
Subject line: Welcome to the Sports Nutrition Basics E-Course!

First of all -- congratulations on taking your first step in building a nutrition plan that will support you as you achieve your athletic goals!

While this 10-part e-course is especially geared toward athletes preparing for major events, the principles it presents apply equally to all sports participants, even if that amounts to no more than a half hour on the elliptical machine or a brisk walk in the neighborhood. With these guidelines, you will also quickly be able to exercise more and longer and become stronger for the duration of your workout.

Stay tuned for our first segment, where we'll discuss what your body really needs to achieve peak performance...and how you can prepare it not only for short-term demands, but long-term health.

Again, congratulations...and here's to your Health!

Dr. Colleen Huber

Dr. Huber, NMD, is a Naturopathic Medical Doctor and Primary Care Physician currently practicing in Tempe, Arizona. Dr. Huber focuses on herbal medicine, nutrition, intravenous therapies, environmental medicine and acupuncture. She received her Naturopathic Medical degree from Southwest College of Naturopathic Medicine.

Subject line: What Your Body Needs – The Long and the Short of It

There are a couple of ways to look at what your body needs for athletic activity, whether you are walking a mile a day for health or preparing for the Boston Marathon. That is, you have long-term needs and immediate short-term needs, both of which need to be considered.

Consider this: *an athlete sweats out more in one day than a sedentary person does in two weeks.* And as we all know, that's not just water coming out in your sweat.

Let's consider this from a bookkeeping point of view. Sweat contains 60 (that's six-zero) essential minerals. All of these are on their way out of your body 15 times faster than they would from a couch potato - that's a subtraction, like spending money that you don't really have. Exercise without nutritional supplementation is a negative, going deeper into a debt that is eventually paid off with illness or death.

If you even go to a gym three times a week, or run a couple of times a week - this applies to you. And here's the bottom line: if you do not replace those minerals you lose every time you work out, you are not going to make it to a healthy old age. Worse yet, you are going to simply go downhill miserably the last 10 to 15 years of your life.

An athlete's long-term nutrition has to consist of more than the average sedentary person uses:

- More minerals
- More vitamins
- More antioxidants
- More amino acids
- More enzymes

How do you do that, you ask? Stay tuned for our next segment on a healthy real-food diet!

Here's to your Health,

Dr. Colleen Huber

Dr. Huber, NMD, is a Naturopathic Medical Doctor and Primary Care Physician currently practicing in Tempe, Arizona. Dr. Huber focuses on herbal medicine, nutrition, intravenous therapies, environmental medicine and acupuncture. She received her Naturopathic Medical degree from Southwest College of Naturopathic Medicine.

Subject line: We'll Start with a Healthy Diet...

In our last segment, we compared your needs as an athlete to the needs of a sedentary person: how the average athlete must take in much more nutritionally to maintain health over the long term. Whole food intake cannot be ignored, and supplements will never take the place of it.

First, the carbohydrates - fruits and vegetables. Folks, these are not an option; these are not for other people; these are not just for vegetarians. You cannot, repeat: *cannot* be healthy without whole fruit (not juiced), and vegetables.

I want you to spend quite a bit more time in the produce aisle than you have before. I want you to buy at least one vegetable that you don't remember ever eating, or that you haven't eaten since childhood. And if that means you go home with Brussels sprouts or rutabaga, so be it.

You have to have at least four fruits and/or vegetables per day. And I would like you to have more like ten. If that means you have to get a cookbook and learn to cook, so be it. If that means you have to rely on organic TV dinners, that's a good option...just look for the brands that use only whole organic foods, without preservatives or additives.

The important thing to realize is that you need to watch two things:

- The quality of food you put in your body, and
- The balance of foods you consume

We'll go into that in more detail in the next segment, starting with the best kinds of protein for an athlete's diet.

Here's to your Health,

Dr. Colleen Huber

Dr. Huber, NMD, is a Naturopathic Medical Doctor and Primary Care Physician currently practicing in Tempe, Arizona. Dr. Huber focuses on herbal medicine, nutrition, intravenous therapies, environmental medicine and acupuncture. She received her Naturopathic Medical degree from Southwest College of Naturopathic Medicine.

Subject line: Which Proteins Should You Eat – and Why!

In our last segment, we discussed your overall dietary needs as an athlete. Next, I want to take a look at proteins.

I'll start with meat, because most of us eat at least some meat and/or poultry and/or seafood. For vegetarians, bear with me, and I'll get to you in a moment.

Here there are more and better options for meat than there were anywhere even a year ago. Now you have the option of 100% grass-fed organic beef and poultry. No hormones, no antibiotics. There are options in fish for wild Alaskan and other wild caught seafood. So consider those.

If you are vegetarian, you have to go to a bit more trouble to get adequate protein. The reason we all need protein is that the body breaks protein down to amino acids. Those amino acids are then used as the bricks and mortar, building blocks of the proteins that make up our own bodies – that is, the flesh and bones, the various structures that comprise the body.

For vegetarians, I would be careful of soy, unless you have it fermented, such as in traditional Asian foods, such as miso, tamari, etc. But if you have it in larger unfermented doses, such as soymilk or soy protein powder, which are unfermented, it is too similar to the female hormone estrogen. And this we really don't need. Not even post-menopausal women can gain much from soy, much less anybody else.

However, there is a more serious threat from soy for an athlete. And that is that soy is popular in agriculture right now because it grows in depleted soils that have been over-farmed. It does this because it is very good at grabbing minerals out of the soil. Well, when those same soy molecules get into your body, they grab the minerals out of you too. For this reason, soy is known as a goitrogen, or something that can damage the thyroid gland, the thyroid being very mineral-dependent.

Soy is particularly bad for an athlete, because athletes are sweating out minerals like a hole in your wallet can spill money. So the last thing you need is soy.

If you are vegetarian, I would suggest that you alternate whey protein powder with rice protein, to get the benefits of both. But also keep in mind that an excellent complete protein can be made by combining a whole grain with a legume. Think of the Latin American solution to that: rice and beans. Also lentils and millet make a delicious, protein-rich combination that would benefit anyone, not just vegetarians. When it comes to legumes, think of some you have not had before, perhaps black-eyed peas or navy beans.

What's next? The F-word that popular wisdom would ban from our diet vocabulary...and why I say it's crucial to a balanced nutritional plan. Stay tuned!

Here's to your Health,

Dr. Colleen Huber

Dr. Huber, NMD, is a Naturopathic Medical Doctor and Primary Care Physician currently practicing in Tempe, Arizona. Dr. Huber focuses on herbal medicine, nutrition, intravenous therapies, environmental medicine and acupuncture. She received her Naturopathic Medical degree from Southwest College of Naturopathic Medicine.

Subject line: Fat is Not a Four-Letter Word

So we've looked at two of the three main components of foods: carbohydrates (that is, fruits and vegetables) as well as protein (meats and the vegetarian alternatives). Now I have to address the third major component of food. We have been taught to cringe when we hear the word...*fat*.

I would not have a low-fat or non-fat diet. One, it does not work for weight loss or anything else. And because the brain is 60% fat, and requires high-quality fat, you can become depressed and/or cognitively debilitated without fat.

The important point is to get high-quality fat into your diet, and for that, you need the Omega-6, Omega-9, but especially the Omega-3 fats, which are especially loved by the body and brain.

I can't recommend highly enough that you take cod liver oil -- preferably distilled -- especially during the winter months. Cod liver oil has all the advantages of fish oil, that is being a basic brain food, and it also has Vitamins A and D, which are necessary for strong functioning of your immune system, as well as many other benefits like preventing cancer and strengthening bones. If you're imagining grim Victorian mamas forcing their kids to gulp it down by the fishy-tasting spoonful, relax – it comes in supplement form!

If you are vegetarian you will get some of these benefits from flax oil. To supplement Vitamin D, try to have your face and lower arms exposed to sunlight for an average of 20 minutes per day, or an hour on Saturday and an hour on Sunday. And I mean without sunscreen. Don't sunbathe for hours or fall asleep in the sunlight. But a judicious two hours a week of sunlight in divided doses is great for getting your vitamin D intake.

So this is a basic overview of the whole foods that you need to maintain your good health. Next, we'll look at how you can get the intensive nutrients that your body needs for peak athletic performance.

Here's to your Health,

Dr. Colleen Huber

Dr. Huber, NMD, is a Naturopathic Medical Doctor and Primary Care Physician currently practicing in Tempe, Arizona. Dr. Huber focuses on herbal medicine, nutrition, intravenous therapies, environmental medicine and acupuncture. She received her Naturopathic Medical degree from Southwest College of Naturopathic Medicine.

Subject line: Looking for Peak Performance? Supplement Your Diet!

So far, we've looked at the whole foods that an athlete must consume for good long-term health. But the average athlete must take in much more nutritionally than even a whole-foods diet can pack in. So...you need to look at supplementation.

To see what you should take as far as supplementation goes, take a look at this article on the AANP site: [What to Look for in a Vitamin](#)

These guidelines will help you to choose supplements to provide the basic minerals that you need, plus the water-soluble vitamins, as well as a good start on antioxidants.

I like food-source nutrients a lot because of their bioavailability. They really don't have the high-dosage nutrients that athletes need for intense activity, but can be used on your days off from training. They are, however, the best quality and most bio-available.

Next we'll take a look at the one nutrient that your body absolutely *cannot* survive – much less perform at any level – without. You can find it in all sorts of colors, flavors, and high-tech formulas these days, but what do you really need? You'll find out in our next segment!

Here's to your Health,

Dr. Colleen Huber

Dr. Huber, NMD, is a Naturopathic Medical Doctor and Primary Care Physician currently practicing in Tempe, Arizona. Dr. Huber focuses on herbal medicine, nutrition, intravenous therapies, environmental medicine and acupuncture. She received her Naturopathic Medical degree from Southwest College of Naturopathic Medicine.

Subject line: Should You Color-Coordinate Your Sport Drink With Your Clothes?

So now you have a good overall knowledge of the foods, vitamins and minerals that your body requires for good health and athletic performance. But you may have noticed that something was missing in that list...the one nutrient that you cannot survive without: *water*.

Remember: *an athlete sweats out more in one day than a sedentary person does in two weeks*. Your body cannot survive, let alone perform, without water, and yet most people unconsciously live in a condition of chronic dehydration. You know that by the time you get thirsty, you are way late in hydrating yourself. If your urine is amber colored, you are way late.

With drinking water, the trick is to make a routine out of it, so you don't get into that deficit. Early in the day, get about half of your total daily intake, so that getting busy or distracted later doesn't mean that you have to get dehydrated.

Contrary to what Madison Avenue will tell you, if you are preparing for an athletic event – whether it's weekly jog through the neighborhood or an annual marathon, you *don't* need the fluorescent-color so-called sports drinks. If you follow the guidelines in this e-course, you have been getting plenty of minerals, so what you do need is water. You should have several cups of water, that is 6-7 cups, early on the day of the event, and carry more water with you throughout the event.

The trick is to get enough water, but not too much. If you have had a little too much water, you risk hyponatremia (which means low sodium in the blood). Some symptoms of hyponatremia are headaches, muscle cramping, nausea, abdominal bloating, confusion, fatigue.

Sodium is the only electrolyte that you would want to replace during the event; the others can wait until afterward. That is, hyponatremia is a problem at times, whereas the other electrolyte deficiencies, such as hypokalemia - low potassium, or hypomagnesemia - low magnesium generally don't present a problem during athletic events.

So what kind of sports drink should you bring? Here's the recipe I recommend:

Take a quart bottle of water. Add a 1/3-teaspoon of sea salt and two droppers full of liquid stevia. Stevia is sweet, tastes pretty good for cold or room temperature beverages, and has zero glycemic index, so it does not act like sugar in the body. Nor is it an artificial sweetener. It comes straight from the plant, and you could grow it in your back yard if you wanted to. I would get the liquid stevia, not the powdered, because the liquid is easier to handle.

Start by adding two droppers full and see if that is sweet enough for you. If not, add another half dropper full, and another, tasting it with each addition. That's it – no garish colors needed!

Speaking of preparing for athletic events, our next segment will look at how you can prepare yourself for high-intensity peak performance...stay tuned!

Here's to your Health,

Dr. Colleen Huber

Dr. Huber, NMD, is a Naturopathic Medical Doctor and Primary Care Physician currently practicing in Tempe, Arizona. Dr. Huber focuses on herbal medicine, nutrition, intravenous therapies, environmental medicine and acupuncture. She received her Naturopathic Medical degree from Southwest College of Naturopathic Medicine.

Subject line: Exposing the Sweet, Sweet Myths About Peak Performance Nutrition

So we've talked about your long-term needs for sustained training...now it's time to talk about your nutritional needs when you're going into a high-intensity athletic event!

For intense events of more than 90 minutes duration, you should start a high-carbohydrate diet for two to three days before the event, because that is a good amount of time to stock your glycogen storage full for the event. This would be about 70 percent of your calories coming from carbohydrates. Endurance athletes eating such a diet have been able to exercise longer than they can on more typically balanced diets of 40-30-30, which is carbs, proteins, and fats.

But be careful – *for many athletes, carb loading becomes sugar loading!* The bike stores and other stores that appeal to athletes are full of high-carb sugar treats. This is about the biggest mistake you can make. If you eat a lot of sugar, days before an event, you are seriously compromising your performance.

If you consume sweets on the day of the event, you are inviting a surge of insulin, which will dip your blood sugar too low when you need it most to complete the event. Worse yet, sugar draws body fluids into your GI tract, the place that you least need those fluids to be during the event. This sets you up for muscle cramping, dehydration, nausea, diarrhea - who needs that?

So when I say load up on carbohydrates, I mean *high-quality carbohydrates*, which are complex carbohydrates, namely vegetables, whole fruits (not fruit juice) and whole grains. These are the only kinds of carbs that will do you any good - I don't care how many different brands of sugar bars and sugar drinks are in the sports stores.

If you want more information about this, please check out the research at Colorado State University, and summarized on their website, www.colostate.edu.

So when the day of the event rolls around, you want to have your pre-event meal two to four hours ahead of time. You should take in only about 1000 calories, again high in complex carbohydrates: vegetables, fruits, whole grains.

Within an hour after the event, when your heart rate has settled down and you've cooled off, you should have some nuts and a banana. This tasty snack will replace your sodium and your potassium respectively, without messing with your blood sugar.

These basic guidelines seem to work for the majority of athletes. However, your body may respond differently, especially concerning carbohydrates. For example, some people do better on carbs in general than others. And it is worth considering that fats provide long-term energy, and should not be totally neglected before a race, and should still be 10-15% of total calories. To see how much your body may vary from these recommendations, see William Wolcott's work on [Metabolic Type](#).

Segment 8

I hope this e-course helps you to develop your healthy diet for long-term athletic training. Be sure to watch for more e-courses to answer your questions on nutrition, wellness, and more!

Here's to your Health!

Dr. Colleen Huber

Dr. Huber, NMD, is a Naturopathic Medical Doctor and Primary Care Physician currently practicing in Tempe, Arizona. Dr. Huber focuses on herbal medicine, nutrition, intravenous therapies, environmental medicine and acupuncture. She received her Naturopathic Medical degree from Southwest College of Naturopathic Medicine.