ADHD and Psychotic Symptoms

Dr Meghana Rayala

ST6 General Adult Psychiatry, Norfolk and Suffolk NHS Foundation Trust

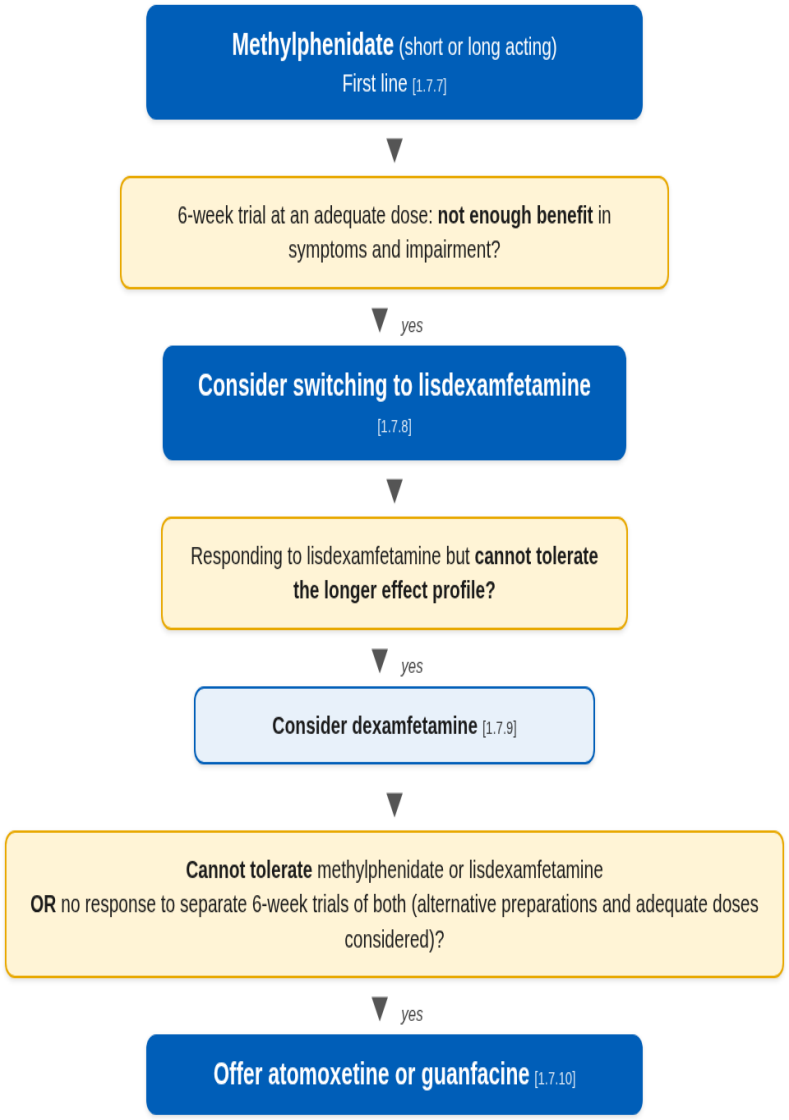
doing special interest in forensic intellectual disability services with Prof. Alexander

Case

- Man in his mid-20s, under hospital order
- Childhood diagnoses of ADHD and autism spectrum disorder
- Brief, intermittent methylphenidate trials, with limited records and probably poor adherence
- Learning disability suspected but not formally assessed; EUPD vs psychosis and GAD queried. ADHD was questioned.
- Arrived on HDAT and atomoxetine
- Presentation:
  - Verbal and physical aggression to others
  - Headbanging
  - Disinhibited
  - Disruptive, with fluctuating, dysregulated emotions, with some insight and apologising later
  - "Staff are talking about me." "People want to hurt me." "Someone keeps telling me to do bad things."
  - Shouting as if responding to someone or in distress
  - Periods of withdrawal
  - Restless, agitated, worried.

ADHD medication choice: children aged 5+ and young people

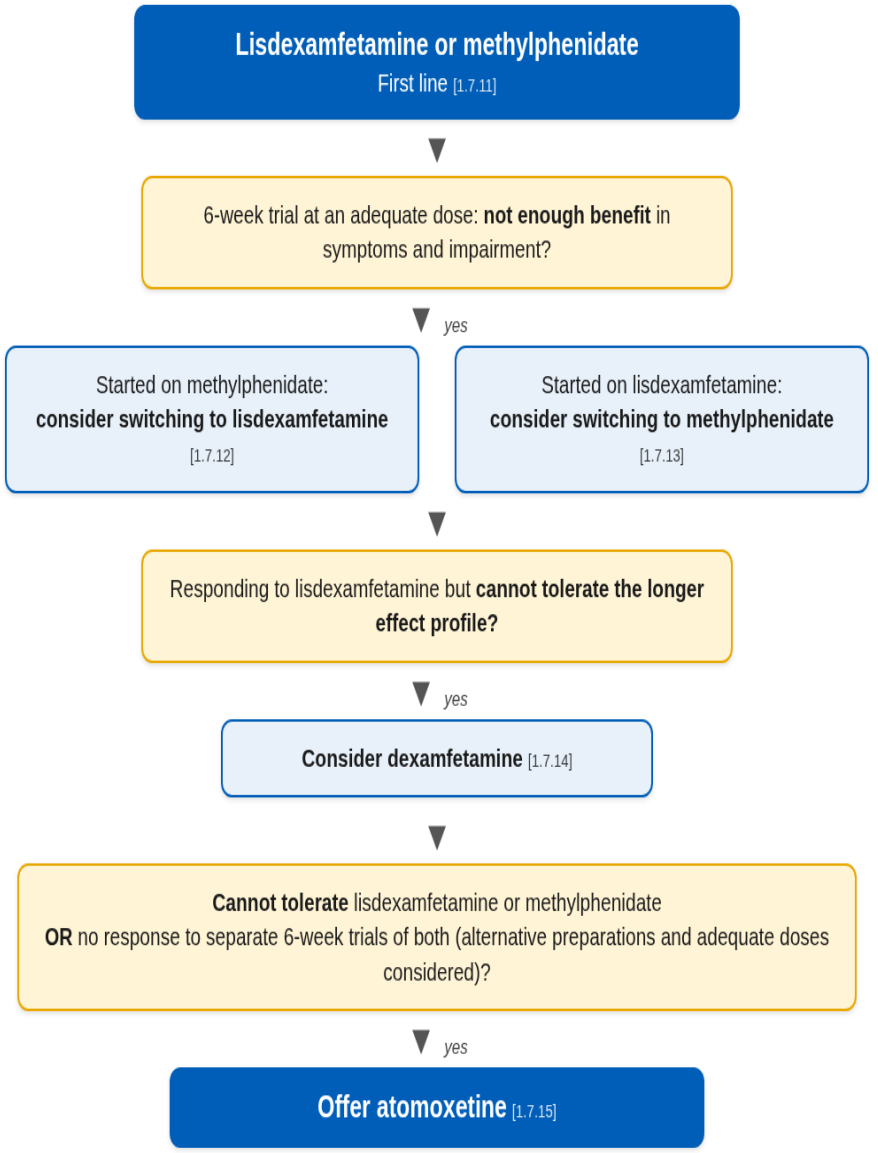
NICE NG87 (2018, updated 2019), recommendations 1.7.7–1.7.10



Source: NICE NG87 Attention deficit hyperactivity disorder: diagnosis and management. nice.org.uk/guidance/ng87

ADHD medication choice: adults

NICE NG87 (2018, updated 2019), recommendations 1.7.11–1.7.15



Source: NICE NG87 Attention deficit hyperactivity disorder: diagnosis and management. nice.org.uk/guidance/ng87

NICE NG87: ADHD medication and psychosis

Recommendations 1.7.19 and 1.7.28 [2018]

NICE 1.7.19 **Acute psychotic or manic episode**

For children aged 5 years and over, young people and adults with ADHD experiencing an **acute psychotic or manic episode**:

- **stop** any medication for ADHD
- **consider restarting** or starting new ADHD medication after the episode has resolved, taking into account the individual circumstances, risks and benefits of the ADHD medication.

NICE 1.7.28 Coexisting conditions: ensure **slower dose titration** and **more frequent monitoring** if any of the following are present:

Neurodevelopmental disorders

Autism spectrum disorder
Tic disorders
Learning disability (intellectual disability)

Mental health conditions

Anxiety disorders (including OCD)
Schizophrenia
Bipolar disorder
Depression
Personality disorder
Eating disorder
Post-traumatic stress disorder
Substance misuse

Physical health conditions

Cardiac disease
Epilepsy
Acquired brain injury

Source: NICE NG87 Attention deficit hyperactivity disorder: diagnosis and management, nice.org.uk/guidance/ng87

Personal View

Are the meds leading to psychotic episodes?

How to screen beforehand the risk of psychosis?

Psychotic symptoms during pharmacological treatment of ADHD: clinical considerations and research needs

Samuele Cortese, Miguel Garcia-Argibay, Dominic Oliver, Zheng Chang, Luis C Farhat, Michael H Bloch, Gonzalo Salazar de Pablo, Henrik Larsson, Marco Solmi, Christoph U Correll, Paolo Fusar-Poli

Is there a way to minimize the risk?

Should I rechallenge? What are my options?

Lancet Psychiatry 2026; 13: 266–74

Published Online October 17, 2025 https://doi.org/10.1016/S2215-0366(25)00248-2

Psychosis during ADHD treatment: nine questions

Framework from Cortese S et al. Lancet Psychiatry 2026;13:266–74

A. What do we know?

1. Are individuals with ADHD at increased risk for psychotic symptoms?
2. How frequent are psychotic symptoms during pharmacological treatment for ADHD?
3. Are different ADHD medications associated with different rates of psychosis?
4. Is there evidence for a causal role of ADHD medications?
5. Why do psychotic events occur during ADHD treatment?

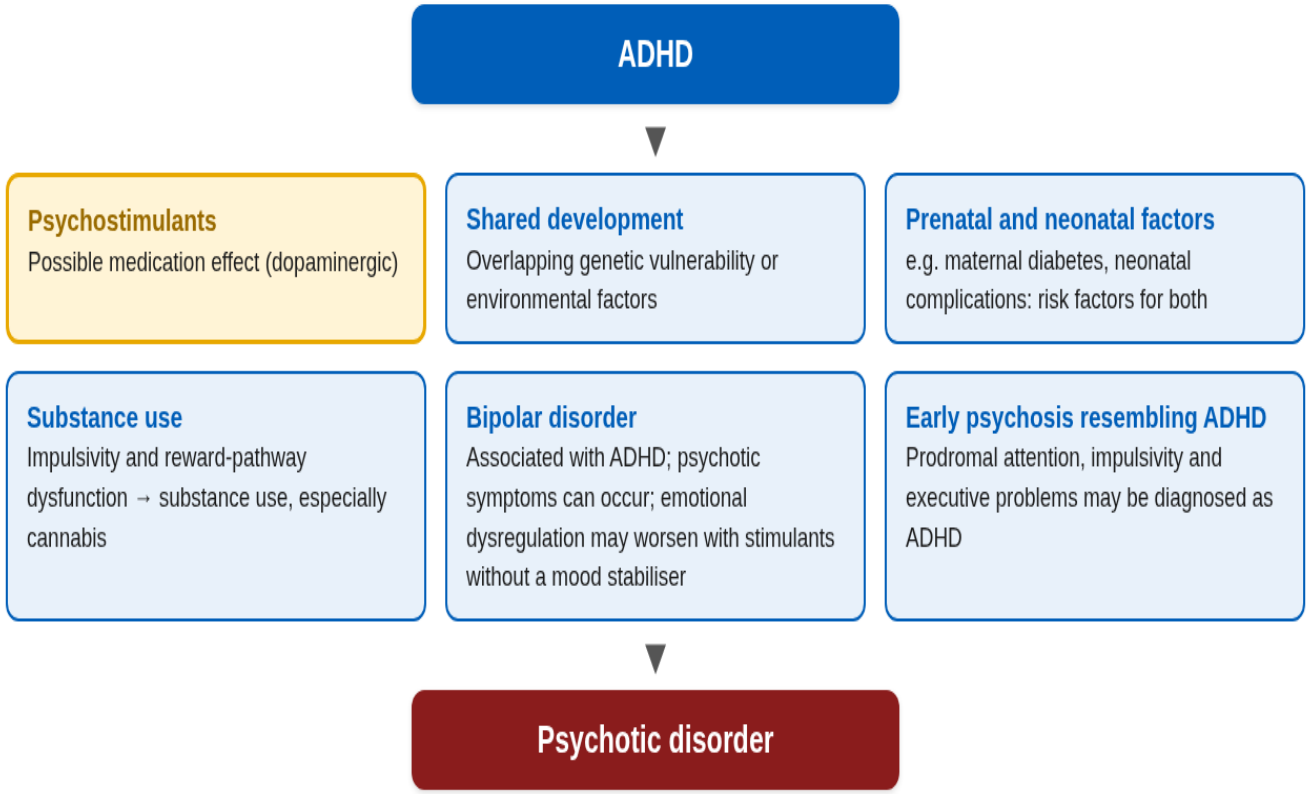
B. What should we do?

6. Should clinicians avoid initiating or discontinue ADHD medication because of psychosis concerns?
7. How should psychosis vulnerability be screened for?
8. What if psychotic symptoms occur despite screening?
9. Should high doses of stimulants be avoided?

Are people with ADHD at higher risk for psychosis?

From ADHD to psychotic disorder: possible pathways

Childhood ADHD: pooled relative risk of later psychotic disorder **4.74** (95% CI 4.11–5.46); 12 studies, 1.85 million participants (Nourredine et al. 2021)



Sources: Cortese S et al. Lancet Psychiatry 2026;13:266–74, doi:10.1016/S2215-0366(25)00248-2. Nourredine M et al. JAMA Psychiatry 2021, doi:10.1001/jamapsychiatry.2020.4799.

How often does psychosis happen when on ADHD pharmacotherapy?

Home | JAMA Psychiatry | Vol. 82, No. 11

Original Investigation FREE

Occurrence of Psychosis and Bipolar Disorder in Individuals With Attention-Deficit/Hyperactivity Disorder Treated With Stimulants

A Systematic Review and Meta-Analysis

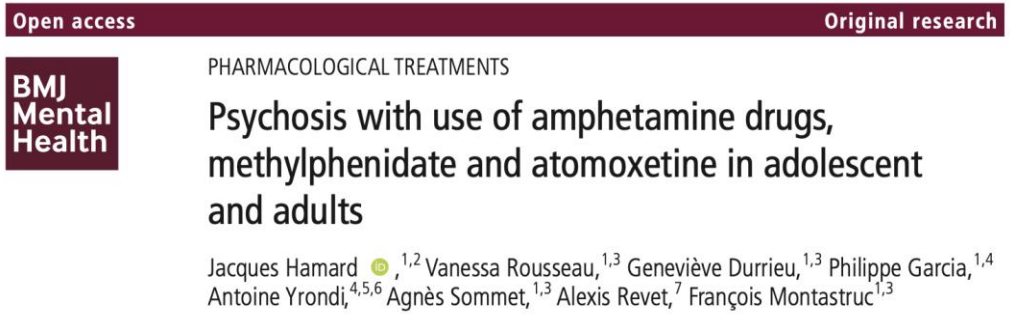
Gonzalo Salazar de Pablo, PhD[1,2,3]; Claudia Aymerich, PhD[1,4]; Juan Pablo Chart-Pascual, MD[1,5]; et al

2.8% develop psychotic symptoms
2.4% develop a psychotic disorder

But the comparison group was the general population
As noted in Q1, ADHD itself carries risk.

Clinicians should expect it. but frequency ≠ causation

Does the risk differ between the ADHD medications?


Open access Original research

BMJ Mental Health

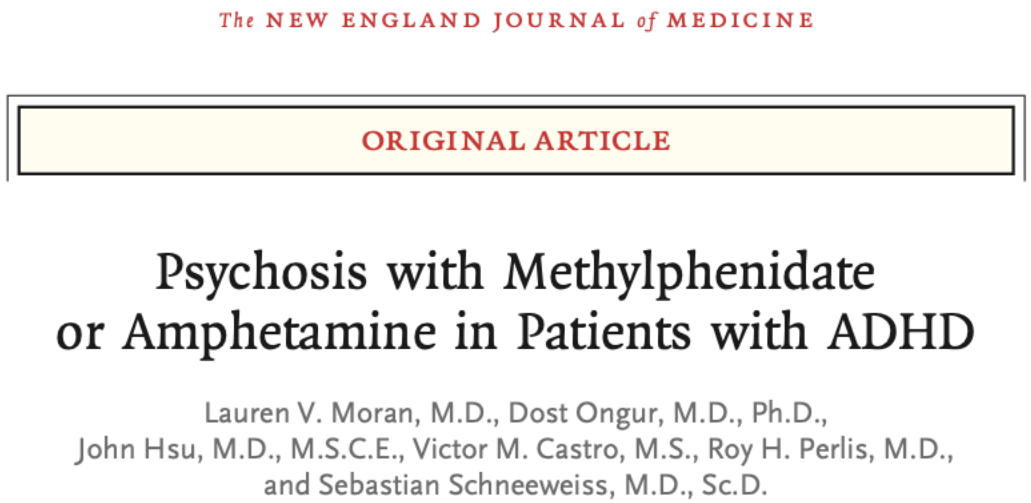
PHARMACOLOGICAL TREATMENTS

Psychosis with use of amphetamine drugs, methylphenidate and atomoxetine in adolescent and adults

Jacques Hamard ,[1,2] Vanessa Rousseau,[1,3] Geneviève Durrieu,[1,3] Philippe Garcia,[1,4] Antoine Yrondi,[4,5,6] Agnès Sommet,[1,3] Alexis Revet,[7] François Montastruc[1,3]

Amphetamine (OR 1.94) > Methylphenidate ≈ Atomoxetine

Confounder: severe ADHD leads to more amphetamine use and also carries a higher risk of psychosis- not considered.


The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Psychosis with Methylphenidate or Amphetamine in Patients with ADHD

Lauren V. Moran, M.D., Dost Ongur, M.D., Ph.D., John Hsu, M.D., M.S.C.E., Victor M. Castro, M.S., Roy H. Perlis, M.D., and Sebastian Schneeweiss, M.D., Sc.D.

Amphetamine (0.21%)>
Methylphenidate (0.10%)

Confounder: ADHD severity and psychosis not considered.

Does ADHD medication cause psychosis?

ORIGINAL ARTICLE

Methylphenidate and the risk of psychotic disorders and hallucinations in children and adolescents in a large health system

KKC Man[1,2,11], D Coghill[3,4,11], EW Chan[1], WCY Lau[1], K Sayal[5,6,11], P Ip[2] and ICK Wong[1,10,11]

Previous studies have suggested that risk of psyc
However, this risk has not been fully examined, an
19 years who received at least one MPH prescripti
on the Clinical Data Analysis and Reporting Syste
psychotic events was calculated comparing perio
patients prescribed MPH, 103 had an incident ps
commencement of observation was 6.95 years ar
participant was exposed to MPH for 2.17 years. Th
per 10,000 patient-years. No increased risk was fo
ratio (IRR) 1.02 (0.53–1.97)). However, an increase
were consistent across all sensitivity analyses. Thi
psychotic events. It does indicate an increased risk
of an association between psychotic events and t
initiation of MPH treatment.

Translational Psychiatry (2016) **6,** e956; doi:10.103

Articles

Methylphenidate and the risk of psychosis in adolescents and young adults: a population-based cohort study

Chris Hollis, Qi Chen, Zheng Chang, Patrick D Quinn, Alexander Viktorin, Paul Lichtenstein, Brian D'Onofrio, Mikael Landén, Henrik Larsson

Why do psychotic symptoms occur during ADHD treatment?

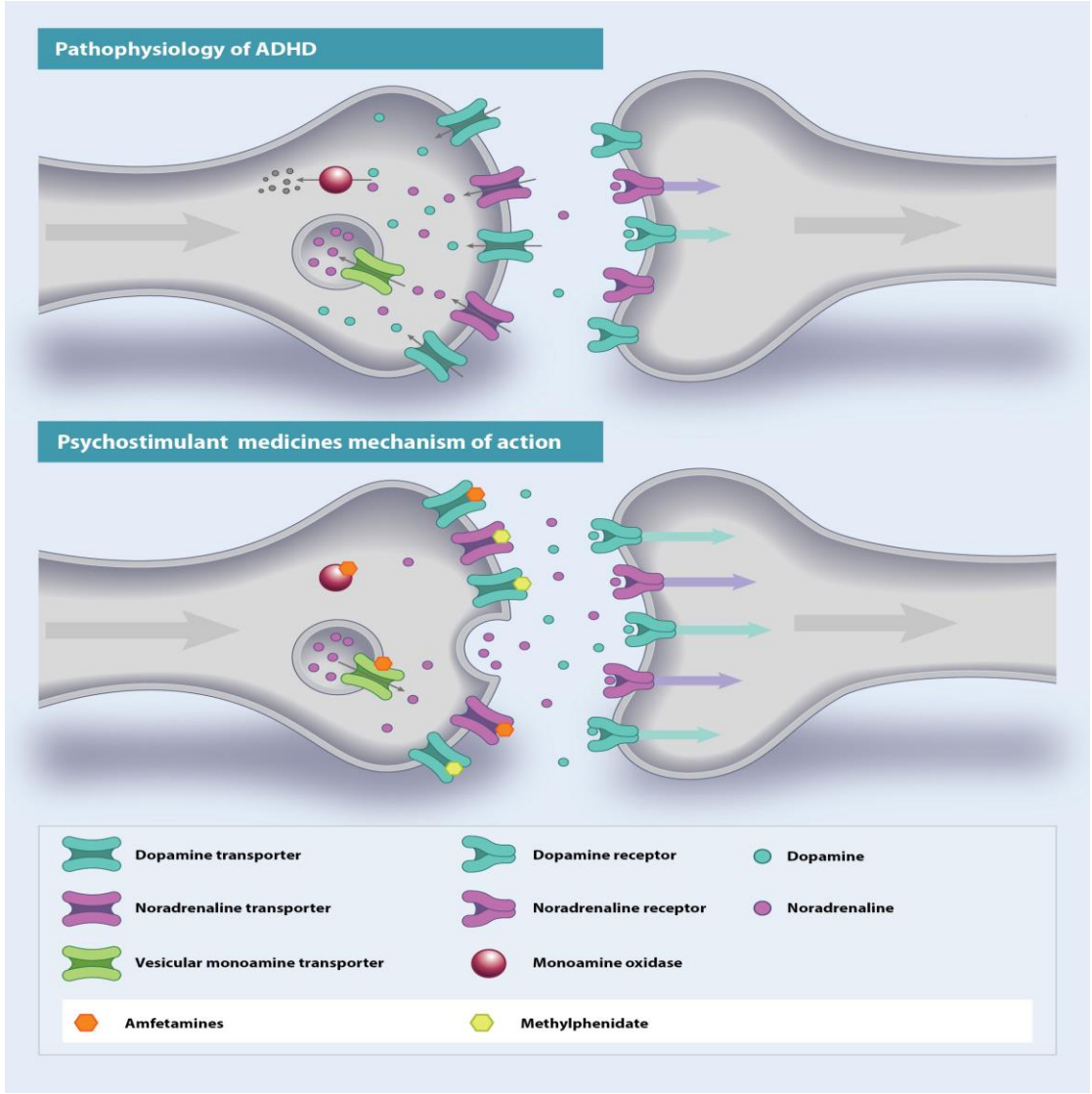
Individual vulnerability to psychosis on stimulants

Low vulnerability — High vulnerability

Most people with ADHD
Rarely develop psychosis,
even on stimulants

A vulnerable subset
Psychosis possible
even at low doses

A group average showing no effect may hide a vulnerable minority



Should we avoid or stop ADHD medications due to concerns of occurrence of psychosis?

Benefits vs risks of ADHD medication

Benefits

Efficacy: SMD 0.8–1.0, among the highest in medicine

Stimulants are associated with fewer:

Suicidal behaviours	**IRR 0.83**
Substance misuse	**IRR 0.85**
Transport accidents	**IRR 0.88**
Criminality	**IRR 0.87**
Recurrent injuries	**IRR 0.84**
Mortality (2-yr)	**HR 0.79**

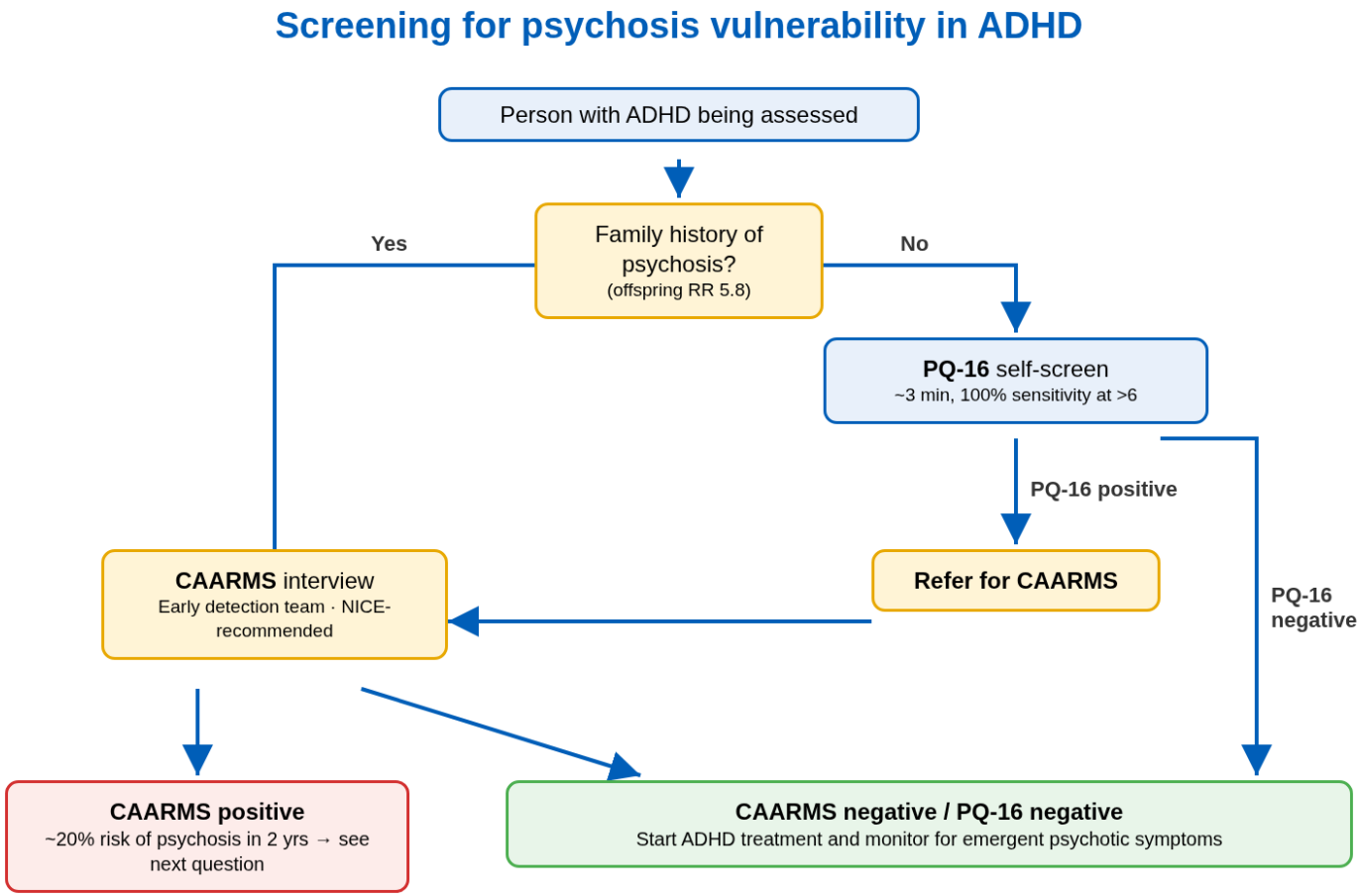
Risk: psychosis

- Relatively **low prevalence** during treatment
- **No solid causal evidence**, at least for methylphenidate
- But a **vulnerable subset** may be at greater risk

Concerns about psychosis are generally **not a reason to withhold** treatment for most patients, so **screen** for the vulnerable subset

Cortese et al., Lancet Psychiatry 2026. Benefit figures are observational associations.

How to screen for psychosis vulnerability in people with ADHD?



Adapted from Cortese et al., Lancet Psychiatry 2026 (figure, pp. 269–70)

What if psychosis occurs despite the screening?

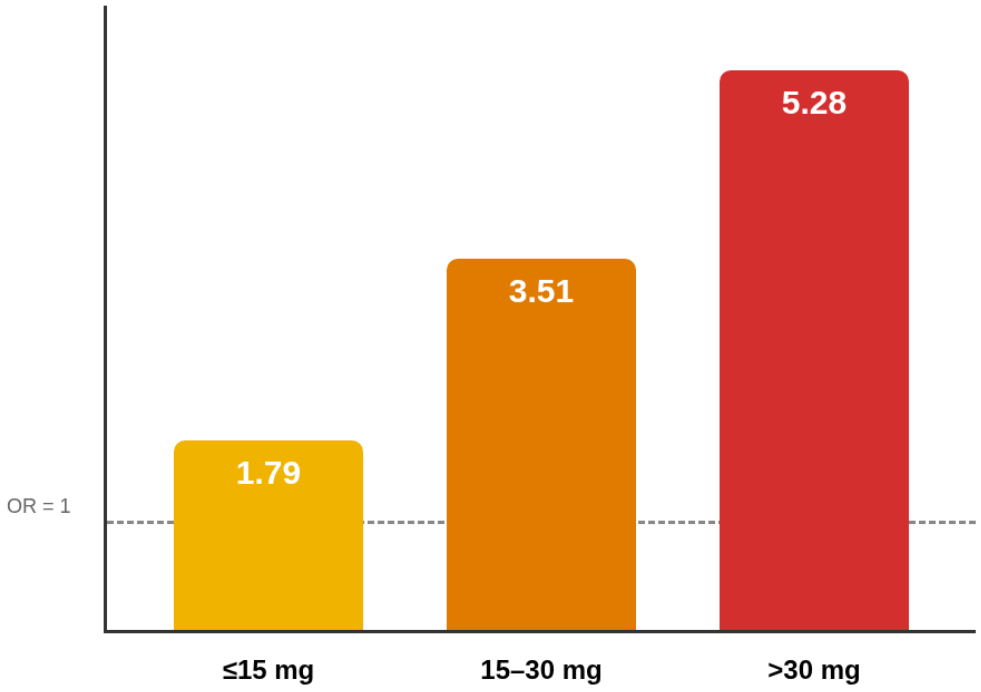
- Screening is still helpful as detects psychosis early reducing the duration of untreated psychosis and better outcomes
- Psychotic symptoms during treatment with therapeutic doses, is mostly transient.
- Can rechallenge with –

  methylphenidate over amphetamines

  Or with non-stimulants.

Should high doses of stimulants be avoided due to concerns about psychosis onset?

Amphetamine dose and odds of psychosis or mania (vs people hospitalised for depression or anxiety)



Methylphenidate not studied

No strict maximum dose, but:
- Assess baseline psychotic symptoms
- Extra caution if CAARMS positive
- Switch or augment before going above licence

Cortese et al., Lancet Psychiatry 2026, p. 271 (case-control study, ref 61)

BJPsych open

BJPsych Open (2026)
12, e274, 1–3. doi: 10.1192/bjo.2026.12146

Commentary

Prescribing psychostimulants for persons with schizophrenia spectrum disorders and attention-deficit hyperactivity disorder: practice with little guidance



Alexander I.F. Simpson, Corina Ziara Dubon Picco, Ofer Agid and Roland M. Jones

Summary

Psychostimulant prescribing for individuals with comorbid attention-deficit hyperactivity disorder and schizophrenia spectrum disorders appears increasingly common despite limited evidence to guide the practice. This commentary highlights diagnostic and treatment challenges, critiques the current evidence base and argues for cautious prescribing, greater attention to substance use and the development of pragmatic clinical guidance.

Keywords

Attention deficit hyperactivity disorders; psychotic disorders/schizophrenia; psychopharmacology; drug or substance interactions and side effects; forensic psychiatry.

Copyright and usage

© The Author(s), 2026. Published by Cambridge University Press on behalf of Royal College of Psychiatrists. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (https://creativecommons.org/licenses/by/4.0/), which permits unrestricted re-use, distribution and reproduction, provided the original article is properly cited.

Stimulants in schizophrenia spectrum disorder: interim principles

1

Stabilise psychosis
Positive symptoms in remission on optimised antipsychotic

→

2

Confirm ADHD
Developmental history + collateral
not rating scales

→

3

Non-stimulant first
Medication, psychological, sleep, substance-use treatment

→

4

If stimulant used
Low dose · slow titration · close monitoring · predefined stop plan

> *"A narrow, highly selected indication subject to close and critical monitoring"*

Simpson et al., BJPsych Open 2026;12:e274

Case

- Man in his mid-20s, under hospital order
- Childhood diagnoses of ADHD and autism spectrum disorder
- Brief, intermittent methylphenidate trials, with limited records and probably poor adherence
- Learning disability suspected but not formally assessed; EUPD and GAD queried
- Arrived on HDAT and atomoxetine
- Presentation:
  - Verbal and physical aggression to others
  - Headbanging
  - Disinhibited
  - Disruptive, with fluctuating, dysregulated emotions, with some insight and apologising later
  - "Staff are talking about me." "People want to hurt me." "Someone keeps telling me to do bad things."
  - Shouting as if responding to someone or in distress
  - Periods of withdrawal

Case

- Treatment planned using the ten-point treatment programme
- Longitudinal assessment: psychotic illness- schizophrenia, ADHD, ASD, Mild LD
- Two previous antipsychotics, plus high-dose antipsychotic therapy (HDAT) → so clozapine started to treat psychosis
- ADHD symptoms of restlessness, fidgety, interrupting, acting w/o thinking, poor concentration, distractibility, emotional outbursts= Atomoxetine poor response, so switched to methylphenidate. Slow titration and psychosis remained stable.
- Following successful community leaves, discharged to supported living and only minor incidents of aggression.



Take-home messages

1. **Rare and mostly transient**
   New psychosis at therapeutic doses is rare; 92% resolved after stopping (FDA data)

2. **Methylphenidate: reassuring data**
   Within-individual studies reassuring; amphetamine risk awaits confirmation

3. **Screen, don't withhold**
   Family history → PQ-16 → CAARMS if needed

4. **Dose matters**
   Higher amphetamine doses linked to higher odds; caution above licence

5. **NICE NG87 gap**
   Stop in acute psychosis, but no guidance on screening, drug choice, dose or rechallenge

6. **Established psychosis**
   Stabilise first, non-stimulant first; stimulant only for a narrow, highly selected indication with close monitoring

Cortese et al., Lancet Psychiatry 2026;13:266–74 · Simpson et al., BJPsych Open 2026;12:e274 · NICE NG87

Questions?

Thank you