Fueling for Performance

Snacks for Swimmers

Recovery Snacks: (within 30 min - 1 hour of practice/meet)
- Low-fat cottage cheese w/ fruit
- Turkey breast on whole wheat bagel
- Whole wheat bagel w/ low fat cream cheese
- Tuna on whole wheat crackers
- Peanut butter & jelly sandwich
- Greek yogurt w/ granola, dried fruit, or honey
- Apple w/ peanut butter
- Applesauce and cheese stick
- Baked potato w/ low fat cheese
- Banana w/ nutella
- Oatmeal w/ dried fruit
- Trail mix
- Rice cakes
- English muffin w/ nut butter and banana
- Waffle w/ fruit, syrup, nut butter
- Whole grain cereal w/ skim milk
- Veggies or crackers and hummus
- Edamame
- Fruit leather
- Fresh piece of fruit

Recovery Drinks: (8-12oz, within 30 min - 1 hour of practice)
- Skim Milk!!! (chocolate, strawberry, plain)
- Orange Juice
- Apple Juice
- Pomegranate Juice

Snacks at Meets, continued
- Hard boiled eggs
- Hummus
- Edam me
- Any fruit
- Applesauce
- Crackers
- Dry cereal
- Pretzels
- Graham crackers

Drinks at Meets:
Water is best, small amounts of sports drinks are OK.
- Water
- Sports Drinks

Drinks at Practice:
If you like sports drinks, drink them here!
- Water
- Sports drinks

Prepared by Coach Abby Grieshop, RD, CD
She shares this information drawing on her experience as a swimmer, coach and registered dietitian. She has modified and revised this content based on findings by C. Boudreau, formerly with USA Swimming. This handout is for Noblesville HS Swimmers and Divers and NSC families, with contributions by Karen Roberts, medical reporter and swim parent.

Know how your body uses energy and stores fuel – Food is Fuel.

Swimmers burn so many calories that it is important they fuel their bodies with the right kinds of food. The total amount of energy required to perform an activity increases with exercise intensity. Carbohydrates (carbs) and fats tend to be the body’s fuels of choice during different physical activities. The body will tap into protein as a fuel source only when carbs and fats are not readily available.

Noblesville Swim Club – Written by Coach Abby Grieshop, RD, CD
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Fueling for Performance

Your swimmer’s body will metabolically access stored carbs before fats. That is why coaches and exercise trainers say carbs are the primary contributor to the total amount of energy needed for training sets.

Swimmers, sprinters in particular, rely heavily on carbs as their primary fuel source during most workouts. Distance swimmers need slow release complex carbs like those in pasta to keep the energy stores full. Carbs are stored as glycogen in the body.

It’s possible to deplete glycogen in the body if the glycogen is spent during one workout and not replenished (by eating good carbs) before the next practice. The swimmer needs a good store of glycogen for tough practice sets. (As a parent, you may not realize it but after a typical senior 2-hour practice, your swimmer may have achieved 5,000-7,000 yards—that’s 3 to 5 miles. Similarly, our younger swimmers have the same needs for food “fuel”.

Your body gets glycogen from complex carbohydrates like pasta, whole wheat bread, and potatoes, which are quickly broken down into glucose. Swimmers need a lot of complex carbs in addition to veggies and a smaller amount of protein. After the workout, one way to replenish blood sugar levels is eating fruit. Remember, sugar (candy) is a simple carbohydrate which equals empty calories.

As the intensity of the work remains high, the body relies on fat as another primary fuel source. The body then turns to protein. This process translates into tissue breakdown or damage. Although some tissue damage is normal with training, this series of events demonstrates the importance of replenishing glycogen stores after every workout to limit and/or prevent tissue damage over time.

The first 2 hours are critical. The body responds 2-3 times faster than normal to glucose (converting it to glycogen) during the first two hours after a workout. Take advantage of the body’s post-exercise sensitivity and providing it with food!

4 grams of Carbs : 1 gram of Protein. This ratio of eating carbs to protein in several small meals or snacks up to five hours after a workout is optimum for glycogen resynthesis. The protein enhances the body’s insulin response resulting in more glycogen storage. Protein also provides a muscle-building benefit.

What to eat and when? Plan ahead.

3-4 hours before practice, eat a healthy meal. Remember 4:1 /carbs:protein. If you have afternoon practice—Eat a Good Lunch.

5:30 am practice: Try to eat 30 grams of carbs 15-20 minutes before practice.

Suggestions: Low fat yogurt, mini bagels, string cheese, banana with peanut butter, pretzels with hummus.

Immediately after practice. Eat the 4:1 ratio of carbs to protein within the first 20 minutes up through 2 hours.

Race Day. Eat a high carb/moderate protein snack immediately after your prelim race—again after your finals race—and then again after your warm down.

Balance Good Carbs with Lean Protein and Better Fats.

Make sure that the bulk of your diet (50-60% of caloric intake) comes from complex carbohydrates (think colorful fruits and veggies and whole grain breads and grains.) Examples: Whole grain breads and cereals, whole wheat pasta, brown rice, yams (or sweet potatoes) and beans, fruits and green leafy vegetables.
Proteins should make up anywhere between 20-25% of your total caloric intake. Examples: skinless, white meat chicken and turkey, lean beef, eggs, tuna, flounder, sole and cod, skim and low fat milks, (Greek) yogurt and tofu.

Fats should comprise anywhere from 15-20% of your total caloric intake. Try to limit your intake of saturated fats, or any type of "hydrogenated oils" and "trans" fats.

Olympian Missy Franklin: "I have small meals six times a day to keep up my energy, and after every workout, I drink chocolate milk. The ratio of carbs to protein helps speed muscle recovery."
(Source: Self Magazine (online) 7.29.2012)

Drink Water!

But I’m already in the Water!

Hydration is so important. Water is preferred over sports drinks (high in sugar) although sports drinks are effective for practices lasting more than an hour.

Sports drinks contain sodium, the primary electrolyte in sport drinks. Sodium increases fluid uptake, retention and it also helps with salt replacement in heavy or salty sweaters. Yes, swimmers sweat in the water.

If you will be exercising hard in the heat (particularly for more than 3 hours) consume a salty food within 2-4 hours pre-exercise to help stimulate thirst and retain the consumed fluids. Immediately post exercise then consume salty foods to help replace the salt lost in that workout.

A swimmer’s water intake starts 2-3 hours before practice. This is a challenge for 5:30am practice, so drink water the night before.

--Before practice drink 20 ounces of water
--After practice drink 7-8 ounces of water

Limit refined sugar. Candy, soda, desserts, and other food items made with granulated or ‘white’ sugars are not helpful food fuel for the swimmer. These kinds of foods tend to increase your energy level for the short-term, then you crash and your energy falls off rapidly. You certainly do not want that to happen in the middle of a race.

Boosting immunity. Most swimmers will encounter at least one sickness throughout the season. Try some of these food items to keep your immunity strong through the winter cold and flu season.

--Probiotics found in yogurt and a dairy drink called Kefir
--Vitamin C found in oranges, clementines, grapefruits.
--Vitamin E found in sunflower seeds, almonds, dried fruit.
--Zinc found in lean beef or pork meat, crab or lobster.

Resources:
USA Swimming has a Nutrition Center
http://www.usaswimming.org/ViewNewsArticle.aspx?TabId=0&Alias=Rainbow&Lang=en&Itemid=5634&mid=11545 The article by Dr. Chris Rosenbloom, PhD, RDN, CSSD offers several resources which are also mentioned below.

Professional nutrition specialists at the U.S. Olympic Committee provide informational materials for athletes, coaches and parents. Look at the “Athlete’s Plate,” for a visual representation. Recipes are also included along with travel nutrition and eating guidelines.

SD USA has more than 20 free downloadable factsheets for the student-athlete covering a large variety of topics: from hydration for the teen athlete to the female athlete triad to gluten sensitivity. http://www.scandpg.org/sports-nutrition/sports-nutrition-fact-sheets/
Unleash the Olympian in Every Swimmer: 7 power foods, 7 days a weeks
By Karen Roberts, Freelance Medical Reporter

Part of an USA Swimmer’s diet includes foods high in antioxidants. According to the United States Department of Agriculture, these foods have high antioxidants and health benefits.

**Beans:** Pinto, red and kidney beans
Try: Naked Chicken Taco salad with beans and rice, lettuce and avocado.

**Unsweetened dark chocolate:** Need that chocolate fix? One square of dark chocolate offers exceptional antioxidants.

**Red Delicious and Granny Smith Apples:** Medical researchers have proven the old adage, “An apple a day really does keep the doctor away.”

**Pears:** Pears contain an important fiber called pectin, which helps remove any harmful metals in the body through the bowels.

**Pecans and walnuts:** If you’re not allergic to nuts, these foods are high in many vitamins.

**Berries of all types:** Cranberries, blueberries, raspberries, blackberries and strawberries all have concentrated levels of antioxidants. Suggestion: Add frozen strawberries and/or blueberries to 2 big spoonfuls of Greek yogurt add skim milk and whip into a smoothie. Using frozen fruit means you don’t need ice. It’s a good recovery smoothie for sore muscles.

**Baked (russet) and sweet potatoes:** Just don’t go crazy loading it up with butter, cheese or sour cream. Sweet potatoes are rich with beta carotene, which helps promote endurance.

**What’s in a granola or protein bar?**
Some swimmers reply on granola and protein bars for nutrition. It’s easy but not all granola bars of are same. The first listed ingredient is usually oats, that’s good, but the second ingredient is often sugar, not so good. Read the label. Pack a box of dried fruit, apple, bag of carrots, or nuts.

Many of these bars tout 9-10 g of protein and that is geared at recovery after a workout or big meet but is not the first choice to eat 1-2 hours before a swim meet.

---The classic **Smores Chewy Granola® bar** has 100 calories, 19 g carbs (8 g sugar), 1 g protein, 1 g fiber
---Change to **Peanut Butter Chip Granola® bar**, same calories, 17 g carbs (7 g sugar), 3 g protein, 1 g fiber
---**A Power Bar® - Double Chocolate Crisp** is twice the size, twice the calories and 42 g carbs (21 g sugar), 9 g protein, 5 g fiber
---**Nature Valley® Oats n Honey bar** has 90 calories in one of the two bars packed in one package, 15 g carbs (6 g sugars), 2 g protein and 1 g fiber

**Make your own (No Bake) Energy Balls**

This NSC recipe has been known to show up at as our swimmers are firing up for Sectionals, at the Senior Summer Training Trip and swim meets.

---Submitted by Karen Roberts.

Each energy ball has approximately 100 calories and 5-6 grams of protein. It meets the 4:1 complex carb: protein ratio.

1 cup oatmeal
½ cup low fat peanut butter (can use crunchy)
1/3 cup honey
1 cup coconut flakes
½ cup ground flaxseed
½ cup mini chocolate chips
¼ cup sesame seeds (or Chia seeds)
1 tsp. vanilla

Mix together in a bowl, refrigerate at least 30 minutes. The dough is sticky so I scoop a tablespoon of the mixture onto a piece of plastic wrap and use the wrap to form the 1-inch ball. Place in a plastic container and keep refrigerated until you are ready to eat. Send along to swim meets. Makes 20-24 balls.