

Study finds up to 35 percent of female athletes are iron deficient

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Female athletes may be comfortable pumping iron but they're also alarmingly deficient in the vital mineral.

A new paper from The University of Western Australia (UWA), Edith Cowan University (ECU), and the WA Institute of Sport (WAIS) reviewed existing research which found that up to 35 percent of [female athletes](#) are [iron](#) deficient—compared to about five percent in the general population.

Male athletes may also be iron deficient—because [exercise](#) can inhibit the body's ability to absorb iron—but only around 11 percent of them are affected, compared to one percent of the general population.

Iron is essential for the production of new [red blood cells](#).

Researcher Dr. Marc Sim from ECU's School of Medical and Health Sciences said while the research looked at athlete populations, the results applied to anyone who regularly exercised.

"There are a number of ways that doing a lot of exercise can inhibit the body's ability to absorb iron," Dr. Sim said.

"Firstly, exercise promotes the production of a hormone that inhibits the gut's ability to absorb iron.

"We also know that the repeated impact on the body from running can actually destroy red blood cells, which carry iron and oxygen around the body.

"People who exercise a lot are also more likely to have an energy deficit that can increase the risk of an iron deficiency."

The symptoms of iron deficiency include feelings of lethargy, fatigue or listlessness, poor recovery from exercise and a reduction in athletic performance.

Co-researcher Associate Professor Peter Peeling from UWA's School of Human Sciences said getting more iron into the diet or taking iron supplements were the best ways to counter a deficiency.

"The first approach for iron deficient athletes is to increase dietary iron intake by eating foods like red meat, beans, lentils and leafy green vegetables," Professor Peeling said.

"The most common next approach is to consume an oral iron supplement.

"If the athlete remains unresponsive, their doctor may then consider the use of an intravenous infusion."

The researchers also developed a set of standardized guidelines to help health professionals more accurately assess the iron levels of athletes and active people.

Professor Peeling, who is also research director at the WAIS High Performance Sport Research Centre, said it was important to take into account an individual's activity levels in the days leading up to iron level testing.

"In the same way that you need to fast before a blood glucose test to get an accurate result, you should avoid doing strenuous exercise before having your iron levels checked," he said.

"Iron considerations for the [athlete](#): a narrative review" was recently published in the *European Journal of Applied Physiology*.

More information: Marc Sim et al. Iron considerations for the athlete: a narrative review, *European Journal of Applied Physiology* (2019). [DOI: 10.1007/s00421-019-04157-y](https://doi.org/10.1007/s00421-019-04157-y)

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