

Timing and food composition is everything when it comes to exercise, training and competition, especially when you are looking for optimal results. Nerves, a sensitive stomach, and time restrictions can often make it challenging when trying to get the nutrients you need. Here are a few ways to help your body get the fuel it needs, even with the challenges you may face.

## Pre-Exercise/Competition Goals:

- Consume a carbohydrate rich snack or meal before exercise to top off muscle glycogen stores. With pre-competition jitters, liquid meal replacements may be a better choice than whole foods if needed.
- Include small amounts of protein in your pre-exercise meal(s). Protein helps build and repair muscle tissue. Adequate protein before exercise may help reduce post-exercise muscle soreness.
- Choose pre-exercise meal(s) that are low in fat and fiber to ensure optimal digestion and to avoid stomach upset.

Foods & Fluids 3-4 Hours Before Exercise or Competition	Foods & Fluids 30-60 Minutes Before Exercise or Competition
• Peanut butter and honey on toast + instant breakfast drink	• Sports drink
• Fruit and yogurt smoothie + low-fat granola	• Sports gel, sports beans or gummies, sports bar
• Oatmeal with brown sugar and almonds + skim milk + banana	• Piece of fruit
• Low-fat cottage cheese + apple butter + crackers + fresh grapes	• Jam sandwich
• Lean hamburger on bun with lettuce & tomato + side salad + yogurt-fruit parfait	• Dry cereal
• Turkey and Swiss sandwich + fruit + sports drink	• Pretzels or granola bar
• Low-fat tuna melt sandwich + fruit cup + fat-free yogurt	• Water

## Takeaway Tips:

- Experiment with foods and drinks during practice and lower level competitions to determine the best timing and your tolerance for pre-exercise foods.
- Practice! Figuring out what works best for you will boost confidence in eating before exercise.
- Fuel muscles early with easily digestible carbohydrate-rich foods and beverages for training or competition later in the day.

### During Exercise/Performance Goals:

- Optimal fuel blend: Nutrition during prolonged exercise requires the proper mix and timing of fluids, carbohydrates, and electrolytes. Too little fluid or too much carbohydrate can result in cramping and other intestinal problems.
- Prolonged exercise is defined as an event that lasts more than 60 min.
- Adequate fluids to replace sweat losses: Prevent excessive fluid loss (>2% body weight lost as fluid). Dehydration can cause fatigue and impair performance.
- A plan tailored to YOUR needs: A nutrition plan based on your needs can help maximize performance. Experiment with sport drinks and foods for different types of workouts and competitions. Record your tolerance to learn what works best.

Foods & Fluids During Exercise or Competition	
• Sports drink that contains carbohydrate and electrolytes	• Easily digestible carbohydrate rich foods during endurance events
• Other sport foods (gels, gummy chews)	• Banana
• Bite-sized pieces of low-fat granola or sports bars	• Bread or roll with jam or honey
• Water	• Fig Newtons

**\*\*Carbohydrate rich gels or foods should be consumed with fluids to speed transport to muscles\*\***

### Takeaway Tips:

- Start with a full “tank”. Begin exercise well hydrated and with adequate muscle fuel (carbohydrate).
- Try new products and foods during training sessions to determine the type, amount, and timing of foods and fluids that work best for you.
- Consume fluids early and consistently to replace sweat losses.

### Post-Exercise/Competition Goals:

- Restore fluid and electrolytes (sodium and potassium) lost in sweat; weigh before and after exercise and replenish what was lost.
- Replace muscle fuel (carbohydrate) utilized during practice.
- Provide protein to aid in repair of damaged muscle tissue and to stimulate development of new tissue.
- Begin nutrition recovery with a snack or meal within 30-60 minutes following practice or competition.

Rehydration Fluids	Recovery Snack Ideas	Recovery Meal Ideas
<ul style="list-style-type: none"><li>• Carbohydrate-electrolyte sports drink to replenish fluids and electrolytes lost in sweat</li></ul>	<ul style="list-style-type: none"><li>• Smoothie made with yogurt and frozen berries</li></ul>	<ul style="list-style-type: none"><li>• Whole wheat pita sandwich with turkey and veggies + pretzels + low-fat milk</li></ul>
<ul style="list-style-type: none"><li>• Low-fat milk</li></ul>	<ul style="list-style-type: none"><li>• Sports drink (carbohydrates, electrolytes, fluid) + sports bar (carbohydrates, protein)</li></ul>	<ul style="list-style-type: none"><li>• Rice bowl with beans, cheese, salsa, avocado + whole grain tortilla chips or whole wheat tortilla</li></ul>
<ul style="list-style-type: none"><li>• Low-fat chocolate milk</li></ul>	<ul style="list-style-type: none"><li>• Graham crackers with peanut butter + low-fat chocolate milk + banana</li></ul>	<ul style="list-style-type: none"><li>• Stir fry with lean steak, broccoli, bell peppers, carrots + brown rice</li></ul>

### Takeaway Tips:

- If you have 2 training sessions per day or your next training session is within 8 hours, recovery nutrition is crucial.
- If you do not have an appetite following a training session, choose liquid foods that meet your recovery goals.
- Along with carbohydrate, fluid and electrolytes, protein is an important part of recovery, particularly if you participate in high intensity training sessions that damage muscle tissue (resistance training, interval sessions, etc.).