Hydration and Exercise - What/When/How Much to Drink

Dehydration is the single largest contributor to fatigue during a workout. It can cause tiredness, reduced endurance, cramps, gastro-intestinal upset and can eventually lead to coma and death! Luckily, it's easy to prevent, and getting enough fluid (especially the right kinds at the right time) can enhance your exercise efforts.

1. Drink enough to quench your thirst, plus a little bit more.
   There are multiple "rules of thumb" to guide you in how much to drink. You've probably heard, "Drink 8, 8 oz glasses of water each day" - that's 1/2 gallon! The truth is, you only need to drink enough FLUID (not necessarily WATER) to make up what you've lost during the day. Your body loses fluid when you sweat, pee, poop, and breathe. You need to drink the same amount that you've lost - and this amount can differ from day to day and varies from person to person. Usually, you can rely on your body's thirst mechanism to guide you in how much to drink; however, exercise (especially in extreme weather conditions or exercise in extreme amounts), intense focus on performance, and/or "competition jitters" can all cause your mind to override or delay your sense of thirst. So, when it comes to working out, it's a good idea to drink a little BEFORE you feel thirsty and then, a general rule is to always drink enough to quench your thirst, plus a little more.

2. Hydrate, rehydrate, hydrate again!
   The effects of dehydration with regular exercise can be cumulative over time. If you work out intensively on Monday and don't drink quite enough to make up for the fluid you've lost through sweat, you'll be starting Tuesday's workout in a slightly dehydrated state - this will make it even HARDER to drink enough after Tuesday's workout to prepare your body for Wednesday's workout...and so on. Drinking frequently throughout the day (carrying a water bottle or making a goal to grab a sip at every water fountain you see) can prevent this domino effect that can have negative impact on your exercise performance. Start your workout fully hydrated by aiming for around 2 cups (16 oz) of water before your workout. Then, shoot for 4-6 oz of water each 15-20 minutes of exercise. And finally, be sure to drink up when you're done. While these general rules are helpful, you can be more precise by following the guidelines below.

3. Jump on the scale - drink 16-24 oz of fluid for each pound you lose during your workout.
   Weigh yourself (naked) before and after your workout (you want to use a "naked" weight to avoid weighing the sweat that is drenching your workout clothes). A bodyweight loss of 1% (that's 1.5 pounds for a 150 pound athlete) usually signals thirst and causes the heart to beat an extra 3-5 times per minute. A bodyweight loss of 1.5-2% (that's 2 1/4-3 pounds for a 150 pound athlete) causes fatigue and can potentially negatively affect physical and mental skills. A bodyweight loss of 3% (that's 4.5 pounds body weight for a 150# athlete) will have a significant effect on mental and physical performance. The goal is to keep the weight loss below 2% of your total body weight. Once you see how much weight you've lost during your
workout, be sure to drink at least 16 oz for each pound of sweat you’ve lost during your exercise bout. (i.e. pre-workout weight: 172; post-workout weight 170; 2 pound weight loss, so this person should drink 32-48 oz before his/her next workout)

4. **Determine your "sweat rate".**
   If you find yourself consistently losing more than 2% of your body weight during a single workout, you can use your "sweat rate" to help you create a hydration program. Consider the following example: 150 pound "Jack", goes to a kickboxing class for an hour followed by 45 minutes of weight/strength training. He winds down with an additional 15 minutes on the cardio machine of his choice, for a total workout time of 2 hours. When he gets on the scale after his workout, he sees he’s now weighs 147 pounds - he’s lost 3 pounds; 2% of his body weight. If Jack is to follow the guideline above (16-24 oz of fluid per pound lost), he knows he needs to drink a minimum of 24 oz per hour of exercise (1.5 pounds x 16 oz). He tried chugging 24 oz of water between kickboxing and strength training, but that left him feeling heavy and bloated. So he did some easy math to determine his "sweat rate" - he lost 3# in 2 hours - that’s an average "sweat rate" of 1.5# per hour. Jack did a little research to determine that 1 of his "gulps" is about 3/4 oz, so 8 of his "gulps" is 6 oz. From there, he began "programmed" drinking, aiming for at least 8 "gulps" (about 6 oz) of water, each 15 minutes of exercise for a total of 24 oz per hour. He found this easier than drinking 1 1/2 water bottles at one time, in the middle of his exercise bout.

5. **Fluid - what "counts"?**
   Any beverage can count toward your total fluid needs. Water, sports drinks, coffee, tea, soda, fruit juices, milk, etc. Fluid found in your foods can count too - like soup. Did you know that lettuce is 95% water? Watermelon is 92% water! Milk is 89% water; orange juice is 88% water. Though not necessarily recommended, caffeinated beverages can count toward your fluid needs. If regularly consumed, most people gain a tolerance to the diuretic effects of caffeinated beverages. And while soda can be a source of fluid, it should be noted that it takes longer for your body to absorb fluids that are carbonated (i.e. these fluids hang out in your gastrointestinal tract a little longer and can cause "upset stomach").

6. **"What should I drink?" Water vs Sports Drinks**
   For most exercise, water is an excellent hydration choice. It is calorie-free, usually well-tolerated with no side-effects, is inexpensive and thirst-quenching. Sports drinks like Gatorade provide fluid as well as carbohydrate and electrolyte. These types of products are suitable for use during exercise or for recovery afterwards; however, for most recreational exercisers, products like Gatorade are NOT NECESSARY. Most people can store enough carbohydrate in their muscles to fuel 60-90 minutes of continuous, non-stop exercise. Products like Gatorade become useful if someone is exercising LONGER than 60 minutes - like perhaps a long training session in preparation for a 26.2 mi marathon or triathlon. If your workouts are shorter than 60-90 minutes and/or include several periods of rest throughout (like rest between 'sets'), you likely don't need a sports drink and water will
suffice. A generally healthy diet will provide more than enough carbohydrate and electrolytes to replace what you’ve lost in your workout. Workouts performed by elite athletes or workouts performed by anyone in extreme temperature/humidity conditions (especially if he/she isn’t acclimated to these conditions) may affect fluid/carb/electrolyte needs.

7. “But I don’t really like water”
While water is a great hydrator, the BEST hydration choice is the one you know you’ll drink. Some people are more prone to dehydration, simply because they don’t like/enjoy water during exercise. If you fall into this category, there are low/no-calorie flavored sports drinks available, like Powerade Zero, Gatorade Zero, and Propel Fitness Water.

8. Check your urine!
The color of your urine can tell you about your hydration status. It should be the color of pale lemonade. If it’s more like apple juice, you need to be drinking more! Note that some vitamin supplements may change the appearance of your urine - if you’re using your urine to determine your hydration status, be sure to check after a day or 2 without your supplements.

BOTTOM LINE: Getting enough fluid before, during, and after your workouts can positively affect your exercise performance. Not getting enough can make it harder to work out effectively, and ultimately can endanger your health. If you have more questions about hydration and exercise, or any other nutrition-related concern, be sure to set up a nutrition assessment with Campus Recreation’s registered dietitian nutritionist, Annie Bell. Appointments are individualized to address your needs, questions, and concerns and last about an hour – oh, and they’re free! Full instructions on how to register for your appointment are here: https://campusrec.utsa.edu/nutritionregistration