

ADHD MEDICATION · 4.8

# ADHD Medication and the Heart: What the Cardiovascular Evidence Shows

What the meta-analyses and cohort studies actually show about the cardiovascular safety of ADHD medication, the NICE NG87 monitoring standard, and where extra caution is warranted.

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FOR

Adults and parents thinking about cardiovascular safety on ADHD medication

AUDIENCE AGE

REVIEWED

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PART OF

The NeuroFX resource library

## IN SUMMARY

# ADHD Medication and the Heart: What the Cardiovascular Evidence Shows

## What ADHD medication does to the cardiovascular system

- **Stimulants and atomoxetine raise sympathetic activity a little.** The expected effect is a small rise in resting heart rate (a few beats per minute) and blood pressure (a few millimetres of mercury). Most patients tolerate this well. Individual responses vary.
- **Guanfacine acts in the opposite direction.** It lowers blood pressure and heart rate, which is why its monitoring focuses on dizziness on standing, fainting and sedation.
- **The serious-event question is the one most patients ask.** The relevant evidence is on heart attack, stroke, sudden cardiac death and serious arrhythmia, not the small expected changes in routine measurements.

## What the population-level evidence shows

- **A 2022 meta-analysis of nearly four million participants.** Zhang and colleagues pooled 19 studies in JAMA Network Open and found ADHD medications were not associated with a statistically significant increase in serious cardiovascular events at the population level. Subgroups with existing cardiovascular disease were flagged as warranting caution.
- **The 2018 Cortese network meta-analysis came to a similar conclusion.** Cardiovascular effects of stimulants and atomoxetine in the trial data were mainly the modest rises described above. Serious cardiovascular events were uncommon.
- **Reassuring for healthy patients with normal baseline measurements.** More nuanced for patients with established cardiovascular disease, structural cardiac abnormalities, or a strong family history of early sudden cardiac death.
- **ADHD itself carries cardiovascular and mortality risk.** Untreated ADHD is associated with elevated risks from behavioural factors. Treatment reduces some of these. The conversation is risk-benefit, not whether there is any risk.
- **Standard NICE NG87 monitoring catches the patients who need closer attention.** Baseline and follow-up blood pressure, heart rate, weight, history. ECG where there is a cardiac history or family history of early sudden cardiac death. Cardiology input where the picture warrants it.

## How we monitor

- **Baseline measurements before starting.** Blood pressure, heart rate, weight (and height in children), full medical and family history, with specific questions about cardiac symptoms and family sudden cardiac death.
- **Monitoring through titration and at every review.** Blood pressure and heart rate at each dose change. Symptom enquiry for chest pain, palpitations, breathlessness and fainting. Annual review as a minimum on long-term treatment.
- **Cardiology input where the picture warrants it.** Established cardiovascular disease, strong family history of early sudden cardiac death, or significantly elevated baseline measurements all prompt cardiology input. This rarely means medication is off the table; it shapes the decision and the monitoring.

**WHEN TO SPEAK TO A PROFESSIONAL**

Speak to your GP, your prescriber or NHS 111 if a new cardiovascular symptom appears, if blood pressure or heart rate feels noticeably different, or if any new chest, breathing or fainting symptom develops. Seek urgent help via 999 or A&E for chest pain, shortness of breath, fainting or any acute cardiac symptom.

**SOURCES**

NICE NG87; Zhang et al. 2022 (JAMA Netw Open); Cortese et al. 2018 (Lancet Psychiatry); BNF; MHRA

**NEXT STEPS****Speak to NeuroFX**

Private ADHD and autism assessment for adults and children aged 6 and upwards.  
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