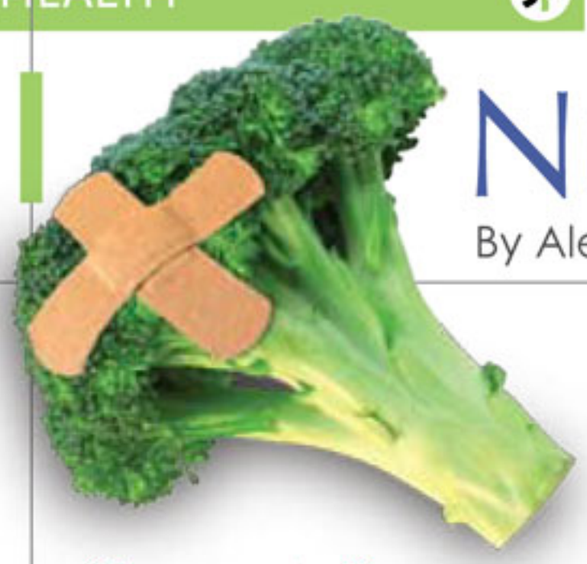


Nutrition & Injury

By Alexis Williams, RD

"Stop running" is the advice you've received. It may be given lightly by your doctor, but to an athlete, these two words are the last words you want to hear. When it gets to this point, you should listen to the doctor's advice and focus on healing your injury versus trying to keep trotting along. While most athletes understand that diet can impact performance, many don't link their diet to injury or injury prevention. Not only can poor nutrition be a risk factor for injury, if you are injured, poor nutrition can actually slow down the healing process. Let's first look at dietary strategies that can help prevent injuries, as prevention is the best medicine.

Eating Well to Stay Injury Free

Injuries that can be related to diet include stress fractures (linked to overuse, osteoporosis or various stages of decreasing bone density), inflammation (caused by overtraining and/or overuse), as well as those related to poor recovery and general fatigue or burnout. Since food is your fuel, it makes sense that if you consistently fuel inappropriately, you will break down. Here are some simple nutrition tips to help prevent some of the more common types of injuries:

- Ensure you get adequate levels of bone building nutrients (calcium, vitamin D and magnesium) and protein. While most North American diets are adequate for protein, these important vitamins and minerals are often lacking from those who restrict food groups. Optimize your diet or consider supplements if your intake is poor.

- Eat enough total calories to support your activity level. While a small deficit is acceptable (up to 500 calories per day) to achieve body weight loss, a greater deficit can cause hormonal changes in the body that have negative health consequences. For females, menstrual periods can cease and thus estrogen levels are reduced leading to weakening of bones as well as slew of other health problems. What's also interesting is that severe calorie restriction can lead to an active person preserving body fat vs. losing it. This means that despite high training volume and low calorie intake, body fat loss remains slow. It's logical when you think that muscle requires "high octane" expensive fuel (i.e., lots of calories) to be maintained whereas fat requires "low grade" cheap fuel (i.e., less calories). To understand your caloric requirements, seek the help of a registered dietitian.

- Get adequate carbohydrates and protein during the exercise recovery period if training heavily. If you are training daily, or twice daily, your recovery snack is your greatest ally in your quest to recover. Workouts that deplete the body of glycogen (endurance activities lasting >90 minutes and/or interval high intensity training of shorter duration) require that we refuel in order to support adapting our training and provide adequate nutrients for repairing our bodies.

- Eat your omega 3s as they are a natural anti-inflammatory. Having enough "good fats" in your diet is essential for recovery and well being. Aim for two servings per week of oily fish (salmon, trout, mackerel, herring, sardines, anchovy). If this is too difficult or you don't like fish, consider a fish oil supplement with high amounts of EPA and DHA fatty acids or consume functional foods containing omega 3 fatty acids.

- Get your iron checked. Low iron can lead to fatigue and increase susceptibility to infections that can affect your training. Low iron levels should not be self diagnosed, so it's best to get it checked with your physician through a simple blood test. If your levels are low, your doctor may suggest supplements and/or refer to you to a registered dietitian to improve your diet. After making changes, re-test iron levels in three months to evaluate whether it has improved.

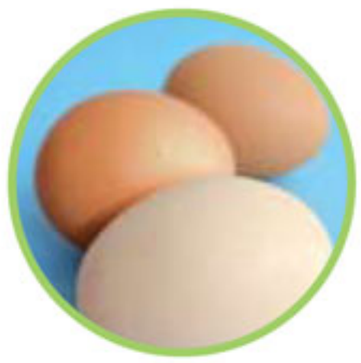
- Maintain a high intake of vegetables and fruits. While many athletes eat more calories than their inactive friends, they often don't eat more of these nutrient packed powerhouses. The antioxidants , phytochemicals, vitamins and minerals will boost your overall health and provide your diet with the extra boost it needs to fight the stress you put your body through training. To boost your intake, fill your dinner plate and nibble on veggies and fruits between meals. Go for large salads with meals and use fruit for snacks and dessert. If you are time challenged, consider buying pre-cut produce to save time and energy chopping.

- Avoid using caffeine and energy drinks to stay awake and sacrifice sleep. If you're burning the candle at both ends to get in your training, you need to take a step back and prioritize your health. The buzz from stimulants available in our food supply makes it easy to fool your body into running through fatigue. In doing so, athletes who trade sleep for training increase their risk of burnout and fatigue. Aim for at least 6 hours (7 to 9 is ideal for some people) of sleep per night. In addition to injuries, lack of sleep contributes to many chronic diseases and makes it difficult to control your weight. Improve your sleep by avoiding caffeine and herbal stimulants for the latter half of your day.

About Alexis

Alexis Williams is a registered rietitian focusing on nutrition for active individuals. She counsels amateur and elite individuals across the country and is a regular contributor to the *Running Room magazine*. As an athlete herself, she understands the challenges of healthy eating and focuses on practical strategies for readers and clients. To contact her visit her website www.transitionhealth.ca.





Injuries are still going to happen, even to healthy people with great diets. Sometimes it's beyond our control, such as slipping on a patch of ice or twisting an ankle on a trail run. If you've sustained an injury and must cut back on your running, use these nutrition tips to help you heal and get back as soon as possible.

- Reduce caloric intake to match the reduction in training expenditure (to prevent gaining unwanted weight). Don't restrict so much that you don't get adequate nutrients; you still need to eat. If you've had surgery or have a wound that is healing, your body may actually need more calories so be cautious with cutting back.

- Load up on vegetables. As I mentioned earlier, veggies are packed with powerful nutrients that can help your body heal and can help keep you full when you're cutting back on calorie dense starchy foods like bread and pasta.

- Get adequate protein, iron and zinc. Ensure your meals and snacks contain a source of protein. If you're vegetarian or just not a big meat eater, ensure you use milk, milk alternatives and meat alternatives in your diet. If you don't, it's wise to consider protein supplements. As many protein rich foods are sources of iron and zinc, it makes sense that you may be lacking these minerals that are important for healing. You may wish to get your iron and zinc levels checked with your doctor. A multivitamin may also be helpful to boost your diet.

- You may be more susceptible to depression and emotional eating when you're injured. To deal with these issues, create coping strategies that address boredom, which will help prevent overeating. Try getting involved in other activities, connecting with your non running friends, volunteering, and catching up on work-related or household tasks. Try to maintain some normalcy in your routine. For example, if you usually work out at a gym, consider going to the gym and doing a light stretching routine.

- Keep a food log. Overeating is very common in injured athletes as they are slow to modify their caloric intake to meet their lower expenditure. By writing down what you eat, you can help elevate your awareness and be more responsible for what goes in your mouth. In addition, this provides a great tool to review your diet and look for opportunities to improve it.

While performance often takes the lead when it comes to nutrition, it plays an equally important role in injury prevention. So next time you are facing some down time, step back and look at your diet. It may be the cause or it may hold the cure.

Nutrient	Requirement	Typical Foods
Protein	1.2-1.7 g/kg/day for active persons Up to 2.0 g/kg/day for healing of wounds/injuries e.g., 150 lb person needs 81 to 115 grams/day. This can be easily met from diet.	Meat, fish, poultry, eggs, beans, nuts, dairy products, dairy alternatives, soy foods
Iron	Pre-menopausal Women 19+: 18 mg/day* Post-menopausal Women & Men 19+: 8 mg/day Vegetarians: should double the amounts as plant sources of iron are not absorbed as well.	Meat, poultry, fish, beans, tofu, fortified cereals, spinach, molasses, raisins
Zinc	Women 19+: 8 mg/day Men 19+: 11 mg/day	Oysters, dairy foods, many of the same foods that are high in iron as above
Vitamin C	19-50 years: 1000 mg/day 51+ years: 1200 mg/day	Dairy products and fortified milk alternatives, canned salmon with bones, tofu, kale, broccoli, spinach
Calcium	19-50 years: 1000 mg/day 51+ years: 1200 mg/day	Dairy products and fortified milk alternatives, canned salmon with bones, tofu, kale, broccoli, spinach
Magnesium	Women 19-30: 310 mg/day Males 19-30: 400 mg/day Women 31+: 320 mg/day Males 31+: 420 mg/day	Beans and legumes, nuts, seeds, whole grains, spinach, potato, dairy products
Vitamin D	19 to 50 years: 200IU** 50 to 70 years: 400IU** 70+ years: 600IU**	Fatty fish (salmon, mackerel, sardines), fortified milk and milk alternative products
Omega 3 Fatty Acid	2 to 3g/day for reduction in inflammation	Fatty fish (salmon, trout, herring, mackerel, sardine, anchovy) or fish oil supplements (look for at least 400EPA and 200DHA per capsule), ground flax seed, hemp seed, nuts, plant oils

*Pregnant women need 27 mg/day
**Many authorities such as the Canadian Cancer Society now recommend 1000IU/day