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NUTRITION GUIDE

Supported by research, content and resources from Dr. Greg wells
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“As a 2X Olympian, I didn’t follow any extremely strict, or specific diets. I tried to be mindful, and reflective of what I was eating, when, and how it was making me feel. Hydrating, and eating healthy consistently allows me to recover mentally and physically and when I’m feeling good, I’m much more productive on and off the field of play and in my academics”

- Martha McCabe, Founder, President of Head to Head



WHAT'S IN THIS PACKAGE?

HEALTHY EATING RECOMMENDATIONS

PRE-EXERCISE NUTRITION TIPS

EXAMPLES AND EXPLANATIONS ON:

- NUTRIENT DENSE FOODS (SUPERFOODS)
- HEALTHY FATS
- HEALTHY CARBOHYDRATES
- HEALTHY PROTEINS
- VITAMINS AND MINERALS

TOP 10 ISSUES ATHLETES OFTEN FACE AROUND NUTRITION

IN EACH SECTION YOU'LL SEE, IN RED 'AN ATHLETE'S TAKE' WHICH WILL SHARE ONE OLYMPIAN EXPERIENCE AND PERSPECTIVE ON NUTRITION. OUR OLYMPIANS WORKED WITH NUTRITIONISTS, DOCTORS AND DIETICIANS AND WILL HAVE GREAT TIPS, ADVICE AND EXPERIENCES TO SHARE WITH YOU. SO MAKE SURE YOU ASK ANY QUESTIONS YOU HAVE!



This nutrition guide is meant to provide you with tips, ideas and information to help you fuel your body as best as possible whether you are an athlete, or not.

The guide will help you, if you're looking for snack ideas, interested in learning more about different types of foods and nutrients, trying to reduce inflammation, and much more. This guide should have *something* for you!

We encourage you to connect with your Olympian mentor to ask about some of the eating habits they had while they were training.

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To start, check out the recommendations provided by Canada's food guide on the next page!

AN ATHLETE'S TAKE!

I can't stress enough the importance of the recommendations on this food guide. Being mindful, taking time to eat, and listening to your body might sound like very basic advice, but it's incredible how far that can get you.

- *Slow down for a moment*
- *Consider your meal planning and aim to cook — for yourself*
- *Moderation and variety is key*
- *When in doubt, fill half half your plate with a mix of vegetables*

Healthy eating recommendations



Healthy eating is more than the foods you eat. It is also about where, when, why and how you eat.

Be mindful of your eating habits

- Take time to eat
- Notice when you are hungry and when you are full

Cook more often

- Plan what you eat
- Involve others in planning and preparing meals

Enjoy your food

- Culture and food traditions can be a part of healthy eating

Eat meals with others

Make it a habit to eat a variety of healthy foods each day.

Eat plenty of vegetables and fruits, whole grain foods and protein foods. Choose protein foods that come from plants more often.

- Choose foods with healthy fats instead of saturated fat

Limit highly processed foods. If you choose these foods, eat them less often and in small amounts.

- Prepare meals and snacks using ingredients that have little to no added sodium, sugars or saturated fat
- Choose healthier menu options when eating out

Make water your drink of choice

- Replace sugary drinks with water

Use food labels

Be aware that food marketing can influence your choices



PRE-EXERCISE NUTRITION

WHY SHOULD I EAT BEFORE EXERCISE?

- Top-up muscle and liver glycogen stores
- Ensure adequate blood sugar level
- Prevent hunger before and during exercise

What food would be good to eat?

- Carbohydrate-rich foods: **Examples** bread, grains, cereal, fruits vegetables
 - Foods that sit well in your stomach and digest easily for you
- Small amounts of protein (like an egg, cottage cheese, plain yogurt, natural peanut butter etc.)
- Liquid meals - especially if you are feeling a bit nervous for competition or training (like fruit smoothies, meal replacement drinks etc.)
 - Avoid high fat foods like burgers, fries, chips, etc.

Time before exercise	Carbohydrate	Calories	Example for 80kg (175lb) athlete
30 min prior	~25g	100	1 gel or 1.5 cup sport drink
1 hour prior	1g carb/kg body weight	250-300	80g carb = • 1 bagel (30g), • 2 t jam (10g), • 8oz 1% milk (12g), • 1 large banana (30g)
2 hours prior	2g carb/kg	400-600	160 g carb = • 1 cup low fat granola (87 g), • 1 cup skim milk (13 g), • 1 large banana (30 g), • 1 cup apple juice (30 g)

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3 hours prior	3g carb/kg	700-900	240g carb = • 2 cups pasta (80g), • 1.5 cups lean meat sauce (20g), • 1 cup cooked veg (10g) • 2 slices bread and butter (30g), • 2 cups cranberry cocktail (75g), • 3 fig cookies (25g)
4 hours prior	4g carb/kg	1000-1500	320 g carb = • 4 cups cooked rice, chicken and veg (190 g), • 2 cups cranberry cocktail (75 g), • 5 fat free graham crackers (55 g)

AN ATHLETE'S TAKE!

Before training in the morning (around 6AM - 30 min before practice) I would usually eat:

- *a small bowl of shredded wheat with almond milk or skim milk*

I'd usually add a couple scoops of raisin bran or harvest crunch to give it a bit more flavour, but still the majority of the meal was not too sugary, and whole grain.

After training in the morning, and as close to the end of my practice as possible (around 9AM), I'd usually eat:

- *two pieces of whole grain toast*
- *2 eggs (topped with avocado, maybe some lean ham, or some cheese)*
- *tomato, spinach, onion*
- *a bowl of **plain** greek yogurt (with a small amount of honey) if I was still hungry*



NUTRIENT DENSE FOODS (AKA “SUPERFOODS”)

*“You might think that as an athlete you don’t have to worry about how many calories you eat. However, you need to **OPTIMIZE YOUR NUTRIENT-TO-CALORIE- RATIO**. The challenge is to remember that your health and performance depends on eating nutrient-dense foods not energy dense foods.” ~ Dr. Greg Wells*

Leafy Greens

- Highest antioxidant density per calorie
- Packed with minerals like calcium, iodine and iron, which are great for bone strength, thyroid health and energy

Examples: Swiss Chard, Kale, Mustard/Collard Greens, Spinach, Dandelion, Seaweed

Small Fatty Fish

- Omega 3 fatty acids in fish help with circulation, concentration and pain relief
- Also great source of protein and calcium
- To avoid heavy metals, avoid large fish like tuna, swordfish and shark

Examples: Sardines, perch, tilapia, salmon, herring, anchovies

Legumes

- Least expensive protein

Examples: Lentils, chickpeas, black/kidney/navy/cannellini beans

Berries

- Berries are superfood full of tissue healing antioxidants and fibre

Examples: Blueberries, cranberries, strawberries, blackberries cherries, goji/acai berries

Root Vegetables

- Disease fighting, energy boosting, pain relieving miracle foods



Examples: Ginger, turmeric, garlic, onions, sweet potatoes, radishes, beets
Sprouts • Contain more enzymes, vitamins, minerals and amino acids than almost any other foods on earth Examples: Alfalfa, soybean, wheatgrass, lentil sprouts
Chia Seeds • Highest plant source of omega 3 fatty acids in existence, which makes them excellent for brain and heart health
Spirulina • Packed with minerals, including one of the only sources of thyroid booster, iodine • 60% of this green powder is protein by weight • Contains every single essential amino acid that humans need • Also contains four times as much vitamin B12 as liver
Pomegranate Seeds • Can lower blood pressure and reduce inflammation in our blood vessels

AN ATHLETE'S TAKE!

I never knew a ton about superfoods, but I'd try to throw them into my diet as much as possible. If I was making a smoothie, which I often did, I'd throw in some chia seeds, spinach and berries. I found having a small list of the superfoods on my phone would help remind me when I was grocery shopping to pick them up. Once they were in my apartment, I could just throw them into my stir fry dinners, breakfast eggs, sandwiches and smoothies really easily, bringing my nutrition up a notch.



HEALTHY FATS

"It is time to end the low-fat = healthy eating myth!"
~ Dr. Greg Wells

Increase the amount of healthy fats and decrease (or eliminate) the unhealthy fats

- Healthy fats are essential for energy, absorption of fat soluble vitamins, building cell membranes and synthesis of hormones
- training on very low fat diets (<15% calories from fat per day) may lead to a more pro-inflammatory state, possibly a compromised immune system as well as possible deficiency in some essential micronutrients such as vitamin E.

Unhealthy Fats

- Saturated animal fats and trans fats.
- typically come from animal sources and include red meat (which you can eat on occasion for protein and iron – but make sure it's grass-fed and organic), butter, cheese, ice cream.
- Fats that are solid at room temperature.
- avoid saturated animal fats, trans-fats, hydrogenated vegetable oils and processed foods.

Healthy Fats:

Examples: Nuts, seeds, avocados, coconuts

Tips:

- Use extra virgin olive, walnut, coconut and sustainably sourced palm oil
- When you cook with oil never heat is past the smoking point, as the beneficial properties of the oil are ruined
- Have a handful of raw nuts and seeds every day - focus on almonds, pecans, walnuts, flax and chia
- Eat small fatty fish (sardines, salmon) often and larger fish (tuna, swordfish) infrequently, as they contain higher levels of toxic heavy metals)



- Buy flax oil in dark bottles and keep it in the fridge (air, light and heat cause it to break down). Use it in salads or other cold dishes or add it to cooked foods. You could also buy ground flax and add it to shakes, cereal, cooked grains and stews
- Eat grass-fed animals rather than grain-fed
- Use cheese as a spice, not a food. A small amount of old, flavourful cheese can be a nice addition to a salad or stir fry - but cheese is not a healthy food so limit your intake or avoid it completely
- Serve healthy fats at the table. Use olive oil as a drizzle instead of butter, or guacamole instead of sour cream

AN ATHLETE'S TAKE!

I didn't have any serious focus on fats, but I typically stayed away from food like greasy burgers, fries and fast food in general. They didn't make me feel great after eating them, and I still could make some great burgers and home fries / potatoes at home, but in a much healthier way.

Generally for this category, I just focused on moderation and using certain oils as needed instead of all the time.

A couple small facts that I always kept top of mind were;

- *Cheese as a spice not as a food*
- *Small snacks that are great; handful of almonds, half or a quarter of an avocado*



HEALTHY CARBOHYDRATES

“For all athletes, carbohydrates are absolutely essential. Your body requires carbohydrates to store enough fuel to get you through your training sessions without crashing.” - Dr. Greg Wells

How Much?

- consume about 6-12g of carbohydrates per kilogram of your body weight per day. If you're a female athlete you will usually be at the lower end of this range and if you're a male at the upper end.

Good Carbs vs. Bad Carbs

- Complex carbs = healthy
 - **Examples:** quinoa, whole grains, vegetables (such as sweet potato), fruits (especially berries), beans, legumes, nuts, seeds, sweet potatoes, oats (not instant), wild rice, bananas, berries, chickpeas, lentils, fresh figs, oranges
- Simple carbs = limit or avoid
 - found in refined and processed foods like breakfast cereals, white bread, sugars and syrups

Eating real food rather than pre-packaged or processed foods will make you feel healthier and perform to your highest potential both in sport and daily life.

Tips:

- Choose oatmeal with almond butter rather than cereal for breakfast. Choose plain full fat yogurt with berries instead of the sweetened low fat variety
- Choose spaghetti squash with tuna pesto sauce instead of white pasta with tomato sauce

AN ATHLETE'S TAKE!

When it comes to carbohydrates, I pretty much always stick to whole grains, and try to focus on low sugar choices, like oatmeal, shredded wheat (instead of sugary cereals), quinoa, and veggies!!! As a treat once in a while, maybe I'd go for that croissant, or french bread stick but as a general rule it was whole wheat for me!



HEALTHY PROTEINS

“Consuming adequate protein throughout the day is not only recognized as a method for promoting muscle protein synthesis and hypertrophy, it is also crucial for maintaining your immune system.” ~ Dr. Greg Wells

Make sure to have protein at every meal to prevent the energy crash between meals. Not to mention, high protein foods can help you to maintain better attention, concentration and focus throughout the day.

How Much Protein Do I Need?

- **Baseline:**
 - 1.2-1.8g of protein per kilogram of your body weight per day in order to maintain lean muscle mass and build new muscle.
- **High Intensity/High Volume Training:**
 - it may be necessary for you to consume as much as 2.0g per kilogram of body weight per day in order to maintain lean muscle mass and promote fat loss.
- **Resistance Athletes:**
 - consume 4-6 smaller high protein meals per day in order to maximize protein synthesis in your muscles.
 - 20g of protein is enough to stimulate maximal protein synthesis, which happens about 2 hours after a meal. Having protein in each meal throughout the day will help keep your body in positive muscle protein synthesis.

High Quality Proteins:

- **Examples:**
 - 1 cup of **quinoa** gives 18 g of protein.
 - 2 hardboiled **eggs** give you 12g of complete protein
 - ½ boneless, skinless **chicken breast** can give you over 25g of protein.
 - 1 tbsp of **hemp seeds** will provide you with 10g of protein. You can add hemp seeds to your salads or add them to a smoothie in the morning.
 - **non-GMO tofu** can provide 20g of protein per ½ cup and is also a rich vegetarian source of calcium.



What About a Protein Supplement?

Make sure it contains a broad profile of amino acids, especially L-Glutamine, L-Lysine, and L-Taurine

L-Glutamine:

A non essential amino acid that appears to be conditionally essential during periods of psychological stress, plays important roles in the immune system

L-Lysine:

Plays a major role in calcium absorption, muscle building, recovery from injuries, and the body's production of hormones, enzymes and antibodies. L-Lysine is metabolized in mammals to provide acetyl-CoA - a critical substrate for energy production in the body.

L-Taurine:

Protects against oxidative stress, neurodegenerative diseases and atherosclerosis

AN ATHLETE'S TAKE!

Protein!!!! I love protein, and really felt that it was important to have at every meal. Some of my main go to's were:

- *Chicken breast*
- *Salmon*
- *Tuna*
- *Tofu*
- *Extra lean ground beef*
- *Lean turkey or ham*
- *Protein powder for quick recovery after training*

I liked to focus on getting my protein from real food instead of powders and I felt that I needed some source of protein at each meal. Not only did it help with recovery but it really helped to feel satisfied and not get hungry for a little while, which was important!



VITAMINS AND MINERALS

“As an athlete, many of your vitamin and mineral requirements are higher than the average person in order to keep your body healthy and functioning at an optimal level. You also often experience suppressed immune system in times of high volume or high intensity training. Eating foods high in vitamins and minerals can help counteract this immunosuppression and keep you healthy throughout your training cycles.” ~Dr. Greg Wells

Which Vitamins and Minerals are Priority?

Vitamin D

Increasing vitamin D consumption might positively impact muscle metabolism and sport performance. It is also important in maintaining the strength of the immune system.

Sources: fish (herring, salmon and tuna), meat, egg yolks, Vitamin D is fortified in milk, margarine, and some yogurts and cheeses, mushrooms and alfalfa sprouts (inactive form), fortified plant milks such as almond or soy (inactive)

Magnesium

Plays a role in conversion of vitamin D to its main circulating form in the body, crucial for many processes that are particularly important for athletes such as oxygen uptake, energy production, and electrolyte balance. A lot of magnesium is lost through sweat, so you need to ensure you're getting enough in your diet.

Sources: whole grains, legumes and green leafy vegetables.

Iron

Key component of hemoglobin which binds oxygen in the blood. Iron is required for oxygen delivery to all tissues. Iron deficiency anemia is more prevalent in athletes due to heavy training, but particularly in females. It is recommended to get your iron status checked regularly to avoid deficiency.

Sources: meat, fish, poultry, oysters, clams, legumes, dark green leafy vegetables



and dried fruits, as well as any foods that are fortified with iron such as grain products. Vitamin C strongly enhances the absorption of iron.

B Vitamins

Important for energy production, hemoglobin synthesis, immune function, and building and repair of muscle tissue.

Sources: whole grains, vegetables, legumes, nuts and lean meats. B12 only found in animal products

Tips:

- Eat lots of fruits and vegetables. At least half of your meals should be vegetables.
- Avoid processed foods as much as possible, especially refined grain products.
- Make sure you are getting plenty of healthy fats to allow your fat soluble vitamins to be absorbed

AN ATHLETE'S TAKE!

The biggest rule I followed in terms of vitamins and minerals, was to try and fill half my plate with vegetables. In addition, I took a few supplements like iron, vitamin d (in those Canadian winters), and sometimes magnesium. In the winter months, or if I felt I was ever coming down with something I'd take a bit of extra vitamin C.

For me I felt it was important to get as much of what my body needed from real food so I tried not to take too many supplements, except for when dieticians and doctors really recommended it.



POST EXERCISE SNACK IDEAS

- Recovery drink mix (4:1 carbs to protein for endurance workouts, 2:1 for strength workouts)
- Plain Greek Yogurt + Fruit/Berries + small amount of granola or honey if needed
- Chia pudding: 3 TBSP chia seeds + 1 cup coconut milk + 2 TBSP Raw Honey + ½ TSP cinnamon (let sit overnight)
- Chocolate, vanilla almond or brown rice milk + protein powder
- Organic trail mix (unsulphured dried fruit and raw nuts/seeds)
- Cottage cheese
- One or two high quality snack bars (eg. Elevate Me, Simply Whey, Vega)
- Brown rice cake + jam + natural nut butter (eg. almond, cashew, peanut)
- Egg salad sandwich on whole grain bread
- Protein balls (roll ingredients into a ball and refrigerate)
 - 1 scoop protein powder
 - 2 TBSP almond butter
 - 4 TBSP almond milk
 - 2 TBSP maple syrup

***from Trionne Moore, BA RHN, www.trionne.ca & Dr. Melissa Piercell, ND**

AN ATHLETE'S TAKE!

After training, I found it crucial to have a plan in place to ensure I wasn't just grabbing the first thing I saw. I would immediately grab a quick drink, often a protein shake with a mix of carbs, or a greek yogurt cup with some nuts, and then head home to make a full meal. I felt I needed the immediate refuel.

I also found that after training I was the most vulnerable to making a poor decision with my nutrition. If I went into a food court, this would be when I was tempted to go with something less healthy, so I became mindful of that and made sure I prepared healthy post workout snacks prior to training so that I wasn't tempted. It always felt better when I opted for the healthiest refuel option.



TOP 10 ISSUES ATHLETES OFTEN FACE AROUND NUTRITION

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Healthy Eating

- Good nutrition means eating a variety of foods. Many people get stuck in a routine of eating the same five to ten staple foods over and over again: pasta, bananas, bagels, chicken, carrot sticks and lettuce salad. But we need to mix things up a little.
- Remember the 80-20 rule: Eat well at least 80 percent of the time but leave some room for soul nourishment and pure pleasure. If you're going to ingest foods or drinks that offer little nutritional value -such as coffee, beer, jelly beans, pop, sugary cakes and so on, make the indulgence worthwhile. If the food offers no nutritional value at least aim to get maximum psychological pleasure out of it.

2. Energy Management

- Eat 3 meals a day with the largest portion being vegetables or fruit but also ensure you add some lean protein. A minimum of 3 of the 4 food groups is ideal. This ensures you get adequate protein and enough carbohydrate to fuel your muscles and brain.
- Eat 2 or 3 healthy snacks each day. Don't allow more than 4 hours to pass in a day without eating.

3. Hydration

- Stay well hydrated: Drink water with all meals and snacks, anything sweet or salty and in a 1:1 ratio with caffeine, alcohol or pop. You'll know you are well hydrated when you go pee every 1-2 hours during the day and your urine is clear or pale in colour.



- Drink before, during and after exercise

4. Pre-exercise Eating

- Eat a "smart" dinner the night before - lots of vegetables, grains and some lean protein - for example - vegetable-tofu stir fry over brown rice, vegetable-laden sauce with 3-4 oz chicken or lean meat over pasta, bean and vegetable soup with whole grain bread, fish, vegetables and brown rice.
- Have a high carbohydrate evening snack to top up muscle glycogen stores, especially if you can't eat breakfast. Some examples include: fruit, a bagel with jam, popcorn or cinnamon toast.
- The morning of: Aim for a breakfast with mostly carbohydrates but also a bit of protein for staying power. Keep this meal low in fat and moderate in fibre. The more time you have between eating and exercise, the larger the quantity you can eat.

5. Recovery

- Focus on rehydration - drink at least another 2-4 cups of water
- Eat or drink carbohydrate foods within the first 30 minutes of finishing a hard workout or activity - e.g. fruit, vegetables, plain yogurt, a bagel, cereal and milk or a typical lunch meal. Continue to eat every 2 - 4 hours.
- If you drink caffeine, alcohol or pop, drink extra water.

6. Eating on the Road

- Fast food is still, for the most part, much too high in fat, very high in sodium and often served in gargantuan portions. Instead, look for meals with large portions of vegetables or fruit.
- Pack high quality, healthy snacks to take with you on the road. Don't use a trip as an excuse to blow your healthy eating plan.



7. Weight Management

- Do not obsess about weight!
- Pay attention to hunger and satiety cues - tune into meal volume, timing and spacing
- Don't approach every meal like it's your last opportunity ever to eat. Rate your fullness on a scale of 1-10 where 1 is starving and 10 is over full. Try to stop at level 5. This is the point where you feel psychologically and physiologically satisfied, but not stuffed.

8. Supplementation

- Supplements are not replacements for food, don't be fooled by advertising "hype"
- Sports drinks, bars and gels have a role to play. Realize though, that they are generally designed for use during prolonged exercise. The main benefit of sports drinks is that their flavours, bright colours and jazzy packaging remind athletes to drink more fluids when exercising.

9. Vegetarianism

- As a vegetarian, you need to replace the meat portion of your diet with a variety of healthy meat alternatives such as beans, lentils, chickpeas, tofu and other soy products, nuts, nut butters, seeds, and eggs, dairy and fish (if you eat them)
- If you eliminate dairy products as well, you need to consider calcium and vitamin D, and when you eliminate all foods of animal origin, vitamin B12 also needs special attention.

10. Food Safety and Quality Concerns

- Although organic food may not necessarily offer higher nutritional value, certified organic foods will reduce your intake of pesticides and other chemicals. In this regard, extra cost is still worth it.



- Organic or not, washing of all produce is still critical to minimizing food poisoning.

AN ATHLETE'S TAKE!

Above all else, I'd say these 10 tips above are crucial, not only for athletes but for everyone.

Take some time to read through them. This information, coupled with the recommendations at the beginning of this guide will probably be the most useful insights for you!

There are no big secrets when it comes to nutrition, but being consistent with your decision to fuel your body well will be a game changer. Take time to plan meals, cook for yourself and be mindful of how, when, what and why you're eating!

Good luck!

