

SWIMMING NUTRITION

Fueling Guideline For Athletes



IMPORTANT TIPS

Eat at Breakfast! Include complex carbs, lean protein, and 12-16 oz. fluids to stimulate your metabolism.

Include Colorful Foods. Eat a variety of fruits & vegetables every meal → complete diet of antioxidants, vitamins & minerals.

Turn In Early. You need 7-9 hours of sleep to optimize recovery from vigorous hockey skill & strength training.

Focus On Fats. Healthy fats include olive oil, sunflower oil, cold-water fish, avocado, flaxseed, chia seeds, nut butters, tree nuts, & seeds.

Understand Meal Timing! Plan ahead, pack snacks, & eat a balanced meal/snack every 3-4 hours. Optimize fueling by eating 6+ times/day & avoid skipping meals!

Eat Complex Carbs. Whole grains, sweet potato, rice, & quinoa provide fiber beneficial to digestion. Also helps maintain energy balance & post-exercise recovery.

Limit Artificial Foods. Select whole, natural foods with minimal preservatives to limit high intakes of sodium & sat. fat. If you decide to take creatine to build muscle mass, only take 3-5 g/day & drink a minimum of 64 oz. per day.

Eat Lean Protein. Eat 15-25g of lean, high quality protein with meal/snacks. Aids in fat loss and repair/rebuilding of lean muscle tissue.

FUELING YOUR PERFORMANCE

Energy Needs: Swimmers have long practices and long competitive seasons, which means they burn a lot of calories. In general, elite competitive swimmers need to eat 3,000 to 6,000 calories per day. Energy needs & body compositions vary significantly depending on the gender, distance event, & performance goals (weight gain/loss) of each swimmer.

Carbohydrates: 60% of total daily calories. The best fuel to sustain energy needs, delay fatigue, replenish working muscles, & optimize recovery. Carbohydrate needs are very high in-season (7-9 g/kg/day) & moderately high (6-8g/kg/day) during the off-season. These intake suggestions best support the 60+ minutes of high intensity, anaerobic and aerobic events in swimming.

Protein: 15-20% of total calories. Helps repair, maintain, & build muscle tissue. Eat 20-30 g of high quality lean protein every 3-4 hours. Your body can only digest this much protein in one sitting. Recommended intake = 1.3 – 1.7 g/kg/day

Fat: 20% of total daily calories. An important nutrient in lipid metabolism essential during high intensity, intermittent exercise. Recommended intake = 1 g/kg/day.

| Complex Carbohydrates | High Quality Protein | Healthy Fats |
|--------------------------|------------------------------|--|
| Whole grain bread | Lean red meat | Olive oil |
| Brown rice | Fish/seafood | Canola oil |
| Oats | Chicken/turkey breast | Coconut oil |
| Whole wheat pasta | Eggs | Nuts/seeds |
| Sweet Potatoes | Low-fat dairy (cheese, milk) | Nut butters (peanut butter, almond butter, etc.) |
| Vegetables | Greek Yogurt | |
| Cereals | Tofu | Avocado |
| Whole wheat muffins | Nuts/seeds | Chia seeds |
| Fruits/100% fruit juices | Tofu | Flaxseed |
| Sports drinks & gels | Soymilk | Cold-water fish |
| | Lentils/beans | Eggs & Dairy |

FLUID & ELECTROLYTE NEEDS

Hydration is influenced most by environmental conditions, exercise intensity, & length of activity. Swimmers must continually replace fluids & glycogen (carbs) during exercise to sustain their performance. During swim training, swimmers can easily lose 3 to 5 pounds of fluid to sweat – or more! Remember that weight loss of just 1-2% can impair performance & stress the heart. Bring a water bottle and a Gatorade or sports drink with you to training and sip every 15 minutes to maintain hydration and keep energy high.

Why Sports Drinks? 8 oz. should contain 14-19 g carbohydrate to replace low muscle glycogen & 110-165 mg of sodium to help quench thirst. Ideal sports drinks optimize electrolyte & fluid replacement, including Gatorade original and PowerAde.

| PRE-EXERCISE 2-3 Hours | PRE-EXERCISE 30-60 Minutes | DURING EXERCISE Every 15-20 Minutes | POST-EXERCISE Varies |
|---|--|---|--|
| Drink 16-20 oz. of water & sports drink | Drink 6-10 oz. of water & sports drink | Children: drink 3-4 oz. or ½ cup | Within 30-60 Minutes: drink a 4:1 ratio carb to protein recovery drink (8 oz. low-fat chocolate milk) |
| | | Adults: drink 4-6 oz. | Within 24 Hours: drink 3 cups for every lb. sweat loss (water/sports drink) |



Drink Fluids /Electrolytes.

Dehydration leads to fatigue, increased injury risk, & decreased performance.

Tips to Prevent Dehydration

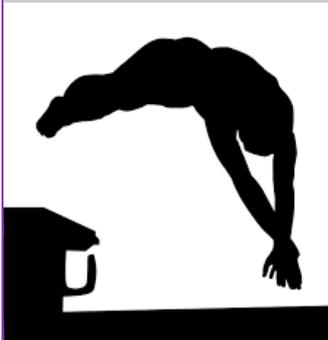
Find Your Sweat Rate

Record your nude weight just before & after exercise. Drink 3 cups fluid for every pound lost (within 6 hours). Aim is to replace 150% of sweat loss & achieve normal hydration. (Ex: 3 lb. wt. loss = drink 9 cups)

Check Urine Color

Pale lemonade = good hydration

Dark, apple juice = bad hydration, drink more fluids!



Don't Rely on Thirst

Hydrate continuously during practice and events. Sip water and sports drinks during warm-ups, between events, and after meets.

Replace Electrolytes

Drinking water is fine for cooler temperatures, but sports drinks are necessary in hot, humid weather (ie. In the pool). Sports drinks provide electrolytes lost in sweat (especially sodium), flavor to encourage drinking, & carbohydrates to replenish working muscles.

EVENT DAY FUELING GUIDELINES

Pre-Event (Lunch or Dinner)

3-4 hours prior to competition

- Moderate-sized meal high in carbohydrates (200-300g), moderate in protein (20-30g), and low in fat & fiber.
 - *Bowl of pasta w/ marinara, grilled chicken breast, dinner roll, small side salad w/vinaigrette, & fruit*
- Drink 16-20 oz. fluid (100% fruit juice, low-fat milk, sports drink, water)
- NO fatty meats (sausage, bacon, pepperoni) or cream-based sauces (Alfredo, ranch/blue cheese, mayo)

1-2 hours prior to competition

- Small meal high in carbohydrates, moderate in protein, and low in fat & fiber.
 - *Bowl of low-sugar cereal, low-fat milk, banana, sports drink, water*
 - *PB+J sandwich or sports bar, 16 oz. sports drink and water*

30-60 minutes prior to competition

- Small, high-carbohydrate snack with fluids
 - *Bowl of low-sugar cereal, low-fat milk, banana*
- Drink 6-10 oz. fluid (sports drink and water) 10-20 minutes before exercise

Post-Event (Lunch or Dinner)

Immediately after the meet (within 30 minutes)

- Carbohydrate-protein drink (55-75g carb & 10-20g protein)
 - *Mixed fruit, granola protein bar, and 10 oz. low-fat chocolate milk*
 - *PB+J sandwich on whole wheat bread, 16 oz. Gatorade, water*
- Drink 16 – 32 oz. fluids (water to rehydrate, electrolytes to replenish minerals lost in sweat)

2 hours after the meet

- Eat a moderate-sized meal that is high-carb, moderate-protein, and low-fat/fiber.
- Rehydrate to replace lost fluid and electrolytes via water and sports drink (3 cups of fluid for every 1 lb. sweat loss).
 - *Grilled chicken breast or salmon, brown rice or quinoa, sautéed mixed veggies, low-fat milk, water*

NUTRITION RECOMMENDATIONS

| | |
|--|--|
| Calories (kcal/day) | |
| Carbohydrates <i>In season (5 – 8 g/day)</i> <i>Off season (4 – 6g/day)</i> | |
| Protein (1.3 – 1.7 g/day) | |
| Fat (1 g/day) | |
| Additional Concerns: | |

