Cross Country

This is information that I think will help support our distance training throughout the year. The training of distance runners is very, very challenging. It is a competitive program that will give back to each athlete something they will get in no other place, at no other time, in their life. I want to make the most of this opportunity. Proper nutrition, hydration, sleep, and training shoe maintenance are essential to this endeavor and we hope that once the parent and athlete are educated on these matters, a commitment will be made to adhere strictly to the following guidelines. Running at a championship level has no compromise either physically or mentally.

TRAINING AND RACING SHOES

A good pair of training shoes lasts about 300-400 miles. For a beginning distance runner that is about ten to twelve weeks (maximum). After 300-400 miles of pounding the cushioning is no longer there. Athletes who buy a new pair of shoes every eight to ten weeks (or 300-400 miles) will have legs that are fresher for workouts, less injuries, and a happier existence in this program. I don’t endorse any particular brand of shoe. Adidas, Asics, Brooks, Mizuno, Nike, etc… all make good shoes, so buy whatever you want. Every athlete must race in spiked shoes. These may well last a couple of years as they are only used once per week during the season. If you choose to buy your own spikes, make sure to buy a “distance” spike with a cushioned heel. Do NOT buy a sprinters spike. They are built for explosive speed, not controlled racing over a two-mile or 5K distance.

Colds, ColdS, Colds

A distance runner training more than 25 miles per week is 7 times more likely to get a cold than a sedentary person. Running as much as we do is stressful. We train at roughly 30 miles per week (boys). Adjusting an athlete’s lifestyle to try to keep them healthy is a major project for the coach. The parents can really help with this aspect of our training. If nothing is done, a cold is very likely. That will slow down or wipe out 2 weeks of intensive training. On a competitive team like ours, this is a nightmare for the athlete. The things that I have brought forth here are all supported in scientific literature. Endurance athletes are some of the most well studied athletes in the world. The sample numbers for all of these controlled studies are very high, thus reliable. Again, if you do nothing, a cold is very likely. The very critical area is sleep. Sleep is when the body restores itself in all areas. Carbohydrates (glycogen) are stored in the liver and muscles, blood acidity drops, enzymes are replaced, and the immune system is restored after the stress of running and other activities. The most respected study ever published on athletes and sleep found that going to bed at the same time every night is the most important thing that an athlete can do for himself/herself. Of those that went to bed within 15 minutes of the same time every night, they dropped their cold rate by 400%. Getting up at the same time was much less significant. Go to bed at the same time EVERY night if at all possible!
UPPER RESPIRATORY TRACT INFECTION PREVENTION

Sleep patterns are foundational to prevention
- 8.5-9.5 hours of sleep per night. This sets up deep sleep cycles of 90 minutes.
- Go to bed at the same time every night (THIS IS VERY IMPORTANT)
- Try to get up every morning to establish your daily diurnal rhythm
- Methods of achieving optimal sleep since sleeping is very habitual and cyclical:
  1. Cooperation with family
  2. Effective sleep rituals e.g., music, meditation, and relaxation techniques
  3. Avoid drinking within 20 minutes of going to bed
  4. Avoid talking/texting on the phone immediately before bed, as you have a tendency to rehash the conversation while trying to relax!

There are studies that also show that proper nutrition definitely keeps the immune system as strong as it can be despite the stress. Here are some very general nutritional patterns:

- Ingestion of the right types of food (Complete books are available on this)
  1. Red meat at least 5---4 ounce portions per week.
  2. Complex carbohydrates must be taken within 2 hours of a stressful run. This includes breads, fruits, vegetables, and noodles. Whole grains are good as they have favorable sodium to potassium ratio.
- VARIETY! DON’T eat the same foods all the time. Trace nutrients come from variety.
- Right amount of food. NEVER-NEVER over eat. Stop when you are satisfied. More importantly, though, NEVER-NEVER UNDER EAT!
- Portion control; eat a balanced group of food. Not just one big serving of something.
- Right timing of meals to match needs:
  1. 4-5 smaller meals per day
  2. prior proper planning, e.g., shopping list, containers, food preparation
  3. meal sequence: breakfast, mid-morning, lunch, post workout carbohydrate replacement, dinner, bed time snack
  4. Snack on power bars, cliff bars, harvest bars, etc. use a variety of them so you do not get sick of them.

Colds are caused by the rhinovirus. It is everywhere, but your body has defense systems that usually work. The skin is your major defense. Keep the moist membranes like lips, well watered to prevent cracking. The cracking will keep the virus from entering the body.

HYDRATION

- Water bottles. DON'T share, viruses spread OUTSIDE of bottle
  1. carry bottles everywhere including the classroom (IF ALLOWED)
• travel considerations
  1. carry water and complex snacks
  2. consume at proper time as dictated by race time and total travel time

• electrolyte replacement, water is NOT enough, replacement drinks are needed post workout (preferably within 20 minutes after workout session)
  1. 8oz. Of 6% glucose solution (Gatorade) should be consumed within 20 minutes of stress run, and followed by 8 more ounces within 2 hrs. plus water.
  2. Suckers and lozenges are great for keeping membranes moist.
  3. Drink water first, then add the glucose polymer solution (Gatorade)

SUPPLEMENTATION

Iron---The cornerstone endurance mineral

There are times where chronic fatigue is experienced by long distance runners. Usually, it is the result of many months of training, and a diet that is lacking some key nutrients. The indicator is usually some sub-par performances and key workouts strung together for no apparent reason. Hemoglobin contains 4 elemental iron atoms per molecule. Hemoglobin is the critical part of a red blood cell. Each iron atom bonds with oxygen in the lungs during exchange and travels to the working skeletal muscle cells. The availability of iron is the weak link in the blood muscle sequence. A visit to your clinic and a request for a Serum ferritin test should be considered. Here are some guidelines:

• Serum ferritin levels of less than 12 nanogram/ milliliter characterize iron depletion
• Hematocrit refers to the proportion of blood that is made up of red blood cells.
  Normal percentage in males 40-50%, females 37-47%. As an athlete becomes dehydrated during training or racing, blood volume is reduced, further increasing Hematocrit and the blood’s thickness. Proper hydration, especially in the heat, is essential. Both serum ferritin and Hematocrit can be tested. It is more common in females, but can be found in males. Many people think the iron found in vitamins or fortified cereals is all you need. The problem is this is powdered iron and your body absorbs <20% of what is ingested. What you want is heme iron, found in red meat, your body will absorb >80% of heme iron that is ingested. Red meat should be consumed at least 5 days per week while in intensive distance training.

VITAMIN SUPPLEMENTS

• There is a right type and amount for known deficiencies, know your diet
• A general vitamin should be of the gel-cap type
• Other possible supplements are: Vitamins C, B12, B6, B-Complex, Calcium, and Potassium
• Vitamins are not wonder drugs. They simply help the body’s cells perform better. Training is stressful to growing athletes. Do not overdo the supplementation.
Other Critical Minerals

**Calcium**
- 99% of the calcium in the body is in the bones, while the remaining 1% flows through the body controlling impulses along nerves, contraction of muscles and many other activities. For life to continue, the level of calcium outside the bones has to be maintained within very narrow limits. If your calcium intake is inadequate for even one day, your body cannibalizes its own skeleton to make up the deficit.
- Athletes are twice as likely to be calcium deficient as sedentary people.
- High protein intake can result in a calcium loss.
- Calcium sources: low-fat dairy products, dark-green leafy vegetables, salmon, navy beans, oats and almonds.

**Potassium**
- Potassium helps maintain normal water balance in the body and is essential for muscle contraction and proper heart function, especially a normal heartbeat. It also helps the kidneys to detoxify the blood and promotes the secretion of hormones.
- Runners lose a lot of potassium through sweating.
- Potassium sources: melons, bananas, sport-drinks, pineapple, salmon, and whole-wheat flour.

**Zinc**
- Zinc is critical to the immune response system
- Take as a lozenge or sucker
- Most effective if taken at the right time

*As the coach of this athlete, I would never prescribe or direct exactly what foods to eat and on which days to eat them. Those are family decisions. These are just general guidelines to keep your son or daughter healthy during a grueling season of endurance training. There is always a price paid for commitment, both for the committed and the people around them. I want to transform each athlete’s physical and psychological framework through adaptation to stress, in order to produce results that are satisfying to the athlete. I hope this process will allow your son or daughter to achieve results of which they did not think they were capable. Consequently, I think this will be a wonderful educational experience for them that they can remember the rest of their lives.*

What we ALWAYS do as a team:

**Post Competition procedure and protocol (includes hard practice days)**
- Follow the stress run or race with a gradual 10-15 minute cool-down run
- Take in 16 oz of water immediately from your water bottle—not from the fountain
- Follow with 4-5 minutes general leg stretching
• Elevate legs for 6-10 minutes, lay on back put feet 2 feet in air against a wall, or tree, or whatever is available.
• Take in 12-16 oz of 6% glucose polymer drink (GATORADE)
• Cheer on any teammates that are still running
• Discuss the finished run
• If legs are even slightly sore, then spend 10 minutes in an ICE WATER bath, using either the tub or pails.
• Circle up to talk about the completed competition and our future strategies (After races only)
• Go home or out and have a proper meal of at least 800 calories (within 2 hours)
• Drink at least 24 oz more fluid
• Make every attempt to go to bed at your normal time.