

Iron is vital to red blood cells and myoglobin, which interact with oxygen. Normal oxygen levels are needed for elite athletes to perform at their best. Studies have been conducted to examine if iron levels affect athletic performance. Five articles identified using Medline searches of “elite athletes and iron levels” were used in this systematic review. They were all cross-sectional studies. Three studies focused on elite female athletes, while the other two focused on elite male athletes. Data was taken via 24-hour food recalls or records, questionnaires and blood tests. Four out of five studies demonstrated that low iron levels could affect athletic performance, while the remaining study showed that the control group had a higher rate of iron deficiency compared to the athletic group. Over time ferritin levels decrease and iron stores decline, leading to iron deficiency, which could lead to anemia. The type of exercise or workout regimen can also influence ferritin levels and iron storage. Limitation included only examining one gender in each study, as well as taking a single blood test compared to periodical blood tests. Not evaluating the participant’s diet in each study would be another limitation. Strengths of the studies included looking at numerous sports and their athletes, examining iron stores in aerobic and anaerobic exercises. Additional research is needed to support the assertion that iron status affects the performance of elite athletes. Research is also needed to further examine the benefits and disadvantages of iron supplementation in this target group.

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