

DIET AND SUPPLEMENTATION · 14.4

Zinc and Magnesium in ADHD: The Real Evidence Base

Zinc and magnesium are commonly marketed for ADHD. The evidence on both is real but narrower than the marketing implies. Zinc has trial evidence in populations with high background zinc deficiency; magnesium has a weaker evidence base. Routine high-dose use is not appropriate without testing.

FOR

Parents and adults asking about mineral supplements for ADHD

AUDIENCE AGE

All ages

REVIEWED

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PART OF

The NeuroFX resource library

IN SUMMARY

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What the trials actually show

- **Zinc has real trial evidence in zinc-deficient populations.** Bilici 2004 in Turkey showed a significant effect on hyperactivity and impulsivity. Akhondzadeh 2004 in Iran showed zinc adjunct to methylphenidate outperformed methylphenidate alone.
- **The same effect did not replicate in a US trial.** Arnold 2011 in a likely zinc-replete US population found no significant effect. The geographic difference almost certainly reflects baseline zinc status; supplementation helps where deficiency exists, not where it does not.
- **Magnesium evidence is thinner.** Mousain-Bosc 2006 was open-label without blinding. No large high-quality randomised trial in ADHD specifically. Magnesium has effects on sleep onset in some populations; that may help indirectly where sleep is part of the picture.

Real risks worth naming

- **Long-term high-dose zinc causes copper deficiency.** Documented in case reports across decades. Produces anaemia and neurological symptoms including peripheral neuropathy. Not theoretical. Standard nutritional intake levels are fine; megadosing over months or years is the problem.
- **High-dose vitamin B6 causes irreversible neuropathy.** Long-term doses well above standard nutritional intake cause peripheral sensory neuropathy that may not reverse. MHRA and EFSA both warn. Some magnesium-B6 ADHD products contain high B6 doses; check the label.
- **Branded ADHD mineral blends are usually a bad tool.** Where someone is genuinely deficient, standard mineral preparations under clinical supervision are the right approach. Where they are not deficient, the branded product is unlikely to help and may carry the megadose risks above.

What to do practically

- **Diet first.** A varied diet with adequate protein, whole grains, dairy or alternatives, and vegetables gives reasonable zinc and magnesium intake for most UK eaters. Restricted diets are where deficiency becomes plausible.
- **Test before supplementing where deficiency is suspected.** Standard blood tests for zinc and magnesium are available. Random self-supplementation without testing is the wrong approach.
- **Disclose supplements to the prescriber.** Particularly relevant on stimulant medication where appetite suppression can reduce dietary intake. The prescriber and pharmacist need the full supplement list.

WHEN TO SPEAK TO A PROFESSIONAL

If you are considering zinc, magnesium or combined mineral supplementation for ADHD, speak to your GP, prescribing clinician, pharmacist or a registered dietitian first. Where dietary insufficiency is plausible, blood testing is appropriate. Do not routinely megadose minerals without clinical oversight. NeuroFX assessment includes a review of current supplements; the clinical team can advise on interactions with prescribed medication.

SOURCES

Bilici 2004; Akhondzadeh 2004 BMC Psychiatry; Arnold 2011; Mousain-Bosc 2006; Sonuga-Barke 2013 Am J Psychiatry; NICE NG87

NEXT STEPS**Speak to NeuroFX**

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