

Why Hydrate?

Today in the Philadelphia area the temperature is expected to hit 100 degrees. We've talked a lot about the symptoms of heat stress and the need to stay hydrated but I think it's important to understand and communicate what actually happens to your body when you become dehydrated.

First, your body burns calories from the food you eat, and that generates heat. Your body has to have ways to cool itself. When the air temperature increases, your body has to work even harder to cool itself.

Your body cools itself in 4 ways – about 65% through radiation where heat is lost to the air around you. 23% is lost through evaporation of perspiration and the rest through conduction and convection.

At temperatures as low as 80 degrees, your body pumps more blood to your skin to cool itself faster - almost 50% of your blood is pumped by the heart to the skin for cooling. This means your heart has to pump the rest of your blood twice as fast to supply oxygen and nutrients to your brain, muscles and organs.

Reduced blood flow to the brain – results in dizziness or loss of consciousness.

Reduced blood flow to the muscles – results in muscle aches and cramps.

Reduced blood flow to the stomach and other organs – results in nausea & vomiting.

Short term memory, attention span, and visual motor tracking are all impaired. Error rates increase.

When temperatures hit 95 degrees, the only way your body can cool itself is by perspiration. This requires that water be removed from the blood and released through sweat. When that happens, your blood actually becomes thicker and that puts additional strain on your heart. This is why heart attacks are a major byproduct of heat stress.

Consider that up to 80% of Americans start the day off in a dehydrated condition. You may grab a cup of coffee or a soda on your way to work and that's it. And if you think that drinking fluids after you start feeling the effects of heat stress will be enough – think again. It can take the body up to 24 hours to absorb enough fluid to fully rehydrate. You can see why heat stress is a major factor in preventable accidents and work related injuries.

So how can you tell if you are dehydrated? Although this may be an uncomfortable subject for some to talk about – one way is to look at the color of your urine. A light yellow color means you are sufficiently hydrated, the darker the color – the less hydrated, and if there is little or no urination – you may be in a danger zone.

So the message is clear – when the weather is hot – drink fluids early and often – AND continue to take fluids after you've stopped working. The human body is a complicated machine – knowing how it works and how to take care of it will keep it running smoothly for a long time.

Safety First – No One Gets Hurt!