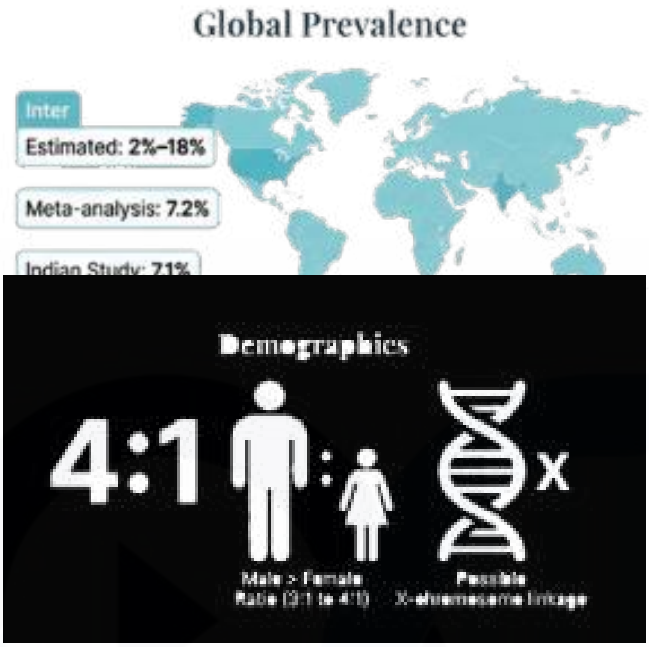
TUTORIALS

PG Residency

Behavioural & Psychiatric Disorder

Smart Notes. Better Scores.

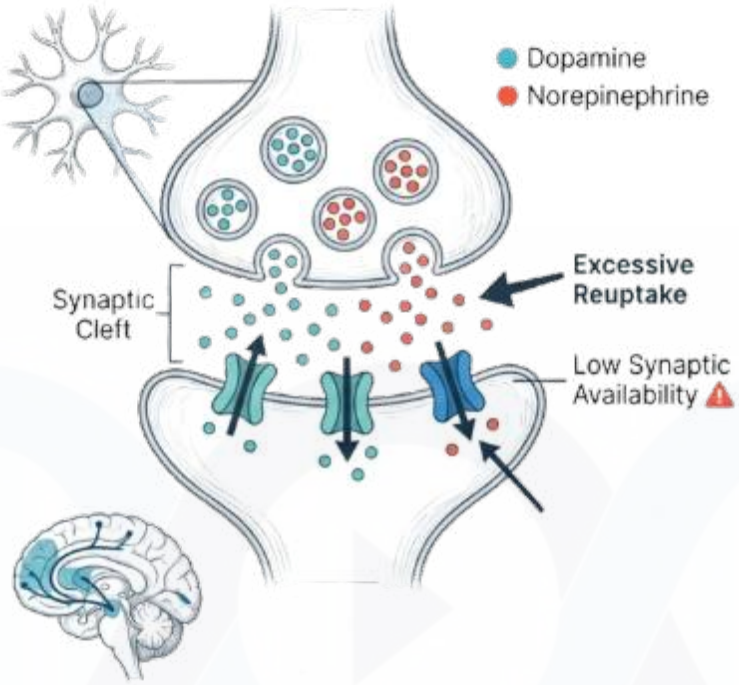
ADHD: Epidemiology & Clinical Definition



Clinical Definition

- **Neurodevelopmental disorder** manifesting in childhood.
- **Core Triad:** Hyperactivity,Impulsivity, Inattention.
- **Etiology:** SimilartoAutismSpectrum Disorder (ASD).
- **Impact:** Significantimpairment in academic, cognitive, behavioural, and emotional functioning.
- **Context:** Primarilydiagnosed in school-age children.

Pathogenesis: Neurotransmitter Dysregulation



Catecholamine Mechanism

- **Core Pathology:** Dysregulation of Dopamine and Norepinephrine.
- **Mechanism:** Excessreuptake into presynaptic terminals reduces availability at postsynaptic receptors.

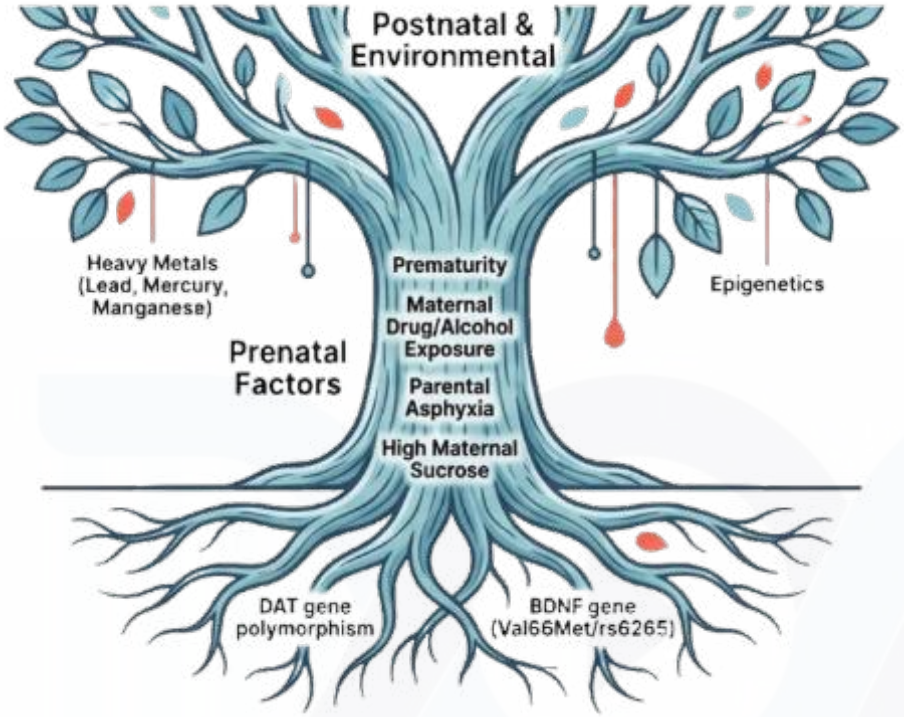
Neurotransmitter Roles

- **Dopamine:** Regulates Learning & Motor functions. Deficit → Learning difficulties, motor initiation issues.
- **Norepinephrine:** Regulates Arousal, Attention, Mood. Deficit → Inattention, hyperactivity, sleep dysregulation.

Structural Findings

- Global volume changes generally not significant (unlike ASD).
- Reduced cortical thickness (frontal).
- Decreased activation in basal ganglia and frontal lobe.

Etiology: A Multifactorial Model



Inheritance Pattern

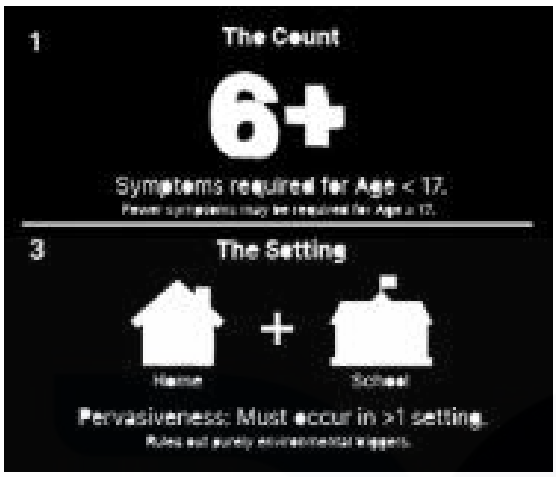
- Multifactorialinheritance (similar to ASD).
- Complex interaction between genetic susceptibility and environmental triggers.

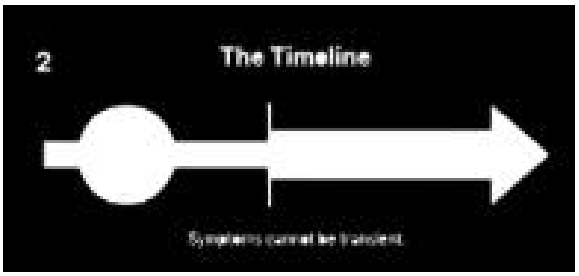
Specific Risk Factors

- **Prenatal:** Complications during pregnancy, prematurity, and substance exposure.
- **Postnatal:** Environmental toxicity (Lead screening is standard).
- **Genetics:** Polymorphisms affect neurotransmitter transport and neuronal growth.

DSM-5 Diagnostic Criteria

Diagnostic Board





The Impact & Exclusion

Impact:

Significant interference with academic, social, or occupational activities.

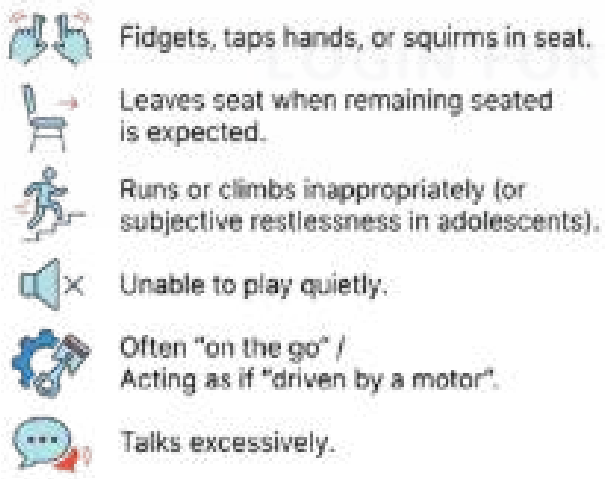
Exclusion:

Not explained by other mental disorders; excessive for developmental level.

DSM-5 Presentations:1. Predominantly Inattentive | 2. Predominantly Hyperactive/Impulsive |3. Combined Type

Clinical Features: Hyperactivity & Impulsivity

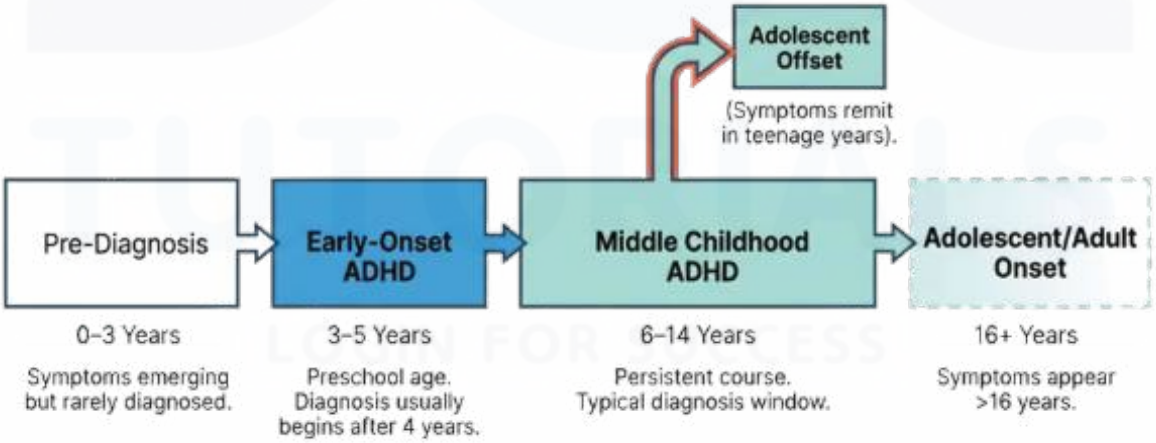
Hyperactivity (6 Traits)



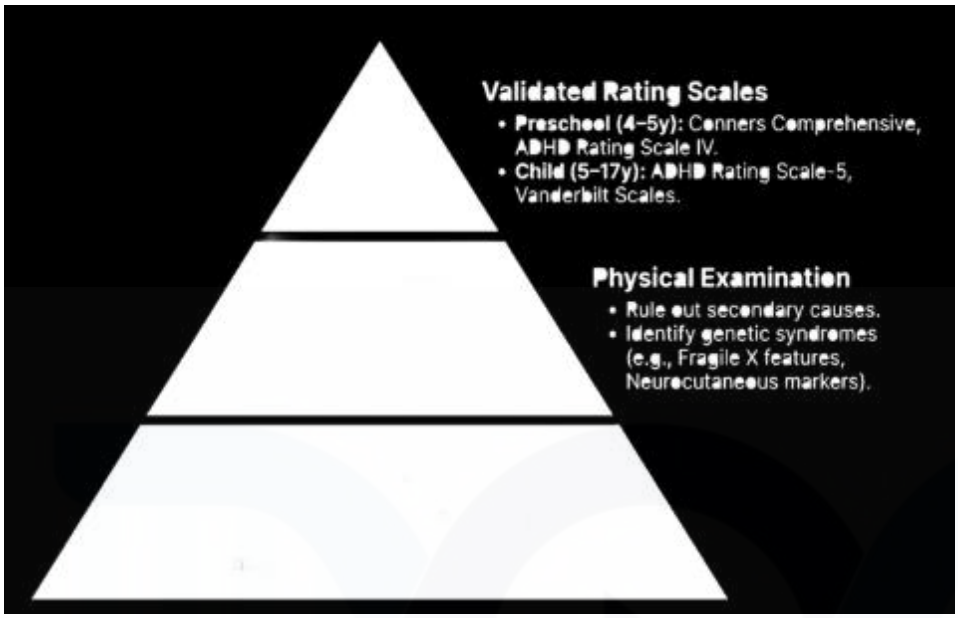
Impulsivity (3 Traits)

Combined Type: Meets ≥6 criteria in both Inattention and Hyperactivity/Impulsivity domains.

Developmental Trajectories



Evaluation & Assessment



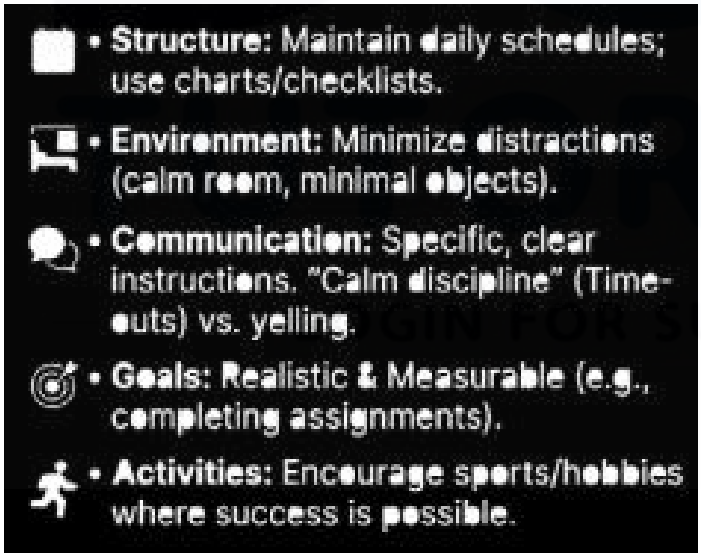
Ancillary Testing (Rule Outs)

- **Hearing/Vision:** Exclude sensory deficits.
- **Thyroid Function:** Hypothyroidism can mimic hyperactivity.
- **Heavy Metals:** Screen for Lead poisoning.
- **Polysomnography:** Only if sleep apnea/restless legs suspected.
- **Genetics:** RT-PCR if syndromic features present (e.g., Fragile X).

Management: Non-Pharmacological (First Line)

Caregiver Interventions

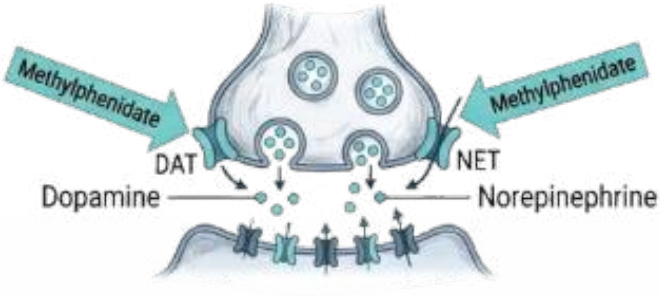
The Environment Checklist



Additional Therapies: CBT (Organization skills), Neurofeedback (Less practical).

Pharmacotherapy: Methylphenidate (Stimulant)

Mechanism



Pharmacokinetics:
Peak Plasma: 1–3 hours.
Half-life: ~3 hours.

Mechanism: Blocks DAT/NET Transporters → Increases Synaptic Dopamine/Norepinephrine.

Clinical Administration

Dosing Strategy

Side Effects List: Decreased appetite, insomnia, sleep disturbances (talking in sleep), weight loss, headache
Risk: Psychotic disorders and Abuse Potential.

Pharmacotherapy: Atomoxetine (Non - stimulant)

Drug Profile:Atomoxetine

- **Mechanism:** Selective Norepinephrine Reuptake Inhibitor (SNRI).
- **Target Area:** Increases NE/DA in Prefrontal Cortex.
- **Safety Profile:** Nodopamine increases in Nucleus Accumbens NO major abuse potential.

Adverse Effects

- Mild appetite suppression, GI issues (vomiting/loose motions), increased BP, headache.
- Suicidal tendencies in 1 - 2% of patients.

Dosing & Administration

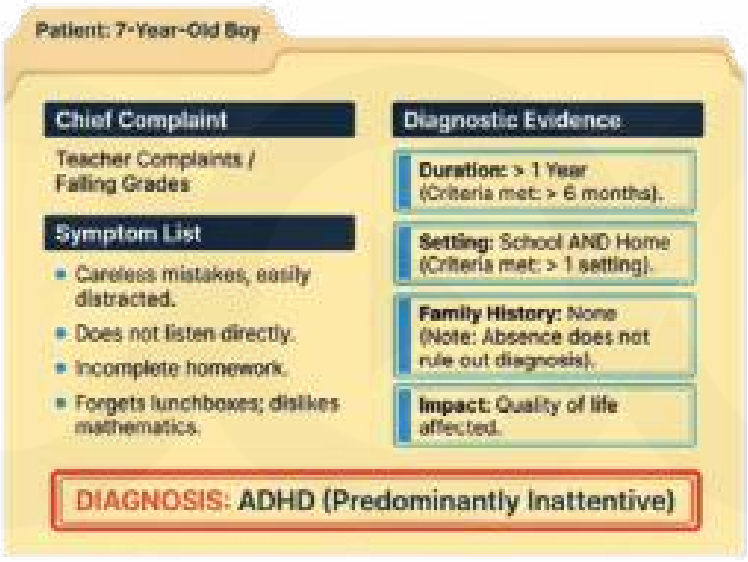
- **Start:** 0.5mg/kg/day.
- **Target:** 1-2 mg/kg/day.
- **Pharmacokinetics:** Peak 1-2 hrs; Half-life 4-5 hrs.
- **Indications:** ADHD+ Tics, Anxiety, or Depression.

Efficacy Hierarchy

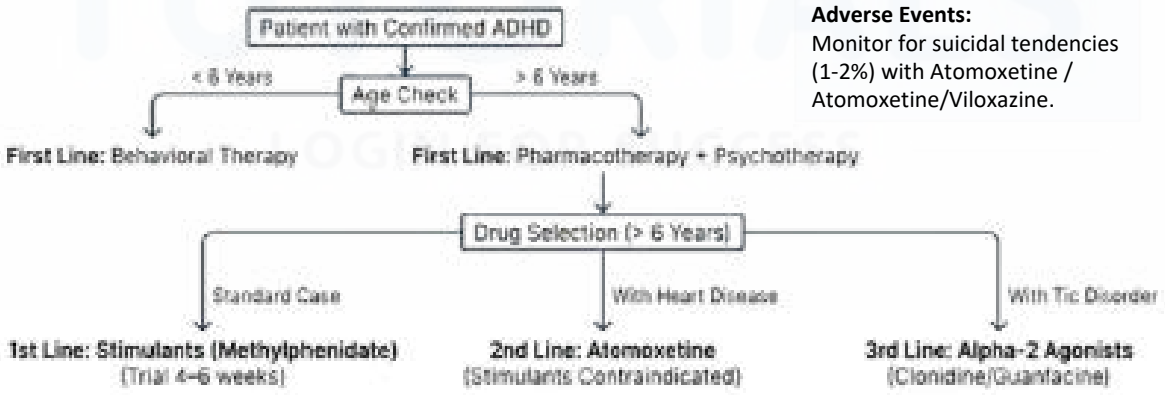
1.Methylphenidate (Superior/Safer)
2. Atomoxetine
3.Amphetamines [FLAG: Verify source rank vs context]
4. Guanfacine
5. Clonidine

New Approval: **Viloxazine** (Extended-release non-stimulant for ages 6-17).

Clinical Case Scenario



"Management Algorithm" in DM Serif Display



Adverse Events:
Monitor for suicidal tendencies (1-2%) with Atomoxetine / Atomoxetine/Viloxazine.

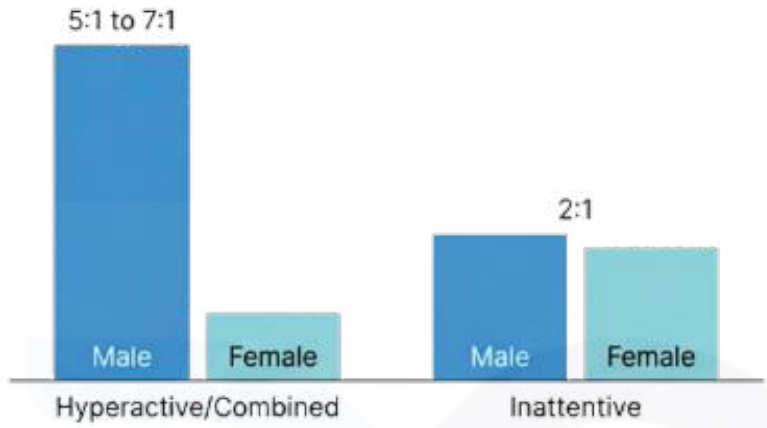
Hierarchy of Lines

1.Stimulants (Methylphenidate) 2.Non-stimulants (Atomoxetine, Viloxazine) 3.Alpha-2 Agonists (Clonidine, Guanfacine)

Adverse Events:
Monitor for suicidal tendencies (1-2%) with Atomoxetine / Viloxazine.

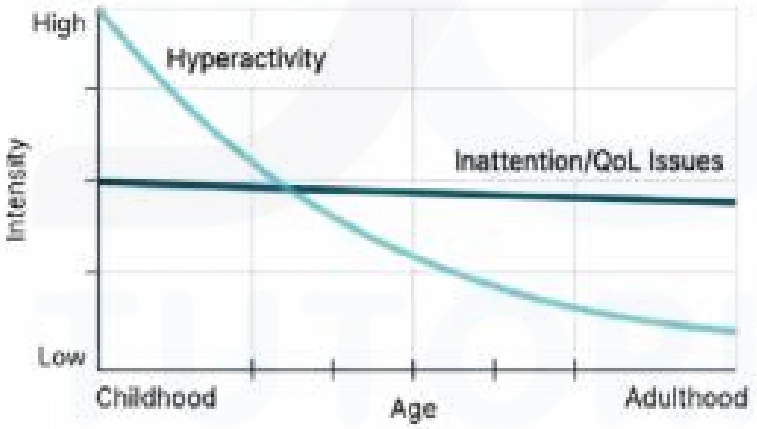
Prognosis & Gender Nuances

Gender Prevalence



Inattentive type is relatively more common in females.

Long-Term Outlook



Hyperactivity reduces; Inattention/Quality of Life issues often persist.

Key to Success: Treatment compliance. Education is vital: ADHD is a medical condition, not "naughtiness".

DOC TUTORIALS

MADE FOR PG RESIDENTS · FOCUSED ON YOUR SUCCESS

PG Residency + NEET SS 2 + 1 Combo NEW

One Plan.
Two Goals.
Your Best Future.

Designed for PG Residents preparing for both **PG Residency & NEET SS.**

Structured Learning
Subject-wise & Systematic

Consistent Practice
High-yield QBank + Regular Tests

Smart Revision & Recall
Revision Notes + Memory Boosters

FREE Access in PG Year 1

Pay Only for PG Year 2 & Year 3

Lock Today's Price

2 Goals. 1 Plan.

Finish Strong in **PG Residency.**
Crack **NEET SS.**

Subscribe Now