NeuroFX
Changing Minds

DIET AND SUPPLEMENTATION · 14.3

Iron, Ferritin and ADHD: When It Matters and When It Does Not

Iron is the supplementation question with the cleanest clinical answer in ADHD. Treating documented iron deficiency under medical supervision often helps. Supplementing without testing is wrong: real risks include iron overload, gut side effects, medication interactions and accidental poisoning in children.

FOR
Parents and adults asking about iron and ferritin in ADHD

AUDIENCE AGE
All ages

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PART OF
The NeuroFX resource library

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IN SUMMARY

Iron, Ferritin and ADHD: When It Matters and When It Does Not

Why iron matters in ADHD

- **Iron is a cofactor for dopamine synthesis.** Tyrosine hydroxylase, the rate-limiting enzyme, depends on iron. Low iron may compromise dopamine signalling. The biological prediction is straightforward.
- **Children with ADHD have lower mean ferritin.** Konofal 2004 found around 84 percent of an ADHD group below 30 mcg/L compared with 18 percent of controls. Later meta-analysis confirmed lower mean iron and ferritin levels in paediatric ADHD.
- **Supplementation helps where deficiency is documented.** Konofal 2008 randomised trial in iron-deficient children with ADHD showed measurable improvement on rating scales after twelve weeks. Restless legs and periodic limb movements, more common in ADHD, often improve with iron repletion too.

Who should be tested and what to do

- **Request a full blood count and ferritin.** Standard test, widely available. NHS or pharmacy private testing is fast. Reasonable triggers: poor dietary iron intake, restless legs, sleep disturbance, vegetarian or vegan diet, heavy menstrual bleeding.
- **The threshold is contested.** Standard laboratory cut-offs use around 12 to 15 mcg/L. Some ADHD literature uses 30 mcg/L on the basis that brain iron may be depleted before peripheral measures cross the standard threshold. The contested middle range needs an individual clinical decision.
- **Diet first where appropriate.** Where mild dietary insufficiency is the contributor, dietary modification (red meat, oily fish, fortified cereals, beans and lentils with a vitamin C source) is the first-line answer. A registered dietitian can be useful, particularly for vegetarian and vegan diets.
- **Iron is not a substitute for ADHD treatment.** Where iron-deficient, treating may reduce medication dose needed. Where iron status is normal, supplementation does not improve ADHD symptoms.

Why routine iron without testing is wrong

- **Iron overload is real risk.** Hereditary haemochromatosis affects around one in two hundred people of Northern European descent. Adding iron to undiagnosed haemochromatosis is straightforwardly harmful.
- **Side effects and interactions are real.** Oral iron produces gastrointestinal side effects in around a third of patients. Iron reduces absorption of thyroid replacement, some antibiotics and some Parkinson's medications. Iron overdose is a leading cause of accidental paediatric poisoning.
- **Test first, then treat if indicated, under clinical supervision.** Do not start oral iron without a blood result, particularly for children. Marketing aimed at all children with ADHD to take an iron supplement irrespective of testing is selling unnecessary product.

WHEN TO SPEAK TO A PROFESSIONAL

If your child or you have ADHD and the iron question is reasonable, ask your GP for a full blood count and serum ferritin. Where iron deficiency is documented, treatment is standard primary-care medicine. Do not start oral iron without a blood result. NeuroFX assessment includes a review of relevant medical history and current supplements; the clinical team can advise on the iron question alongside the wider ADHD treatment plan.

SOURCES

Konofal 2004 Arch Pediatr Adolesc Med; Konofal 2008 Pediatr Neurol; Cortese 2009; Tseng 2018 Sci Rep; NICE NG87; BNFc

NEXT STEPS

Speak to NeuroFX

Private ADHD and autism assessment for adults and children aged 6 and upwards. CQC-registered. Bedford Consulting Rooms, 4 Goldington Road, Bedford MK40 3NF.

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