes for assessment.

29.4 When apparent inattention is a communication problem

Vignette. A young child appears not to follow classroom instructions, gives answers that do not match the question, and often watches peers before beginning an activity. The child is described as distractible and socially aloof. At home, caregivers report that the child becomes frustrated when asked to narrate events, struggles to find words, and uses short or poorly organised responses. In familiar routines, the child participates more readily.

Here, the clinician should not begin by counting inattentive acts. First ask whether the child understood the linguistic demand. A child who cannot reliably process the instruction, formulate a response, or follow a rapid exchange can appear disengaged, oppositional, anxious, or inattentive. Waiting for peers may be a compensatory strategy rather than a sign of indifference. The relevant formulation concerns **communication demands** and the child's ability to meet them.

Observe how the child manages when language is simplified, when visual demonstration accompanies speech, and when the clinician allows time for a response. These observations do

not replace formal evaluation, but they help distinguish a failure to attend from a failure to understand or express. Also examine the social consequences. Repeated misunderstanding can lead a child to withdraw, interrupt, joke, or avoid group activity. Such behaviour may resemble a primary behavioural or attentional disorder while being sustained by communication frustration.

The communication disorders chapter provides the diagnostic framework and management approach. For the vignette, the key lesson is that a child's outward silence or apparent non-compliance must be interpreted in relation to language comprehension, expressive capacity, speech clarity, fluency, and social use of communication. Asking the child to repeat an instruction is less informative than checking whether the instruction was understood and can be acted upon.

TRAP **Do not call a child inattentive before checking whether the child could understand the demand.** An observer can see a delayed response; the observer cannot infer its cause without examining communication.

29.5 The child who avoids writing and games

Vignette. A child avoids handwriting, takes an unusually long time to dress, is reluctant to join games requiring coordinated movement, and becomes tearful before practical classroom activities. The teacher describes poor effort and incomplete work. The family notices that the child knows what to say but struggles to translate an idea into a written page. Behaviour becomes worse when adults insist that the child "try harder."

This vignette calls for attention to **motor coordination** and its daily consequences. The unfinished page may arise from a planning or execution difficulty rather than inattention, defiance, or lack of understanding. Avoidance is often intelligible when a task repeatedly exposes the child to failure in front of peers. The clinician should ask what exactly is hard: initiating the movement, sequencing it, maintaining speed, coordinating both hands, using tools, organising the page, or tolerating the effort involved. The answer helps identify the next assessment question without reducing the child to a handwriting complaint.

It is also important to distinguish a motor-based difficulty from a specific learning problem and from ADHD. These may coexist, and each can amplify the visible impairment. A child with motor difficulty may need much of the available attentional capacity simply to control the task, leaving little capacity for content. Conversely, a child with ADHD may show disorganised output without a primary coordination disorder. The formulation should describe the contribution of each suspected pathway and avoid assuming that one label explains every failure.

Observe the emotional and relational loop. Criticism may increase anticipatory anxiety, which worsens performance and reinforces the adult's impression of poor effort. A useful intervention begins by making the demand achievable, protecting dignity, and coordinating with school rather than escalating punishment. The diagnostic and management details for developmental coordination disorder belong in its dedicated section; the applied lesson is to notice when movement is the hidden bottleneck.

29.6 Turning a vignette into a defensible formulation

A strong answer does not end with a label. It explains the working formulation, names the uncertainty, identifies the information needed next, and links the formulation to a practical response. This prevents the common error of treating diagnostic reasoning and management planning as separate tasks. If the difficulty is most visible under a particular demand, the immediate support should make that demand more accessible while assessment continues. If impairment is broad and persistent, the plan should involve the environments in which it occurs rather than placing responsibility only on the child.

For every vignette, complete the following formulation in prose: the child's main difficulty is seen in a defined context; the leading explanation is supported by a recognisable pattern; the nearest alternative remains possible or less likely for stated reasons; further collateral and assessment are required; and support should reduce barriers while preserving participation. This structure is deliberately portable. It can be used for ADHD, learning disorders, communication disorders, and motor disorders without pretending that these conditions are interchangeable.

MNEMONIC

MAPS the vignette

Map the observed behaviour, **A**sk what demand exposes it, identify the **P**attern across settings, and choose the next **S**tep that tests the formulation or reduces the barrier. The mnemonic is a reasoning sequence, not a diagnostic checklist.

Describe the pattern before naming the disorder, and make the support fit the function that is failing.

What earns marks in an applied answer. The examiner is looking for discrimination, not diagnostic bravado. Show that a behaviour can have more than one pathway, that context can reveal the pathway, and that comorbidity may require more than one response. Where the vignette is incomplete, say what you would seek from the child, family, and school. The detailed child psychiatric assessment approach is available in *the Child psychiatry: assessment, treatment, services and protection notes*; the present task is to use its logic to prevent premature closure.

30 · Consolidate: the master mnemonic, the retrieval prompts and the synthesis map

Consolidation is where recognition becomes usable clinical reasoning. A candidate can know isolated labels, criteria, instruments and interventions yet still produce an unsafe or unconvincing answer when the task changes from recall to a child in front of them. The purpose of this closing section is to make the chapter retrievable as a sequence of decisions: clarify the presenting difficulty, test the leading explanation against alternatives, identify what must be assessed, and state what follows from the formulation. It is deliberately answer-free. Use it to expose an omission before the examination, the case conference, or the clinic rather than to create the comforting illusion of familiarity.

The chapter is best retained as a **clinical map**, not as a pile of headings. The map has room for ADHD, learning difficulty, communication difficulty and motor phenomena, while also forcing the clinician to ask what the child can do, where the difficulty occurs, what collateral evidence supports it, and what functional consequence matters. The same map prevents a false choice between diagnosis and context. A sound answer neither reduces a child to a label nor loses diagnostic discipline in a long narrative of school and family stress.

30.1 Start with the question, not the label

Before retrieving any diagnostic material, restate the clinical problem in ordinary professional language. Is the referral primarily about attention and activity, acquisition of an academic skill, speech or language, fluency, social use of communication, coordination, repetitive movement, or a mixture? That opening move matters because the referral label is often an interpretation offered by someone else. It may be useful, but it is not yet the formulation. A child described as inattentive may be struggling to access teaching; a child described as weak in studies may have a broader pattern of difficulty; a child described as disruptive may be communicating frustration. The consolidation task is to preserve uncertainty long enough to ask discriminating questions.

Build the opening sentence around **functional impairment**. Name the setting in which the concern is visible, the task that becomes difficult, the consequence for participation, and the source of the report. This keeps the answer clinically anchored. It also makes it much harder to mistake an isolated complaint for a pervasive disorder or to dismiss a serious difficulty because the child is doing well in another area. Functional description is not a decorative introduction. It is the bridge between observed behaviour, developmental history, school information and any later diagnostic conclusion.

- What exactly is the referrer asking for help with?
- What does the child, caregiver and teacher each identify as the main difficulty?
- What activity, relationship or educational participation is being affected?

RULE **Formulate the problem before you retrieve the diagnosis.** A label may organise inquiry, but the presenting difficulty determines which evidence is relevant and which alternative explanations deserve active consideration.

In a written answer, this approach also gives the examiner a visible reasoning trail. Rather than launching into a memorised list, state the clinical question and show how history, informants and observation will answer it. The result is more concise as well as more defensible: every later detail has a job. If a detail does not alter the formulation, the differential, the assessment plan or the management plan, it does not need to dominate the answer.

30.2 Retrieve the assessment as a chain of evidence

Assessment should be recalled as **triangulation**. No account, behaviour sample or score can carry the whole clinical judgement alone. The candidate should be able to explain how information from the child, family, school and direct clinical encounter is brought into conversation. Agreement across sources may strengthen confidence, while disagreement is not an

inconvenience to be erased. It can reveal variation by task demand, setting, relationship, structure or support. The question is not which informant is "right" in the abstract. The question is what each account is measuring.

Use a **developmental formulation** to hold the evidence together. Retrieve the history that clarifies the course of the concern, the child's strengths, the educational context, communication and motor development, emotional state, behaviour, sleep, sensory or physical contributors, family experience and previous support. The aim is not a maximal checklist. It is a coherent account of why the problem now looks the way it does. A formulation should leave room for coexisting conditions without assuming that every difficulty has a separate diagnosis.

EVIDENCE SOURCE	QUESTION TO RETRIEVE	HOW IT CHANGES REASONING
Child and caregiver account	What is noticed across ordinary routines and tasks?	Clarifies lived difficulty, expectations and priorities.
School information	What happens when learning, language, behaviour or coordination is observed in context?	Tests whether the reported concern fits educational demands and supports.
Clinical observation	What can be directly described without overinterpreting it?	Connects reported behaviour with the examination encounter.
Focused testing or specialist input	What question requires structured measurement or another discipline?	Refines the formulation rather than replacing it.

When recalling rating scales, psychoeducational assessment or other structured tools, retrieve their purpose before their names. Ask what construct is being sampled, whose perspective is represented, what the result can support, and what it cannot decide on its own. This protects against score-driven diagnosis. A measurement can sharpen a question; it cannot repair a vague referral, a missing school history, or an unexamined alternative explanation.

GOOD TO REMEMBER

If reports conflict, do not average them into a meaningless middle. Describe the contexts in which the difficulty is and is not visible, then ask what those contexts demand from the child. The discrepancy may be the most clinically useful finding.

30.3 Make discrimination explicit

The difficult marks lie in **diagnostic discrimination**, not in repeating a definition. A strong response tells the reader what observation or history finding would make a rival explanation less likely, what evidence remains necessary, and why an apparently similar presentation has a different clinical meaning. This is particularly important when attentional symptoms coexist with academic underachievement, when a broad developmental difficulty is mistaken for a circumscribed learning problem, or when a communication difficulty changes how behaviour is interpreted.

Keep the contrast at the level of the clinical question. Is the problem broad or circumscribed? Is it stable across tasks or most visible when a particular skill is demanded? Does it follow lack of access to instruction or persist despite appropriate opportunity? Are attention and activity the central difficulty, or are they secondary to repeated failure, anxiety, boredom, misunderstanding or environmental mismatch? Does the account suggest a communication barrier, a motor barrier, an emotional difficulty, a sensory or physical issue, or a different neurodevelopmental profile? These prompts organise a differential without pretending that any isolated sign settles it.

- State the leading formulation in a neutral sentence.
- Name the alternative explanation that would cause the greatest error if missed.
- Specify the history, observation or collateral information that separates them.

TRAP **Do not convert poor performance into a diagnosis by relabelling it.** Poor academic output, restlessness, slow completion, unclear speech or clumsiness are clinical starting points. They require a formulation that accounts for pattern, context, development and impairment.

The comparison between ADHD, specific learning disorder, intellectual disability and the educational term “slow learner” should be retrieved from the dedicated discrimination section rather than reconstructed from shorthand. The same restraint applies to the relationship between ADHD and its comorbidities. A consolidated answer should show that coexistence is possible while still asking which condition explains which part of the presentation. For the wider developmental differentials, use the Intellectual disability and autism spectrum disorder notes and the Normal child development and milestones notes.

PITFALL

Once a referral label has become familiar, clinicians may read every subsequent report through it. Counter this by writing down what finding would genuinely change the formulation. If no imaginable finding could do so, the assessment has become confirmatory rather than diagnostic.

30.4 Link diagnosis to action without collapsing the formulation

A diagnosis is clinically useful only when it changes what the team does. Retrieve the **multimodal plan** as a linked response to the child’s needs, not as a menu of unrelated treatments. The plan may include psychoeducation, family work, behavioural support, school collaboration, remediation, communication or motor intervention, treatment of coexisting emotional or behavioural difficulty, and medication where indicated. In an answer, make the connection visible: identify the target difficulty, the intervention directed at it, the person or setting involved, and the outcome that will show whether the plan is helping.

This is also where candidates should distinguish management of a condition from management of its consequences. A child can need help with participation, confidence, behaviour in class, family conflict or access to learning even while diagnostic clarification is continuing. Conversely, an intervention should not be presented as proof that a diagnosis was correct. Support can be appropriate in the presence of uncertainty, provided its purpose is clear and progress is reviewed.

- Which difficulty is the immediate target for change?
- Which adult, service or setting must be involved for the plan to work?
- What observable improvement would justify continuing, adapting or escalating support?

Why the feedback loop matters. The initial plan is a clinical hypothesis in action. Follow-up asks whether the target has moved, whether the child can use the support in ordinary life, whether an unrecognised comorbidity or barrier is now clearer, and whether the balance of burden and benefit remains acceptable. This safeguards against therapeutic inertia. It also prevents the opposite error of changing several things at once and then being unable to explain what helped.

IN INDIA

When an answer has an educational or administrative component, retrieve the relevant local documentation and institutional pathway alongside the clinical formulation. Do not assume that a generic label automatically answers the practical question. The dedicated section on specific learning disorder certification and educational provisions is the place to retrieve the statutory route and accommodations.

30.5 Use active recall to test the whole chapter

Active recall should be demanding enough to reveal where the map breaks. Reading a highlighted page gives rapid recognition, but recognition does not test whether the relevant distinction can be produced under pressure. Close the text, choose a prompt, and speak or write a brief answer from memory. Then reopen the relevant section and compare the structure of the answer with the text. Correct missing reasoning, not just missing nouns. The useful question is not "Did I remember a fact?" but "Could another clinician see how I got from complaint to plan?"

Use **retrieval practice** in mixed order. Do not always move from diagnosis to assessment to treatment, because real cases rarely arrive in that order. Begin at different points: a school complaint, a parent's concern, a finding on observation, a treatment question, or a differential dilemma. Mixing prompts forces the learner to rebuild the clinical pathway rather than recite a fixed sequence. It also reveals whether knowledge of ADHD has become disconnected from knowledge of learning, communication and motor disorders.

MAP	TEST	ACT	REVIEW
PRESENTING PROBLEM	ALTERNATIVE EXPLANATION	TARGETED SUPPORT	RESPONSE AND REVISION

Use the following prompts without looking up the answer until you have committed to a structure:

- Frame an assessment for a child referred for inattention when the school report emphasises academic underachievement.
- Explain how you would distinguish a circumscribed learning difficulty from a broader developmental concern without prematurely naming either.

- Describe how communication, motor, emotional, behavioural, sensory, physical and educational factors alter the meaning of a presenting complaint.
- Set out a management plan that joins family, school and child-focused work to a clear review question.
- Explain why a structured scale or test can strengthen, but not substitute for, clinical formulation.
- Write a concise differential paragraph that names uncertainty and states how it will be resolved.

After each attempt, identify the type of failure. A missing definition calls for focused revision. A confused differential calls for a comparison table. An unlinked management list calls for reformulation around targets and settings. An inability to explain what a result means calls for return to the assessment section. This is more efficient than rereading the entire chapter after every weak answer, and it turns errors into precise revision tasks rather than evidence of global incompetence.

30.6 Write answers that show reasoning

In a long answer, use a **clinical argument**. Begin with the problem and the relevant frame, then move through assessment, differential diagnosis, formulation and management. Within each part, prefer explanation to disconnected lists. A list of scales, treatments or accommodations gains little unless the reader can see when it is used, what it contributes and what limitation is being respected. Conversely, a polished narrative without structured headings makes it difficult to find the core answer. The best balance is explanatory prose supported by short, purposeful lists and comparisons.

For a short note, choose the few ideas that demonstrate command rather than trying to compress the whole chapter into a paragraph. State what is being distinguished, the evidence that matters, the broad management direction and the principle of review. If a prompt asks for an instrument, a medication, a criterion set or a statutory provision, retrieve that detail from its dedicated section rather than guessing from the consolidation. This closing section is a map to knowledge, not a substitute for the precise content held elsewhere in the chapter.

WEAK ANSWER PATTERN	WHAT IS MISSING	REPAIR
A label followed by a long list	The path from presentation to conclusion	State the discriminating evidence and its clinical meaning.
A detailed history with no conclusion	A formulation that orders the information	Summarise the leading explanation and the remaining uncertainty.
A treatment catalogue	A target and a setting for each intervention	Link each action to the difficulty it is intended to change.
A test result treated as a verdict	Context, collateral evidence and limitation	Explain what the result contributes to the broader assessment.

The same discipline matters in clinical documentation. A later clinician should be able to tell what was reported, what was observed, what remains uncertain, what was agreed and what will be reviewed. That record supports continuity without turning uncertainty into indecision. For broader service and protection questions, return to the Child psychiatry: assessment, treatment, services and protection notes.

30.7 Protect against the recurring errors

The recurring error across this area is **premature closure**. It appears in several forms: accepting the referral label without testing it, treating academic struggle as synonymous with a learning disorder, treating a score as synonymous with a diagnosis, attributing every difficulty to the most visible condition, or presenting a plan without deciding how its effect will be judged. These are not merely examination faults. They weaken communication with families and schools because they obscure what is known, what is inferred and what still needs attention.

Counter premature closure with a brief final pause before committing to a conclusion. Ask whether the formulation accounts for the child's strengths as well as difficulties, whether the school context has been understood, whether an alternative explanation has been actively considered, whether coexisting problems have been separated rather than merged, and whether the management plan is proportionate to the evidence. This pause does not require indecision. It creates disciplined confidence: act on what is clear, state what is uncertain, and arrange review around the uncertainty that matters.

Retrieve the pathway: problem, pattern, proof, plan, and progress.

30.8 The master recall spine

MNEMONIC

MAPS: Map the problem, Ask across settings, Probe alternatives, Support and review

MAPS is a recall spine, not a diagnostic shortcut. Map the concern in functional language. Ask across informants and contexts. Probe alternatives and coexisting difficulties. Support the child and systems around the child, then review whether the plan has changed the target difficulty.

Use this spine to close any answer in the chapter. It keeps the candidate from mistaking memorised detail for clinical judgement, while leaving each detail in the section that owns it. If the prompt concerns ADHD, retrieve its criteria, assessment, treatment and outcome from the relevant sections. If it concerns learning, communication or motor disorders, return to the relevant definition, assessment and management sections. If the question crosses categories, use MAPS to decide which material belongs in the answer and in what order.

Previously asked

Genuine past questions from this chapter's territory, with their board of origin. No catalogued theory question falls inside attention-deficit/hyperactivity disorder, specific learning disorder or the communication and motor disorders in the examined window, so none is printed here. No question is reconstructed, paraphrased into a new one, or invented to pad the list. That a topic has not been asked as a set-piece essay does not lower its yield: ADHD pharmacotherapy, the rating-scale discrimination, the specific-learning-disorder criteria and the Indian certification route are all live short-note and viva territory, and the chapter is built to answer them.

TRAP **An unasked topic is not a low-yield topic.** The absence of a past essay is a fact about one board's recent papers, not about what an examiner may ask this year. Prepare the discriminations, not the past paper.

The quick review

One table, read down the left column, cover the right. Every line is taught in full somewhere above; nothing here is new. Where the sources disagree, the disagreement is the answer.

ASK	HOLD
WHAT DSM-5 REQUIRES FOR ADHD	At least 6 of 9 symptoms in a domain (5 if aged 17 or older), several present before age 12, in at least 2 settings, for at least 6 months, with impairment. The count and the age are the marks.
DSM PRESENTATIONS AGAINST ICD-11	Three DSM-5 presentations: predominantly inattentive, predominantly hyperactive-impulsive, combined. ICD-11 codes it 6A05 and asks for 'several' symptoms with no fixed count or onset age. Naming ICD-10 hyperkinetic disorder as identical to DSM ADHD is the error.
WHAT EXECUTIVE DYSFUNCTION IS FOR	It is the mechanism that links the fronto-striatal dopamine and noradrenaline circuit to the symptoms. It explains the domains; it is not a fourth symptom.
THE THREE RATING SCALES ARE NOT INTERCHANGEABLE	Conners 3 is norm-referenced, a T-score instrument (mean 50, SD 10), bought under an MHS licence. Vanderbilt (ages 6 to 12) and SNAP-IV are raw-score cut-off screens, free to obtain and use but not free to republish. Different raters, ages, constructs and cut-off logic. Listing three that measure differently is the exam trap.
FIRST-LINE ADHD MEDICATION AND THE DOSE RULE	Methylphenidate. Every dose carries its population: the typically-developing child starts around 5 to 10 mg immediate-release and titrates weekly, whereas a child with autism starts lower. A dose without its population is not an answer.

ASK	HOLD
THE CLONIDINE AND AMPHETAMINE CAUTIONS	Clonidine and guanfacine doses are small (clonidine about 0.1 mg at night up to about 0.4 mg per day); a mg/kg clonidine figure that looks large is wrong. Amphetamines and lisdexamfetamine are not marketed in India; methylphenidate and atomoxetine are.
WHAT THE MTA SHOWED	At 14 months, medication management and combined care beat behavioural care and community care for core symptoms; by 36 months the groups converged. Cite the stimulant response as about 77 percent; do not print a divergent figure across chapters.
ADULT ADHD	It persists into adulthood in a substantial proportion; overt hyperactivity fades while inattention and inner restlessness remain. This chapter owns adult ADHD in full.
WHAT DSM-5 REQUIRES FOR SPECIFIC LEARNING DISORDER	Difficulty in an academic skill persisting at least 6 months despite targeted intervention, achievement substantially below age expectation, onset in the school-age years, and not better explained by intellectual disability, sensory deficit, adversity or inadequate instruction. General ability is preserved.
THE MECHANISM OF DYSLEXIA	A core phonological-processing deficit; the double-deficit model adds slow rapid automatised naming. The neurobiology is left-hemisphere temporo-parietal and occipito-temporal underactivation.
HOW SLD CERTIFICATION DIFFERS FROM ID CERTIFICATION IN INDIA	SLD rests on psychoeducational, achievement-discrepancy assessment (the NIMHANS battery) with a preserved IQ; intellectual disability rests on an IQ-plus-adaptive-behaviour route. The current guidelines schedule repeat certification during class X and class XII.
SLOW LEARNER	Borderline intellectual functioning, an Indian educational-practice term for an IQ of roughly 70 to 85. It is not a DSM or ICD diagnosis and has no criteria set. Promoting it to a diagnosis is the error item 79 exists to prevent.
SOCIAL COMMUNICATION DISORDER AGAINST AUTISM	Social communication disorder shows the social-pragmatic difficulty without the restricted and repetitive behaviours; their presence, now or historically, points to autism.
STEREOTYPY AGAINST TIC	Stereotypies are rhythmic, fixed, simpler and present from earlier; tics are not rhythmic, involuntary and only briefly suppressible.
WHAT THE SOURCES REFUSE TO TELL YOU	Several Indian prevalence figures, the exact statutory SLD percentage method, and a firm growth-suppression magnitude are simply not in the literature consulted. The chapter says so where it happens rather than inventing them.

References

Every specific in this chapter is bound to one of the sources below, and the count is the number of claims each carried. Books and guidelines are cited author, title and year in the house convention; no PMID is asserted for a book. For the statutory material the primary document is the authority: the Rights of Persons with Disabilities Act 2016 and the CBSE examination-concession circular were read directly, and where a textbook paraphrase diverged from the primary text the primary text was followed and the divergence named where it falls. The must-have-papers cross-check was NOT performed for this Paper III chapter, because the paper lists do not yet exist in the intel index; for Paper III the topic bank plus the syllabus scaffolding is the completeness authority.

SOURCE	CLAIMS CARRIED
DSM-5-TR (2022)	79
Kaplan & Sadock CTP 2024	36
Maudsley 15th ed	19
Kaplan & Sadock's CTP 2024	17
IPS CPG for ADHD (Shah et al.)	15
ICD-11 CDDR	12
IPS CPG CAP (Shah et al.)	11
Lewis Child and Adolescent Psychiatry, Chapter 5.1.1 ADHD	10
IPS CPG for ADHD (Shah et al.), Table 5	10
Stahl Prescriber's Guide	9
Dulcan's Textbook of Child and Adolescent Psychiatry	6
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Tasman Psychiatry	5
MHS Conners 3 Update supplement	5
50 Studies Every Psychiatrist Should Know	4
Contemporary Intellectual Assessment 4E (Flanagan)	4
NICHQ Vanderbilt (form)	4
Swanson SNAP-IV scoring guide	4
PubMed	3
PubMed (MTA 1999) + 50 Studies	3

SOURCE	CLAIMS CARRIED
New Oxford Textbook of Psychiatry	3
Savita Malhotra Child & Adolescent Psychiatry	3
Lewis Child and Adolescent Psychiatry	3
KDT Essentials	3
Maudsley 15th ed + Stahl Prescriber's Guide	3
Rights of Persons with Disabilities Act, 2016 (India Code, full text PDF)	3
CBSE Circular No. 3/2018 (Class X and XII)	3
MHS Conners 3 brochure	3
Child and Adolescent Psychopathology (Beauchaine & Hinshaw)	2
Dulcan's Textbook of Child and Adolescent Psychiatry (sleep chapter)	2
PubMed (Jensen et al. 2007)	2
Rutter's Child & Adolescent Psychiatry 6E	2
day-22.licensing.md (verified primary sources)	2
Savita Malhotra, Child and Adolescent Psychiatry	1
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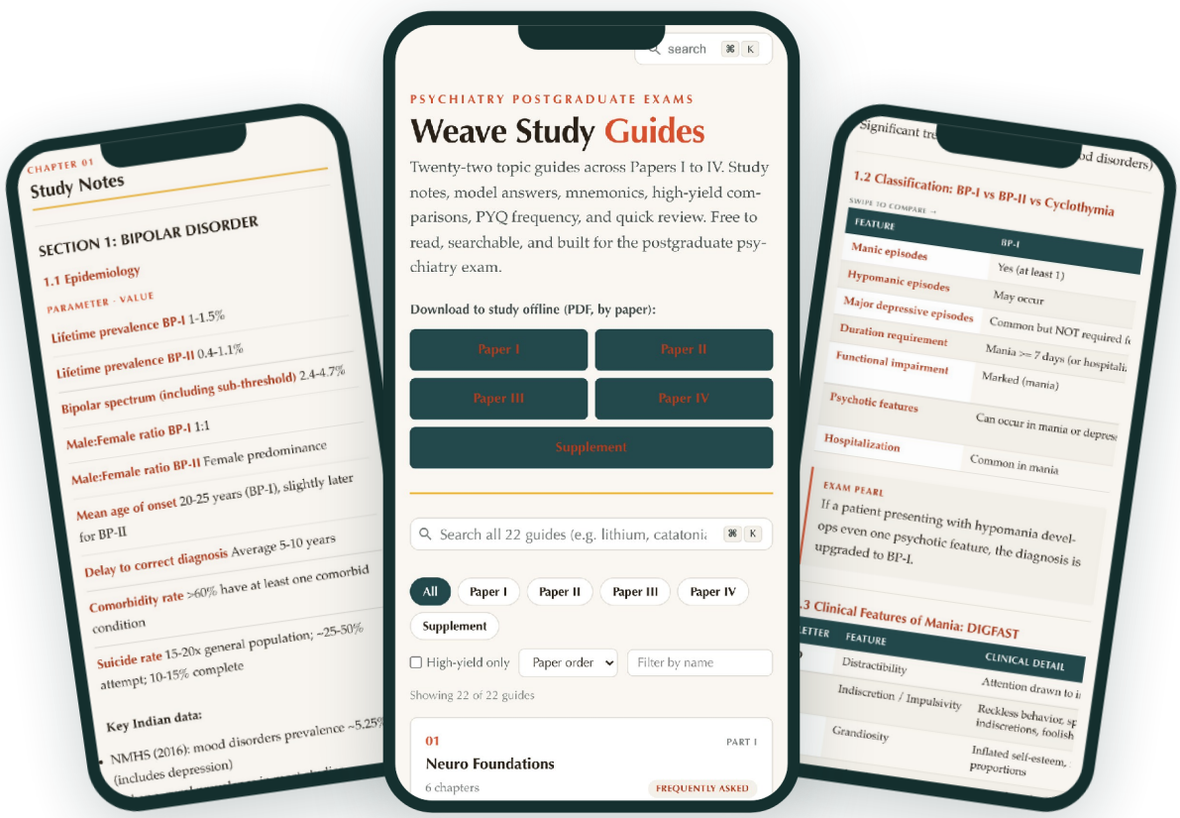
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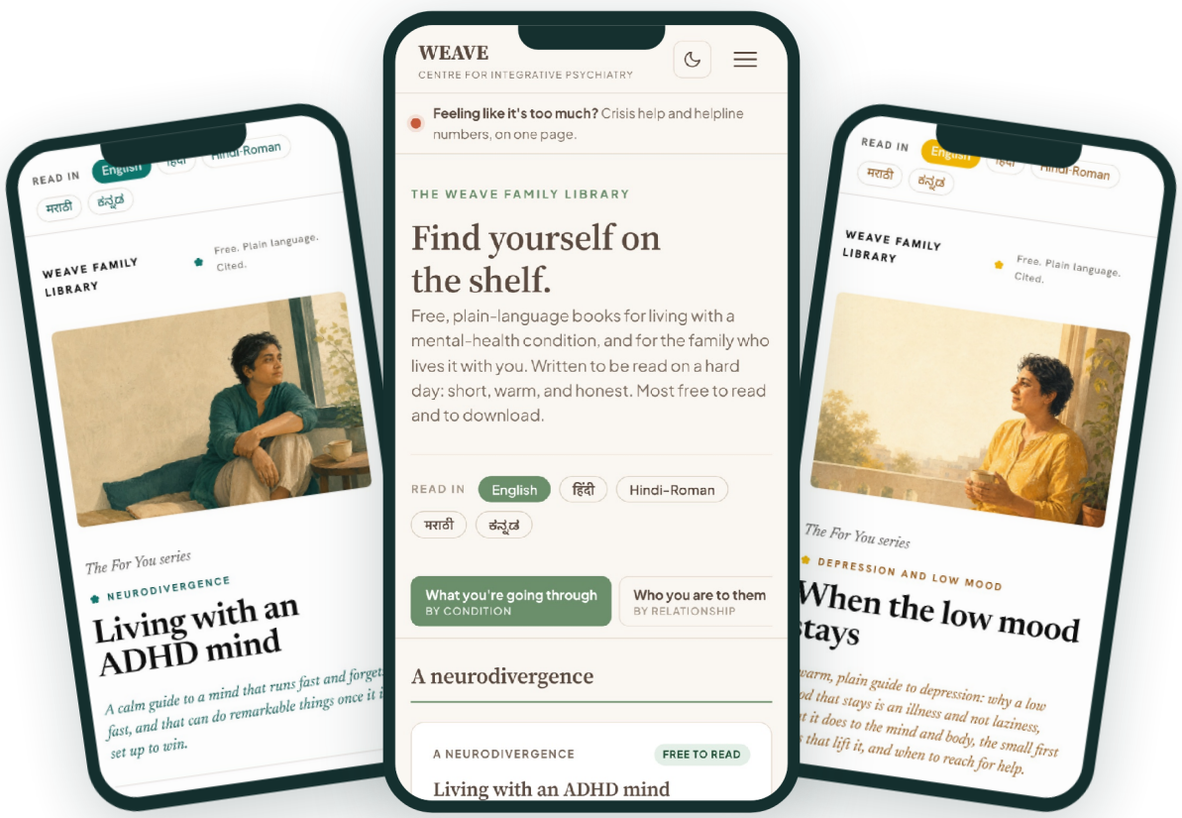
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