



SOUNDWELL SWIMMING CLUB POST-POOL STRETCHING

Neck and Shoulders



Back



Legs and Lower Body Stretches



Wrists



Chest, Shoulders and Fingers



Stretching Tips

- Always stretch within your comfortable limits - never to the point of pain.
- Take your time. The long sustained, mild stretch reduces unwanted muscle tension and tightness.
- If you are stretching correctly, the stretch feeling should slightly subside as you hold the stretch.
- The benefits come from regularity. Stick with it and see how you feel in a few weeks.
- Hold each stretch for at least 15 seconds and don't bounce through the stretch.
- Breathe easily and try to relax as you increase the stretch.
- Tune into your body and focus on the muscles and joints being stretched.



FOAM ROLLING



POST TRAINING NUTRITION

1. Make the majority of your carbohydrates complex outside of workouts.

Carbohydrates have taken a beating lately from the most recent fad diets to the popularity of both the Atkin's and Paleo diet. No, carbohydrates are not inherently bad for you but I will agree the Western Diet consists of entirely too many carbohydrates. With that being said, carbohydrates are, or should be, an aerobic athlete's best friend. The literature is riddled with study after study demonstrating the benefit and importance of a high carbohydrate diet for athletes, particularly aerobic athletes. Simply put, carbohydrates are the body's fuel currency. No other nutrient burns as efficiently as the carbohydrate does. The Academy of Nutrition and Dietetics, the American College of Sports Medicine and the Dietitians of Canada all agree that carbohydrates should make up the majority of calories in



your diet. Want numbers? A range, albeit large, of 6 to 10 grams of carbohydrates per kilogram of body weight is recommended. Swimmers and other mostly aerobic athletes will need closer to 8-10 g/kg.¹ For a 160 pound person, this turns into 580-720 grams of carbohydrates. Outside of the actual workout itself, the carbohydrates that you want to focus on are complex carbohydrates. Examples include: Legumes (lentils, beans and peas), Whole Grains (oats, brown rice, and whole grain breads), Fruits and Vegetables.

2. Simple carbs directly before, during and directly after workouts.

It may come as a surprise to you that simple carbohydrates (or simple sugars) are not always bad, especially for athletes. Simple sugars are digested very quickly (thus the name simple) and will result in a rapid rise in our body's blood sugar. This is typically unwarranted because if that blood sugar is not utilized, say, through exercise for example, then it will be stored in a fat cell. However, the upside to simple sugars is that it provides a quick, easy-to-burn fuel for our muscles. Sports drinks are an excellent example of this. The carbohydrates in sports drinks are simple sugar which makes it a great, ready-to-burn fuel source during a workout. Simple sugars are important directly after a workout due to the insulin response which will be discussed shortly. Other examples include pretzels, honey and fruits.

3. A little protein before a workout goes a long way.

Protein before a workout may sound counterintuitive. However, a small dose of protein can prime your muscles for recovery even before you start your workout. In fact, The ISSN recommends consuming 0.15-0.25 grams of protein per kilogram of body weight an hour or so before a workout (about 15 grams for a 160 lb. person).² The reason? Protein before a workout helps establish a positive nitrogen balance thus improving the uptake of protein into the muscle, preventing the breakdown of muscle tissue and delays gastric (fancy word for stomach) emptying which in turn increases satiety and prevents hunger during training.

4. Strive for a 3-4:1 Carb-to-Protein ratio after a workout.



It's no secret that protein is beneficial after your workout. In fact, protein is not only critical for muscle building but also for effective recovery. However, you may not know that consuming carbohydrates with that protein post workout is just as important. The carbs not only replenish glycogen stores but also stimulates a greater insulin response. Insulin drives sugar along with amino acids (the building blocks of protein) into cells, including muscle cells, for more efficient use of the protein we consume. The goal is to strive for a 3-4:1 ratio. That is, 3-4 grams of carbohydrates for every 1 gram of protein. Chocolate milk is a great example.

5. Protein: Quality over Quantity.

Try not to get too caught up with consuming loads of protein. A recent journal article that came from the Journal of the Academy of Nutrition and Dietetics showed little difference in protein absorption and synthesis when comparing a 30 gram protein dose with a 90 gram protein dose.³ What happens to all of that extra protein that doesn't get synthesized in our muscle? Most of it will be stored in fat cells. What's more important is the quality of protein. The buzz word dietitian's like to throw out is "high-biological value" (HBV) protein. That's a fancy way of describing how usable the protein is. A HBV protein is one in which contains all of the essential amino acids that are required by humans and will thus vastly improve muscle repair after a workout. Whole eggs, milk, fish, beef and soy beans are among the proteins with the highest biological value. Vegetarian? That's okay, be sure to mix and match your plant proteins to meet all of your essential amino acids.

6. Balance is key.

I'm sure you're tired of hearing "strive for a well-balanced diet". Well, I'm sorry to say but that statement still holds true. The main reason why a well-balanced diet is essential is to ensure that you meet your body's necessary vitamin and mineral requirements. These micronutrients may be small but carry an important weight for performance and overall health. For example, phosphorous is an essential mineral and key component to our body's unit of energy, ATP. Calcium is not only important for our bone health but also aids our muscles ability to contract. Vitamin B₁, Thiamin, is essential for carbohydrate metabolism. Other vitamins and minerals are responsible for red blood cell synthesis, amino acid synthesis, energy production and anti-oxidant function, all of which serve critical roles in maximizing performance. A well-balanced diet should consist of complex



carbohydrates, lean meats, dairy and plenty of fruits and vegetables. The more color, the better.

7. Vitamin D for building muscle?

Among those micronutrients, vitamin D is gaining popularity in the realm of sport performance. Along with its role in bone health, vitamin D is now being studied for its role in muscle health and strength as well. It turns out that vitamin D has an important role in muscle synthesis and muscle contraction. Additionally, muscle weakness is a noticeable feature of people who have a vitamin D deficiency.⁴ There are few food sources of vitamin D however fifteen solid minutes of sunlight exposure will provide you with your required daily dose. This can pose a problem during winter months and especially for swimmers who train strictly indoors. In fact, vitamin D deficiency seems to be common among swimmers.^{5,6} Food sources include fatty fish (tuna, salmon and mackerel), cheese, egg yolks and fortified milk. It's important to note that one study showed that supplementing with 4000 IU (100 mg) of vitamin D in NCAA swimmers and divers was effective in maintaining vitamin D status.⁷ Speak with your physician first prior to supplementing.

8. Hydration

One of my favorite questions to ask athletes is, "what is the single most influential nutrient for sports performance?" Would you guess water? In fact it is and I would argue that it is also the most overlooked and taken-for-granted nutrient by athletes as well. Dehydration can reduce the body's capacity to do work by about 30%. This effect is further exacerbated in aerobic athletes when as little as 2.5% body weight loss due to dehydration turns into a 45% decrease in exercise performance.⁸ Being adequately hydrated can easily be the difference between first and second place. The most accurate assessment for hydration status is the color of your urine. Weight change after a workout should be used to replenish what was lost. Strive for consistent pale yellow urine and replace each pound of weight loss after a workout with 16-24 ounces of fluid