Exercise induced anaemia

Individuals who partake in high intensity or large volumes of exercise can develop anaemia as result of this. This is thought to be the result of multiple causes.

1) Blood in the urine
2) The breakdown of red blood cells
3) Blood loss from the gut
4) Iron deficiency anaemia
5) Heavy menstruation (females)

1) Blood in the urine is commonly seen in runners. It results from minor trauma to the empty bladder as an individual runs. The blood loss is minimal and usually clears within 1-2 days.
2) The breakdown of red blood cells can also be increased due to the impact of running. This is thought to be worsened by running on hard surfaces, with poorly cushioned shoes and in individuals who run with a running style with high knees and forceful landing.
3) Blood loss from the gut can occur when an individual exercises, because the blood supply to the gut is redirected to the exercising muscles. This reduction in blood supply causes minor damage and resultant blood loss. This effect is worse if one is dehydrated or uses anti-inflammatory medication.
4) Iron deficiency anaemia. This is by far the most common cause/biggest contributor to exercise induced anaemia.

Iron is very important for an individual to be able to perform optimally. When low, it can affect breathing and the transport of oxygen in the blood. After ingestion, iron is absorbed in the small intestine. High intensity or large volumes of exercise can induce a mild inflammatory response which inhibits this absorption. As ones iron stores (ferritin) fall, one may start to feel tired. The lower they are, the more enhanced this effect may be.

Iron comes in various forms: meat and plant based. Meat products contain two forms of iron whereas plant based sources only contain one. The type of iron found in meat is more easily absorbed than that found in plant based sources. The recommended daily intake of iron for adults is 14mg/day. Certain foods can improve the absorption of iron (Vitamin C and fermented foods). One may want to add these to their meals with iron containing foods to enhance absorption. Certain foods can also prevent the absorption of iron (coffee, black tea and calcium). One should avoid eating these products when eating iron containing foods.

Iron deficiency anaemia can be diagnosed through blood tests. If diagnosed, oral iron supplementation may be required. It is also important to modify ones diet to make sure it includes dietary sources. The recommended dose of oral iron supplementation in adults is 40-

60mg of elemental iron per day. Higher doses are not beneficial and may cause gastrointestinal side effects. One should also not take oral iron supplementation if not necessary as this can also have negative effects.

After starting iron supplementation and addressing dietary shortfalls, please be sure to follow up with your doctor again in 6-8weeks to repeat the blood tests to check your levels are improving. Some athletes may require intermittent supplementation and some individuals (vegetarians, females with heavy menstruation) may require chronic supplementation to maintain adequate iron (ferritin) stores.

[NB the above values are recommended for individuals older than 15years of age. Children have lower daily requirements and iron (ferritin) target levels. Please consult your doctor with regards to these.]

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