UNDERSTANDING YOUR SWEAT AND HOW TO STAY HYDRATED



MSU Denver Recreation

Understanding Your Sweat

Nutrition and fitness go hand in hand, but did you know hydration is also key to maintaining physical well-being during exercise? Without fluid, both physical performance and mental clarity could be affected.

Maintaining adequately hydrated during physical activity such as running, hiking, and working out is important for energy and endurance, mental clarity, and maximum recovery. The human body is made of about 60% water, so when we lose water in our sweat, it can have a large impact on physical performance.



WHERE DOES SWEAT COME FROM?

Sweat is produced by the body during exercise to help cool down our internal temperature. Our muscles create a lot of heat when they are used during exercise, so sweat helps our bodies keep our internal temperature more stable.

The sweat we produce is made up of fluid as well as electrolytes. This means it is important to replenish the body with water and minerals such as sodium and potassium.

What Does Dehydration Look Like?

Did you know thirst is not the best way to measure your fluid needs? When we sweat during exercise but do not replenish our bodies with the fluids and minerals that are being lost, there are certain signs that our body is undergoing dehydration.

This could look like:

- Muscle cramping
- Headaches
- Nausea/vomitting
- Light headedness
- Fatigue/exhaustion



Urine color is another easy way to check your hydration and see visually if you might need to drink more water to stay hydrated.

Know Your Fluid Needs

Before we can consider how exercise, sweat, and the environment impact your hydration needs, we need to consider how to meet our basic needs first. On average, the minimum recommendation for fluid intake is 1.5 Liters (L) per day or about 50 ounces (oz). The National Academy of Medicine recommends about 13 cups of water for men each day, and 9 cups for women. This can vary based on physical size and weight, but these are sone general guidelines.



Having an estimate on how much fluid you should have for hydration will help you set a goal for your fluid intake, but don't forget that fluid needs can change based on a variety of other factors.

TRACKING YOUR INTAKE

To start meeting your needs, it will be helpful to have an idea of how much water you drink currently. Take a day to keep track of the water you drink. This could count how many 8 ounce cups or bottles of water you drink throughout the day.

It could be helpful to track this on paper, in you phone's note app, or logging it in an app on your phone



CONSIDER THE VARIABLES



There are a many factors that can impact your fluid needs. Exercise is one major factor to consider, in addition to the type of environment you're in. Just think of how you need a lot more water in the hot summer sun compared to a cool fall day. Some people also lose more fluid or salt in their sweat based on their sweat rate or if they are salty sweaters. Lets take a deeper dive into the different factors we commonly see!

Exercise and Environment

The type of physical activity you do and the environment you are in are two variables that can be constantly changing. Some examples include:

- Marathon training on a cold, windy day
- Weight Lifting in a climate controlled gym
- Team sports on a warm sunny field
- Walking around a park on a warm, spring day



TIME AND TYPE OF ACTIVITY



Two general categories for activity are aerobic and strength training. Aerobic activities will include elevated heart rates, faster breathing and higher levels of sweat. Some examples include running or teams sports that require continuous movement across a field or court. These activities will increase your fluid needs more than strength training, and the longer you spend on the activity, the more your fluid needs will increase.

Strength training or lower intensity activities like walking will generally require less fluid than aerobic activities . You typically lose less fluid from sweat and have a slower heart rate and slow breathing. However, these activities are still using muscles and produce some level of sweat. So remember to stay hydrated, especially if you are spending an extended amount of time on the activity like taking a long walk or hike.



WEATHER CONDITIONS



Temperature, sun exposure, and wind can all impact your fluid needs. When an activity includes higher temperatures or sun, it can increase your sweat rate which helps to cool you down. Activity in cooler weather and wind can still increase your fluid needs, but it may be less obvious you are sweating or losing fluid. This can happen while skiing or hiking in the winter. Be sure to still drink water and maintain fluids.

Sweat Composition

There are a few individual factors that can differ between people that also impact their fluid needs. Some people may naturally lose more fluid through sweat than others by having a high sweat rate. Others may have more salt lost through their sweat as a saltier sweater than the average. Here are a few thinks to consider if you think one or both of these apply to you.



HIGH SWEAT RATES

Having a high sweat rate means you naturally produce more sweat than others to cool your body temperature. Signs include:

- sweat dripping off of you during exercise
- sweating through your clothes
- needing a towel to wipe off sweat



SALTY SWEATERS

Being a salty sweater means you lose more salt or sodium through your sweat than the average person. Signs include:

- feeling light headed
- muscle cramps
- white crystals on your forehead or clothes after sweating

When you're a salt sweater, it's important to make sure you are consuming enough electrolytes such as sodium. This could be choosing a saltier snack like pretzels when you know you'll be exercising. You could also consider electrolyte gels, powders, or beverages that help to replace the minerals lost in sweat.

If you are producing more sweat than others, it also means you are losing more fluid. Make sure to drink plenty of fluid before, during, and after any physical activity to ensure you remain safe and healthy for your activity.



Being aware of your sweat and focusing on meeting your fluid and electrolyte needs will also help to prevent any symptoms of dehydration such as seeing stars, headache, and nausea.

Some Quick Tips

Meeting your fluid needs can seem challenging at first. Make sure to give yourself time to increase your intake of water and other forms of fluid. It will be an adjustment getting use to drinking more water and using the restroom more frequently, but here are a few tips that might help.

TIPS TO MAKE STAYING HYDRATED EASY

Carry a water bottle - Invest in a water bottle you like, maybe even a few if you want to switch out the type of bottle in between cleaning. It could be insulated if you like cold water or with a straw that can make drinking easier and quicker to drink on the go. Consider if it has a handle that makes it easy to carry, or if it will fit in your backpack or car cup holder.





Flavor your water - There are many fruits, vegetables, and herbs that can help enhance the flavor of your water. Here are a few combinations to try:

- Lemon, Lime, Orange Citrus
- Strawberry and Basil
- Cucumber and mint

Another option is to steep herbal tea and drink hot or chilled.

Eat your fluids – Foods like smoothies or soups made with broth can contain fluid that counts toward your daily intake. Other foods naturally contain a higher amount of water such as watermelon, lettuce and strawberries which can also support hydration.



Good luck staying hydrated and remember: don't forget your water!



About the Author:

Amber Gould is a 2022-23 dietetic intern at MSU Denver and is working to become a Registered Dietitian. She is originally from New Hampshire and has recently moved to Denver CO. Amber is always up for trying a new activities like ice fishing, rock climbing, or cross country skiing, and she is passionate about doing it all well hydrated.

References

1. Harvard T.N. CHAN School of Public Health. (2021, July 6). Water. The Nutrition Source. Retrieved November 27, 2022, from https://www.hsph.harvard.edu/nutritionsource/water/#:~:text=General %20recommendations,exposed%20to%20very%20warm%20climates.