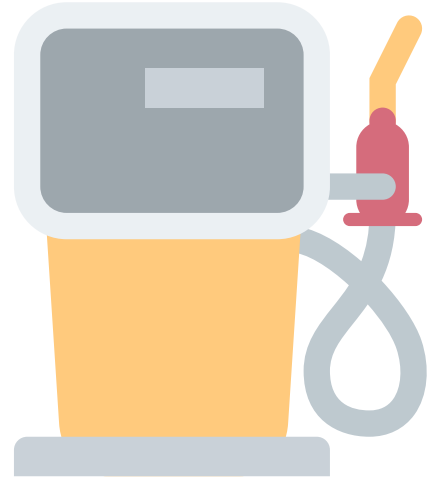


FUELING 101

Pre-Workout Nutrition

As an athlete, you know all too well... You won't be able to compete at your best unless you train consistently at your best. Likewise, proper fueling and nourishment through well-planned, reliable access to nutritious food is key to optimizing your performance throughout the training season and for your big events.



Consider this...

Would you expect your car to take you from point A to B without timely oil change/maintenance, using incorrect fuel and waiting *every single time* for the gas light to come on before considering where the closest gas station is?

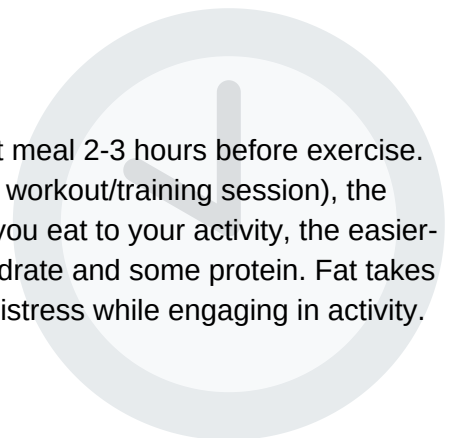
Improperly fueling for exercise is comparable to the above scenario. The benefits of properly fueling, hydration and preparing your body for the type of fuel to be used (for training, recreational activity and competitions) are listed below:

1. Reduced risk of hypoglycemia (low blood sugar)
Think: light-headedness, sluggishness, blurred vision
2. Helps your stomach settle (with trial, error and consistency) through absorbing gastric juices and warding off symptoms of hunger early on during activity
3. Fuels your muscles with carbs in the form of **glycogen** and brain in the form of **glucose** (sugar) from meals consumed the day prior, and/or within 3 hours-30 minutes of activity
4. Fuels your body to exercise harder so you are able to use up more energy and achieve desired results
5. Provides peace of mind knowing you are well-fueled for your activity

Nutrient Timing

For training sessions later in the day, it is optimal to enjoy your pre-workout meal 2-3 hours before exercise.

As the meal/snack window approaches your workout (or the earlier your workout/training session), the recommended meal composition becomes smaller and simpler. The closer you eat to your activity, the easier-to-digest your meal should be. This generally looks like a source of carbohydrate and some protein. Fat takes much longer to digest which can disrupt your energy and lead to digestive distress while engaging in activity.



Introducing Your Teammates

Carbohydrate

- Starch (complex carbohydrate) breaks down into glucose (simple sugar) which is used as fuel for muscles
- The storage form of carbohydrate in liver and muscles is glycogen
- With strategic fueling, you can utilize glycogen effectively throughout endurance activity (slow burn)

Protein

- Protein breaks down into amino acids which are building blocks for protein structures/muscle in our bodies
- Eating protein before exercise:
 1. Stimulates muscle growth
 2. Improves muscle recovery
 3. Improves strength
 4. Enhances performance

Fat

- Since glycogen only lasts ~90 minutes, our bodies are able to draw from fat stores for energy when activity is longer and of low/moderate intensity
- If a source of dietary fat (meat, nuts/butters, oils, high fat dairy) is consumed before activity, it should be 2-3 hours prior to allow time for digestion

If You Eat: 2-3 hours (+) before

This is considered an optimal window for eating, since you can eat a complete meal to supply your muscles with energy, macro and micro-nutrients.

Carbs: In the form of starchy veggies/grains for a slow energy burn to keep you satisfied until your activity. High fibre foods (dried fruit, raw veg) may lead to discomfort depending on the type of activity. Tweak as needed!

Protein: Supplies a steady stream of amino acids for protein synthesis and blood sugar support

Fat: Slows the digestion of food to make nutrients available closer to activity. Assists in fat-soluble nutrient absorption.

Examples: Egg/salmon/tuna sandwich on whole grain bread with quinoa/bean/lettuce salad // Loaded oats with berries, banana, nut butter & greek yogurt // Eggs + toast + fruit // "Balanced plate template": Protein + starch/grain + colour

Pro Tip: This time frame includes the evening prior to activity the next morning (i.e. dinner before a morning training session or competition). Work with your dietitian to review the "**performance plate**" proportions suitable to your activity!

If You Eat: 1 hour before

Choose a lighter meal/snack than above, which will provide fuel without weighing you down or being too filling.

Carbs: Lower fibre fruit (banana, grapes, starchy veg), crackers, bread, cereals will digest quicker for available energy

Protein: Include a source of amino acids to be available for muscle repair during activity (lean/non-fatty protein)

Fat: Keep it low (i.e. under 5g total) to avoid feeling sluggish due to slowed digestion of your meal/snack

Examples: Protein bar + Greek yogurt + banana // Quick oats + whey protein (proats) + fruit // Smoothie with fruit + milk

If You Eat: Within 30 minutes of activity

This may be your pre-workout timeline if you work out first thing! Eating something is better than nothing at all.

Carbs: Keep it simple (not starchy or fibrous) i.e. rice, banana, rice cakes, baby cereal/puree pouches or gels

Protein: Supplemental sources of protein (whey versus casein protein) digest quicker than whole food protein

Fat: Avoid this close to activity to allow quick digestion, absorption and energy availability during exercise

Examples: Protein shake (whey protein) + fruit // Greek yogurt + honey // Nutrition bar (ask your dietitian for ideas!) // Proats or quick oats + low fat yogurt

References:

- Nancy Clark's Sports Nutrition Guidebook- 5th Ed
- Advanced Sport Nutrition- Dan Benardot RD
- Healthline: Pre-Workout Nutrition- What to Eat Before a Workout
- Merotto, L. Pre-workout Nutrition: Macros & Meal Timing (leighmerotto.com)



Hi, we are Syd & Britt!

Outpatient Registered Dietitians working in Ontario, Canada.

We are on a mission to help our clients reconnect with their bodies, rediscover their nutritional nature and grow into the best version of themselves!

In our work, we were spending copious amounts of time looking for comprehensive resources that illustrated key nutrition concepts for a variety of nutrition topics. We took it upon ourselves to create resources that were user-friendly and covered the necessary concepts to help our clients succeed. Our store features a mix-bag of resources for a variety of conditions that a private practice RD is likely to see. Save yourself time and money, let us do the work!

FREE RESOURCES

- [Fueling 101: Pre-Workout Nutrition](#)
- [Smart Sipping for Enjoyment & Health](#)
- [Red Flags: Spotting Fad Diets](#)

PREMIUM RESOURCES

- [Ultimate Meal & Snack Package](#)
- [Heart Health Client Education Package](#)
- [An Intuitive Eating Approach to Portion Sizes](#)

[View the full resource store!](#)