

12 Things You need to do as a XC / Distance Coach

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~ As a Coach, before you can do, you need to be ~

1. Leadership

- Trust ~ *The most important quality of a Coach*
- Respect

2. Surround yourself with useful volunteers

- Organize and Delegate
- Energy and Passion
- Be an Innovator

3. Create Traditions

- Produce a year end highlight video
- Have year end award and honor banquets
- Take the team to the Footlocker or Nike Regionals
- Summer Mileage Goals
 - Create awards and t shirts
- Yearly “Team Theme”
 - On t shirts
 - On team tarps
- Record Boards
 - On a highly visible wall if possible
 - Online page
 - FR, SO, JR, SR, All Time Top 10 or 20

4. It's a numbers game

- Synergism ~ It's more fun when there are more!

5. Recognition for your sport and athletes

- Be creative in finding ways to achieve this

6. Create regular opportunities for discussion with your Athletes and staff to:
 - Ask how they are doing?
 - What can we do to make things better?
 - Find ways to let your athletes and staff know you care and they are appreciated
7. Schedule time to go over Logs and racing schedules
 - Individually or in event groups
8. Schedule time to go over racing tactics
 - Individually or in event groups
 - Come up with a Plan “A” & Plan “B” before every race
9. Give mini clinics ~ help you athletes become invested
 - Nutrition
 - Sports Psychology
 - Injury care and prevention
 - Pre and post workout protocols
 - Put reputable & useful information on team web site
 - The more they know the more they understand
10. Learn and understand the Science of Coaching
 - Go to clinics
 - Get online and read credible articles
 - Read books
 - Talk to other Coaches
 - Ask for help, we are a giving group & have all been there
 - Get certified through one of the Coaching Education programs
11. Sleep ~ The Single Most Important aspect to everything!
12. Serum Ferritin Levels checked
 - Especially girls
 - Family Doctor
 - One month before season starts
 - One month before final race

Serum Ferritin

The body's iron stores are very important to all endurance runners. A serum ferritin test can be an important tool to predict the body's iron shortages. Normal ferritin levels are above 20 mg/mL for women and 30 mg/mL for men. Men average 10 mg/mL higher than women on this test. The extremely wide range of norms for this test (20 mg/mL to 200 mg/mL) makes this test a little confusing to some.

It has been my experience that women below 20 mg/mL are in serious trouble from an endurance performance perspective. We like to see our female athletes in the 40 to 60 ranges. Menstruating women will always be at a higher risk of low ferritin levels because menstruation is the primary source of iron loss in females.

When we look at men, we see a significant difference in serum ferritin levels. It has been my experience that men must be below 30 mg/mL before their endurance performance is compromised. We like to see our male athletes in the 50 to 80 ranges.

When we have an athlete with low ferritin levels, we supplement with a liquid iron treatment that has proven to work far better than the tablet supplementation prescribed by most doctors. The liquid iron not only works, it does not cause stomach irritation and constipation associated with tablet iron supplements. It's important to stress that a serum ferritin test will be taken along with one consultation with a doctor before undertaking iron supplementation.

Liquid Iron Protocol		
Week 1 (1 tsp, with breakfast & dinner)	Week 2 (2 tsp, with breakfast & dinner)	Week 3 (3 tsp, with breakfast & dinner)
Take 1 tsp 30 minutes prior or 90 minutes after a meal	Take 2 tsp 30 minutes prior or 90 minutes after a meal	Take 3 tsp 30 minutes prior or 90 minutes after a meal
Follow with 8 ounces of Calcium free orange juice	Follow with 8 ounces of Calcium free orange juice	Follow with 8 ounces of Calcium free orange juice
Take one 500 mg chewable Vitamin C tablet	Take one 500 mg chewable Vitamin C tablet	Take one 500 mg chewable Vitamin C tablet

*** After three weeks, maintain the 3 tsp (1tbsp) dose until tested again.**

*** Important Note: Do not let the liquid iron touch your teeth as it can temporarily stain them! Use a straw or place the liquid iron in the back of your mouth.**

BYU Sports Medicine
Iron Protocol
2009

Definitions:

Anemia: subnormal number of red blood cells; lower hemoglobin or hematocrit than normal.

Hemoglobin: the iron-containing complex that is the primary transporter of oxygen in the blood to body tissues.

Hematocrit: the proportion of blood volume that is composed of red blood cells.

Iron Deficiency: most common micronutrient deficiency; it is one of many causes of anemia.

Serum Ferritin: the storage form of iron in the body.

Evaluation Protocol:

Indications:

- 1) Screening of asymptomatic athletes with risk factors
 - Females
 - Poor nutrition
 - Prior iron deficiency
- 2) Diagnostic Testing
 - Symptoms of anemia

Labs:

- Check serum ferritin.
- If low, check CBC for hemoglobin/hematocrit to assess for anemia and consider checking complete iron study panel.
- Suggested ferritin cutoffs at which to initiate treatment:
 - o Below 30 ng/mL (Sen: 92%, Spec 98%)
 - o 41 ng/mL (Sen: 98%, Spec 98%)
 - o Note: inflammation will increase ferritin level by approx 3x and should be considered in interpretation of the serum ferritin level.

Treatment: based on the evaluation and individual circumstances of the athlete.

- 1) Changing Diet to absorb more iron
 - a. Recommended Daily Needs
 - i. Males: 10 mg/day
 - ii. Females: 15 mg/day
 - iii. Note: avg Western Diet = 6 mg per 1,000 Cal
 - b. Sources
 - i. Best: red meats, liver
 - ii. Other: peas, nuts, bread, cereal, leafy vegetables, eggs
 - iii. Enhanced absorption w/ Vitamin C
 - iv. Impaired absorption w/ Calcium and fiber

2) Oral replacement via supplementation

- a. Ferrous iron salts in quick release preparation b/c iron is absorbed in duodenum and proximal jejunum.

Recommended Protocol is to take 1 tablet in the morning for 7 days; followed by 2 tablets (one in the morning and one in the evening) every other day for the next 7 days; followed by 2 tablets/day (one in the morning and one in the evening) every day.

- b. Best if taken on empty stomach but may cause dose-dependent GI side effects including intestinal cramping and black stools.
- c. Some tolerate liquid form better but caution about dental staining
Recommended Liquid Protocol is to take one teaspoon (tsp) daily for 7 days; followed by 2 teaspoons every other day (one in the morning and one in the evening) for the next 7 days; followed by 2 teaspoons daily (one in the morning and one in the evening).
- d. Taking more than 2 doses a day can be prescribed by a medical doctor in extreme cases.
- e. Taking excessive iron can lead to constipation, GI distress, intestinal cramp, several types of cancer such as: stomach, colon, kidney, and liver cancers, and kidney failure.
- f. Continued training makes repletion of iron stores more difficult due to decreased absorption. Therefore, treatment may take > 3 months.

3) Parenteral Replacement (only considered for those individuals that are under 8 ng/mL)

- a. IV iron sucrose (Venofer) 20 mg elemental Fe per mL

Dose Calculation:

$$\text{mL} = \frac{\text{Body wt in kg} * (14 - \text{lab hgb}) * 2.145}{20 \text{ mg/mL}}$$

- b. Obtain informed consent from the athlete prior to treatment.

4) Athlete receiving iron supplements through the Athletic Department is required to meet with the BYU Dietician once a month.

Follow Up Testing:

- Recheck Ferritin +/- CBC in 6 months or per physician discretion to evaluate response to therapy.
- If no increase in ferritin level despite athlete compliance with replacement efforts, consider additional workup as necessary.
- Testing will not be done on an athlete that is supplementing iron simply because they had a poor performance.

Variations in the protocol may be approved by the Sports Medicine Committee.

References:

- Up-to-Date.com (2006).
- Nielsen & Nachtigall (1998). Iron supplementation in athletes: Current recommendations. Sports Medicine.
- Garza et al (1997). The clinical value of serum ferritin tests in endurance athletes. Clinical Journal of Sports Medicine, p 46 – 53.
- Cowell et al (2003). Policies on screening female athletes for iron deficiency in NCAA division I-A institutions. International Journal of Sport Nutrition and Exercise Metabolism, p 277 – 285.
- Suedekum & Dimeff (2005). Iron and the athlete. Current Sports Medicine Reports, p 199 – 202.
- Chatard et al (1999). Anaemia and iron deficiency in athletes: Practical recommendations for treatment.

Bonus Tip, worth the cost of attending!

- * Minimizing Stress in our athletes is the biggest challenge we face as coaches
 - Try to persuade your athletes to regularly take their morning resting heart rate
 - Download a free **Heart Rate** app to make it fun and easy!

Once they get their “Baseline Resting Heart Rate” they know something is wrong when it goes up 8 to 10 beats per minute. This simple test is the most inexpensive effective way to know when the wheels are about to come off.

- Elevated morning resting heart rate is a useful **indicator of stress**.
- Warning signs of **Overtraining / Under recovery**
- Precursor to **illness**
- Sign of **inadequate sleep**

Training Cycle: Last Three Weeks of the Season

Stop two-a-day workouts the last two weeks of the season!
Yes, I'm serious. Find out why below.

Seven Day Micro-Cycle

MONDAY

- Medium or Hard Workout

TUESDAY

- Easy Recovery Run

WEDNESDAY

- Medium Workout

THURSDAY

- Easy Recovery Run

FRIDAY

- Easy Recovery Run or Day Off

SATURDAY

- Competition or Hard Day

SUNDAY

- Rest

Ride the Wave: The fear many athletes and coaches have of taking an extra day off once a week during the last three weeks of the season, is that resting will somehow cause you to lose your hard-earned fitness. Research has shown otherwise. At this point, it's like riding a wave and letting all your hard work pay off. Also, for young distance runners, resting one day a week, all year long, is one of the wisest decisions a coach and athlete can make to keep from overtraining which results in injury.

**The key to success in distance running is NOT hard work.
The key is RECOVERING from hard work.**

Rest Cycle: After the Season's Over

Mark these guidelines on your calendar.
Well done, Grasshopper.



WEEK

- 1** Total rest for one week. No training of any kind. All runners, even the best in the world need to take some time off.
- 2** No running this week. Some easy *Cross Training* or *Active Rest* may be all right. Young runners need to take more time off than older runners.
- 3** Short, *Easy Recovery Runs*, three to five times a week with an *Exercise Heart Rate* at the mid to low end of your *Aerobic Training Zone*. One of these runs should be in the hills in order to begin re-adapting to the specificity of hill running.
- 4** *Longer runs* every other day, with short, *Easy Recovery Runs* the day after, being careful not to increase the weekly mileage too quickly. *One* or two of these runs could be in the hills.
- 5** Your body should be sufficiently *Adapted* to the *Stress* of running by this point to handle a *Long Steady Run*, *Fartlek Run*, and *Hill Run*, once a week with an *Easy Recovery Run* between each.

It is a good idea to take two *Easy Recovery Days* between *Hard Days* when you feel tired. It's important to start *Fartlek* and *Hill Running* at low intensity levels to begin with in order to minimize the risk of injury. Remember taking one day off a week will greatly facilitate recovery. Many elite world class athletes rest one day a week, with no running or cross training at all.