Chadwick Cross-Country Health Tips

Nutrition

An engine needs the proper fuel to function. Nutrients are the body's fuel. A body in training needs a minimum of 2,500 calories a day.

The U.S. government suggests that half of your daily intake of calories should come from whole fruits and a variety of vegetables, and half should come from whole grains and protein; you also need calcium-rich foods (such as dairy) daily.

Your body needs 50 different nutrients every day to maintain good health. In alphabetical order the top 10 are:

1. Calcium: Bones lose calcium as we grow older, but we can slow down this process. Get your calcium from low-fat milk, yogurt, cheese, cottage cheese, soy milk, fortified orange juice, tofu, canned salmon, broccoli and tortillas made with lime. A recent government survey showed that only 13 percent of American girls aged 13 to 19 get their recommended intake of 1,300 mg of calcium daily. Scientists theorize that phosphoric acid in sodas interferes with the body's ability to absorb and to use calcium.
2. Carbohydrates: These nutrients replenish our glycogen stores and are the #1 fuel of runners. Aim for 1,600 calories (400 grams) every day. You can get carbs from grains (bread and pasta), fruit, vegetables and dairy products.
3. Fat: A 2,500-calorie diet should have 100 grams of fat a day. There are good fats. Get Omega-3 fats from fish such as sardines or salmon.
4. Folic Acid: A deficiency in this B-vitamin leads to fetal birth defects in women and heart disease in men. You need 400 mg a day and can find it in fortified breads, cereals, pastas, leafy green vegetables, lentils and citrus fruits.
5. Iron: Runners lose iron at a faster rate than other athletes, due to the fact that our body weight crushes the blood cells in our feet every time we take a step. Iron deficiency causes extreme fatigue. You must replenish your iron by either eating food products that contain blood (i.e. meat) or by eating vegetables or grains that contain iron. Lean red meat, dark chicken, eggs and turkey are the healthiest meats. Whole wheat bread, fortified cereal, lentils, tofu, dried fruit, whole grains, broccoli and green leafy vegetables are your other best sources. Vitamin C aids in absorbing iron, so make sure you get enough of that. Too much iron hampers zinc absorption, though, so stay away from supplements that promise more than 15 mg.

6. Phytochemicals: These disease-fighters protect you from cancer, heart disease, arthritis and even wrinkles. They can be found in fruits, vegetables and grains.
7. Protein: Every part of your body contains protein: the muscles, blood and immune cells, tendons, ligaments, skin and hair. Runners need 105 grams a day to help repair muscles, recover from injuries, fight off infections and maintain energy levels. Meat is the best source of protein, but you can also find it in tofu, soy milk, soy protein, fish and dairy products.
8. Vitamin C: This vitamin is an antioxidant. It helps you recover from workouts, fights illnesses and even protects you from air pollution and secondhand smoke. One orange or one kiwi fruit provides 130 percent of your recommended daily allowance. You can get 50 percent of your daily allowance by eating strawberries, green peppers or tomatoes.
9. Vitamin E: This is another antioxidant. It helps prevent muscle stiffness and soreness. You may find vitamin E in almonds, fortified cereals and wheat germ.
10. Zinc: Zinc keeps your immune system healthy, helps heal wounds and injuries, and is vital for male sexual functioning. We lose zinc in our sweat when we run; this circumstance makes runners more susceptible to colds. Meat is the best source for zinc, especially beef, poultry, pork, lamb and seafood. Other good sources include fortified cereals, beans, black-eyed peas, whole-grain bread and wheat germ.

Vegetarian/Vegan Running

- Vegetarian and vegan athletes need to pay special attention to their nutrition. Please survey the following Web sites for suggestions on how to use nutrition to survive the rigors of the cross country season.
    - http://www.vrg.org/
    - https://www.vegsoc.org/
    - http://vegetarian-nutrition.info/vegetarian-diet-for-exercise-and-athletic-training-and-performing/

Other tips:

- If you get muscle cramps, eat bananas for the potassium and hydrate more.
- Nutrition aids in regeneration. Studies show that athletes recover from a workout or race faster and better when they replace their glycogen stores and maintain their blood-sugar levels by eating within 30 minutes of exercising. A snack is all it takes, such as a tuna sandwich and apple; a peanut butter, jelly and

banana sandwich; or an energy bar and Gatorade. A 16-ounce chocolate milk has 52 grams of carbohydrate, 18 grams of protein, and 576 mg of calcium.

Hydration

Some important things to keep in mind to ensure proper hydration:

- Water makes up at least 60 percent of your body weight. Water makes up 72 percent of the weight of muscle.
- Water helps transport nutrients throughout your body, helps facilitate your body's chemical reactions, regulates your body's temperature and helps your body excrete waste.
- You lose water (in the form of vapor) while you sleep, so drink water after you wake up every morning.
- If you feel thirsty, it is too late; you are already dehydrated. Drink water BEFORE you are thirsty. Replacing fluids at the last minute before exercise is ineffective.
- Being as little as 2 percent dehydrated will hinder your athletic performance. Dehydration affects the body because as we sweat, we lose water and sodium, in turn lowering blood volume and the amount of blood that the heart can deliver.
- Being as little as 4 percent dehydrated can result in the shutting down of the body's ability to carry nutrients to cells and the body's ability to remove heat from the body. Heat exhaustion, heat stroke and possibly death can follow.
- Soda, coffee and tea have caffeine, which is a diuretic. Diuretics dehydrate your body instead of hydrating it.
- How do you know if you're hydrated? If your urine is clear. Yellow-colored urine indicates that your kidneys are trying to conserve your body's water supply.
- Your stomach processes cold water faster than warm water.
- Soup, fruit and fruit juices will hydrate you, as well as replace lost carbohydrates, electrolytes and vitamin C.
- A 2003 Canadian study showed that 33 percent of refilled water bottles showed bacterial contamination and 9 percent showed evidence of fecal matter. Researchers theorize that these contaminants came from the owners' hands as they used and reused water bottles without washing them or allowing them to dry. So ... always wash your hands after using the bathroom, do not share water bottles with ANYONE, do not use a water bottle for more than one day without washing it in hot, soapy water and air-dry water bottles that you intend to reuse.

Rest

One may function with less than eight hours of sleep, but one rarely may perform optimally, especially a teenager. According to the American Sleep Disorders Association, the average teenager needs around 9.5 hours of sleep per night, possibly because hormones that are critical to growth and maturation are released mostly during slumber. Some important things to keep in mind when it comes to proper rest:

- Sleep deprivation lowers the levels of metabolic enzymes in muscles, negatively affecting the ability of muscles to contract and relax. As a result, running economy suffers because you have to work harder than normal to maintain your usual training effort.
- Sleep deprivation also inhibits the central nervous system and weakens the body's immune system, increasing the chance of illness. Sleep deprivation leads to feelings of fatigue, irritability, depression, nervousness, lack of concentration and persistent minor illnesses.
- The body conforms to a natural sleep rhythm, based on your regular sleep patterns. Just getting to bed a few hours later than normal can change your body rhythm enough to affect the normal amount of deep sleep that you get. If you get thrown off of your rhythm, it is better to go to bed early and keep the same wake-up time than to sleep in late.
- Sleep is not the only method of rest. The body has limits based on your genetic makeup, your lifetime amount of training and your nutritional habits. You can overload your body in general and certain muscle groups in specific when you do not give your body and mind time off. Participating in additional athletic activity during the cross country season increases your chances of becoming sick, injured or overtrained. Not taking time off between athletic seasons can also increase your chances of becoming sick, injured or overtrained.

To be the best, you must learn to rest!

Regeneration

Exercise creates microscopic tears in the body's muscles. When these tears heal, the muscles become stronger. Most healing and gains take place during sleep (thus sleep is extremely important), and rest (the absence of physical exertion) during the rest of the day facilitates healing, but there are other techniques that help speed regeneration:

- Cool-down running and recovery runs (sub-conversational paced) are an easy way to move blood full of waste to the appropriate organs for processing.

- Stretching helps open up blood passages, speeding up the processing of waste products that have built up in the blood during workouts.
- Hydration helps the blood remove waste from damaged muscles and from the body.
- Eating or drinking chocolate milk (or Gatorade®) within 30 minutes of finishing your run can replenish glycogen used to power muscle. Make a habit of bringing chocolate milk or an orange, peach, PBJ sandwich or a nutrition bar to practice to eat right after your run.
- Ice helps blood circulation, but more than 15 minutes of icing could lead to frostbite. Ice is one of the most effective ways of treating injuries because it reduces swelling, which is a collection of blood around a wound.
- Advil® and Motrin work as an anti-inflammatory; Tylenol® is a pain-killer. Go with the anti-inflammatory unless you're allergic to it.
- Massage is also an anti-inflammatory, so find a friend, pay a professional, or use an implement such as a rolling pin, foam roller, or golf ball.

Weight Training

*Always begin with five minutes of easy running to warm up;
always stretch afterward.*

Level One
This level represents a basic strength training circuit intended for athletes without any experience in the weight room or with very weak muscles. These exercises can all be done daily:

- Push-ups
- Pull-ups
- Backward lunges
- Step-ups
- Crunches
- Medicine ball tosses (overhead, forward, side)

Level Two
This level is for athletes who have mastered Level One. These exercises should not be done more than three times a week and should not be done at all in the last 10 days before an athlete's final meet. Do the following exercises in six sets of 5-20 repetitions of 40 percent or less of the athlete's one-rep maximum; the key is to do each lift quickly (but correctly).

- Leg press
- Knee extensor
- Knee flexor

You may also chose from the following lifts. Begin with 2-3 sets of 10-15 repetitions with light weight; eventually build up to 2-3 sets of 6-8 repetitions of 60-80 percent of the athlete's one-rep maximum.

- Back squat
- Bench press
- Bent-over rows
- Curls
- Hamstring curls
- Lateral raises
- Overhead press
- Power clean
- Running arm swings
- Tricep press

Shin Care

If you have or are getting shin splints, then do each of these at least once a day (including off-days):

- Spell out the alphabet with your toes, rotating the ankles.
- Do 20 "out," 20 "straight," and 20 "in" toe raises as slowly as you can.
- With your heel on the ground, do 100 toe quick-taps with each foot.
- Walk on your heels only for two to three minutes.
- Walk on your toes only for two to three minutes.
- Go to the training room. Sitting down with one leg straight, wrap a rubber band around your toes and flex slowly for three sets of 20 with each leg.
- ICE! ICE! ICE!
- Take an anti-inflammatory, like Advil®

Women's Health

Because of the intricacies of the female body, women runners are susceptible to a host of running issues that men do not normally face. To learn more about these issues, please click on the links below.

Amenhorrhea

http://www.merckmanuals.com/home/women-s-health-issues/menstrual-disorders-and-abnormal-vaginal-bleeding/absence-of-menstrual-periods
http://www.copacabanarunners.net/iameno.html

Anorexia and Bulimia
http://www.mamashealth.com/anorexia.asp
http://www.mamashealth.com/eat/bulimia.asp

Osteoporosis
http://www.nof.org/
http://www.webmd.com/osteoporosis/news/20030127/long-distance-runners-risk-bone-loss

Q Angle
http://www.chiroweb.com/archives/21/24/03.html
http://www.drpribut.com/sports/spknees.html

Athletes who begin to suspect that they are having any of the problems above should notify their coaches and parents as soon as possible. Also, websites are no substitute for a doctor's advice. An athlete's health is the most important thing she has, more important than her running performance or avoiding embarrassment. See a doctor.