

FREE GUIDE

Endurance

Running, cycling, swimming and triathlon: iron, vitamin D and recovery.

Blood tests for endurance: running, cycling, swimming

Long hours of training change your iron, your vitamin D and how you recover. A few markers, compared with your own baseline, show where you stand.

It can

- ✓ Show your iron stores before haemoglobin falls
- ✓ Show your vitamin D after winter and indoor training
- ✓ Give you a baseline to compare each training block with

It cannot

- ✗ Find or rule out REDs or overtraining: no single test does that
- ✗ Make you faster: raising ferritin helped only when it was very low
- ✗ Decide on iron tablets: that is your GP's call, after a measured deficiency

WHY IT MATTERS

01

Low iron is the most common problem in endurance sport, and it comes before anaemia

About 15 to 35% of female and 5 to 11% of male athletes are low in iron. In elite runners and triathletes followed for six years, 60% of the female triathletes had at least one episode. Ferritin shows your stores.^[1, 2, 3]

02

Endurance training itself moves your iron

Exercise loses iron through sweat, the gut, the urine and the breakdown of red cells. The inflammation after hard sessions raises hepcidin, a hormone that cuts how much iron you absorb.^[4]

03

Not eating enough for your training shows in the blood

The IOC lists low T3, low testosterone in men and raised cholesterol among the signs of not eating enough for your training. Endurance is the sport where training volume weighs most.^[5, 6]

WHY IT MATTERS

04

UK winters and indoor training lower vitamin D

In a review of 2,313 athletes, 56% had low vitamin D; the risk was higher in the UK, in winter and early spring, and in indoor sport, such as pool swimming. In a UK study, 62% of professional athletes not taking supplements were under 50 nmol/L in winter.^[7, 8]

05

In cycling, urea follows training load better than CK

In simulated training camps, cycling fatigue showed in urea, while CK was the marker for strength and team sport. Both only mean something against your own baseline.^[9, 10]

What usually makes sense, and when to repeat it

TEST	WHY	WHEN TO REPEAT
Ferritin, with iron and transferrin saturation	Your iron stores. Iron deficiency is common in endurance athletes and can be there before haemoglobin falls. ^[1, 2, 3, 4]	About twice a year, and before a big training block or altitude; after treatment, as your GP advises.
Full blood count	Haemoglobin and red cells. Training expands blood plasma, so haemoglobin can read slightly low in trained athletes without true anaemia. ^[3, 11]	With your ferritin.
High-sensitivity CRP	Inflammation. A long race or a hard session raises it for a short time and can push ferritin up, so it helps read your iron result. ^[12, 13]	With your ferritin.
Vitamin D, 25(OH)D	Your vitamin D level. Winter, early spring and indoor training, such as pool swimming, raise the chance of a low result. ^[7, 8, 14, 15]	Late autumn or winter; after supplements, as your GP advises.
Urea and CK	Load and recovery. In endurance training urea follows fatigue best; both only mean something against your own baseline. ^[9, 10, 16]	As a series, at the same time of day and the same point in your training week.
Free T3, testosterone (men) and cholesterol	The IOC lists low T3, low testosterone in men and raised cholesterol among the signs of not eating enough for your training. No single test confirms it; the pattern is something to take to your GP. ^[5, 6]	If you have signs such as tiredness, falling performance, a bone stress injury or missed periods, as your GP advises.
B12 and folate (vegan, vegetarian or restrictive diet)	Vegan and vegetarian diets, or cutting out food groups, raise the risk of low B12. ^[17]	If your diet changes, or as your GP advises.

What to do with your result

Your result arrives in your account, with reference ranges. A value outside the range, or a symptom with a normal result, is a conversation with your GP: treatment and supplements are their call. Repeat the same test later to compare.

SOURCES

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Scan for the full page, the tests that cover these markers, a short video and the guided check-up.

bpr.clinic/blood-tests/for/endurance

General information, not personal medical advice. Talk to your GP about your own situation. Questions: hello@bpr.clinic or message us in the BPR app.

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