



## **FATIGUE 1– 2 MILES INTO A RACE**

### **IT'S NOT IN YOUR HEAD - LOW FERRITIN LEVELS?**

I receive a lot of emails and phone calls about fatigue and racing. The runner will tell me that on race day she breaks down at about 1 – 2 miles into a 3 mile race and just can't get her legs moving. She reports that her training is going fine but on race day things go south. Is it all in her head? Why not, she can train, so why can't he race? The athlete gets frustrated, the coach gets frustrated, and the team can get frustrated. I want to go on the record to say ITS NOT IN YOUR HEAD. You need to get checked out medically BEFORE YOU JUMP TO THE CONCLUSION THAT IT IS ALL MENTAL. Fatigue is a symptom – not a diagnosis. What the diagnosis is remains a mystery until all medical issues are addressed. One of the most common causes is LOW FERRITIN IRON levels.

Early on in my coaching career, I had an athlete named Amanda. Amanda had a heart of gold, an incredible work ethic, and a drive to succeed. So, I could not understand why Amanda's racing times were nowhere near her training times. I took heart rate checks on her frequently and she was right on target, so why could she not put it together on race day. Amanda was a very energetic young woman and was always bubbly and bouncy. She seemed like she could go forever. I would watch her race and something horrible would always happen around the 1.5 mile mark. She would turn pasty white and her entire technique would go out the door. I could not get that look to replicate in training. The only cue I did have in training, was that Amanda would take a little longer to recover than others. I also noticed that we hit a sticking point where she could no longer adapt to new levels, easy levels too. I kept asking myself "WHY". We decided she needed her iron levels tested. The hemoglobin test came back normal and that was where the doctor ended it. I demanded a deeper level iron test and after several arguments with the doctor we finally got it. Amanda came back at a Ferritin Iron level of 4 - VERY VERY VERY bad

Ferritin is an iron-storage protein which keeps the iron in a dissolved state and also makes the iron non-toxic to cells around it. We can have perfectly normal hemoglobin iron level but still be very low in our stores. Low Ferritin levels are the precursor for anemia. It can be symptomless and is a lot more frequent then ever reported. It is recommended that Ferritin levels be at 50 to 150. The problem is that

most doctors use the old charts which state for woman 18 – 200 and men 20 – 300. The Ferritin level of 18 is way too low and will affect anyone in an aerobic event that lasts longer than 7 - 10 minutes.

Cross country races are aerobic events (meaning oxygen is required to fuel the muscles). Approximately 1 – 2 miles into an aerobic event (running a race) the body will call upon the iron storage to help transport the oxygen. If the iron storage (Ferritin) is low, the oxygen transportation system is compromised. The body cannot get the oxygen required to maintain the pace so the body starts to slow and things begin to shut down. As coaches, our intervals are not usually over a mile or a mile and a half in length. My athlete, Amanda, could train fine and recover between intervals. She would not require the use of iron storage in her training. Hence, the training was fine but the racing did not translate.

Low iron storages cannot only affect the young athlete on the field but also in the classroom. This is a huge problem and needs to be addressed and researched even more. Kids with ADD, ADHD, Anxiety, etc. can be amplified by low Ferritin Iron levels. Combine an athlete that has anxiety with a low Ferritin level and it can be devastating not only on the athletic field but even more important in the classroom and at home.

Here are some common symptoms of low iron levels:

- chronic fatigue and tiredness
- weakness
- dizziness
- headaches

Other Subtle Symptoms of low Ferritin levels

- Consistent drop in performance (might even see a big difference from season to season)
- Report of a dramatic onset of fatigue part-way through the race on a consistent basis
- Athlete's appearance while racing becomes pale, lips may turn blue, and they may appear disoriented
- Asthmatic conditions worsen or all of a sudden develop in an athlete that never had them before (coughing attacks or persistent coughing during exercise can be a sign of asthma)
- Athlete used to have a kick at the end of a race but cannot do anymore
- Coaches may report the athlete slowly requires more recovery between intervals
- Coaches may notice the athlete is slow to adapt or does not adapt at all to workouts – she is at a sticking point
- Drop in enthusiasm for the sport and school
- A general more pale complexion on the athlete daily

These are just some of the symptoms. They can be very subtle and hard to pin point because they do happen so slow. Low iron levels do not happen overnight and unfortunately cannot be fixed overnight either. If you or your athlete shows some of these signs go to your doctor right away and get him to order a complete iron work up. Mandate a Ferritin level to be taken and ASK FOR THE FERRITIN

NUMBER when the test returns. DO NOT let the doctor get away with telling you that you or your athlete is fine.

Problem – The problem arises that many doctors do not want to order the test. They talk the parent and athlete into just doing a hemoglobin test because that will show up there – Right? Remember earlier I wrote that the hemoglobin levels can be fine but the storage levels are very low. My athlete Amanda fell into that trap. We had to demand the test and she ended up having to change doctors in the process. The first doctor came back and said that she was normal not to worry. I demanded to see the paperwork and when I read that her Ferritin was a 4, I was irate. The mom believed the doctor until I challenged her to look it up for herself. The problem is that all aerobic sports require the eventual use of the stored iron levels (Ferritin). Doctors are not use to treating athletes and their unusual issues. This is one of those very unusual issues that frequently go undiagnosed. It can also harm the athlete in many more ways than just performance on the athletic field but also the classroom and emotionally. IT IS ALL IN HER HEAD. Those 5 little words can rock the athlete's confidence to the core so be very careful when using.

We live in a society that says we eat too much red meat, drink too much milk, and salt our food way too much. Red meat is one of the best ways to increase Ferritin iron storage levels. Runners need to eat it at least 3 – 4 times a week. How many times do you eat it? Are you getting enough? If we don't drink our milk our bones won't develop properly and we get fractures. If we stay away from salts then we can develop blood pressure issues during training and races. Remember the old motto "moderation".

If the athlete's Ferritin Iron levels are low than intervention needs to be done. The diet needs to be addressed first. The BEST way to increase iron levels is via food not over the counter supplements. Over-the-counter supplements may be required, but diet needs to be addressed first. Foods rich in iron include lean meats, liver, eggs, green leafy vegetables (spinach, collard greens, kale), wheat germ, whole grain breads and cereals, raisins, and molasses. I like power snack packs the best. Create your own. Also game meat has some of the highest iron levels such as buffalo, elk and free range cattle. Iron is best absorbed by adding a vitamin C into the mix. Drink Orange Juice but NOT CALCIUM FORTIFIED. Calcium washes out the iron so it will not be absorbed.

Over- the-counter supplements include Slow Release FE irons, Ferrous Sulfate 325mg, and liquid irons. Depending on how low your iron levels are depends on how much supplementation to take. It is recommended to take the over-the-counter supplements on an empty stomach. It absorbs quicker. I like the Slow FE irons for the stomach that can get achy and you may also need to eat a couple of crackers. The liquid irons are absorbed the best, but I recommend putting them in an orange juice and drinking out of a straw because they can stain your teeth. The Ferrous Sulfate is the cheapest and also a good choice.

Amanda took 3 over-the-counter iron supplements a day with one being a liquid iron. She ate red meat 3 -4 times a week. We added iron rich foods to her lunch. I had her retested 3 months later to make sure we were not overloading. She came back with a 19. It took Amanda about 6 months to get her levels over 35 and almost a year to get her to over 50. Her iron levels did not come back overnight and nor did the treatment plan. I informed her that every race she ran that first season, the last mile to mile and a

half was all courage. The experience was going to toughen her up whether she liked it or not. She qualified for her first state championships 3 months after being diagnosed with severe iron deficient. Amanda ran a personal best in the 2 mile while running a 3 mile race. You can always take a negative and turn it around to be a positive.

**Girls are typically more iron defiant than boys** because they tend to not eat a lot of red meat and they get their periods. Girls with heavy menstrual cycles are more prone to iron deficiencies than others with normal cycles. Also, girls who are just going through their change of life are at risk for low iron storage levels. The body tends to dip into the stores to turn on other systems. If a girls Ferritin Iron level is under 20 she needs to be on 3 over-the-counter supplements a day. If under 50 take two over the counter supplements. As always, discuss with your doctor or nutritionist what you are doing to get final approval.

**For boys, taking over-the-counter iron supplements can be dangerous so be cautious.** Get your iron levels tested and if they are low get on the iron rich program with limited over-the-counter supplements. I would recommend only one dose a day if the Ferritin iron levels are below 35. Be consistent about testing, until levels normal out. An insurance company may only approve testing every 6 months but 3 months is recommended. The best way for boys to increase iron is through an iron rich diet. Also, work with a certified nutritionist to get your iron levels up the quickest.

Keep a record of all your iron tests so that you can follow your progress or lack of progress. I have consulted with several athletes who struggle to get their iron levels up. There are many reasons for it and being able to follow the progress or lack of helps tremendously.

In conclusion, **IT IS NOT IN YOUR HEAD.** Low Ferritin Iron levels are just one of many reasons why performance can drop. It is also an easy test so it should be one of the first tests done. If your doctor gives you a hard time demand!! Remember to ask for the number because you might be a 19 on the Ferritin test and he may think that is ok. GOOD LUCK and see you next week.