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## HYDRATING FOR PEAK PERFORMANCE

# How Much Water is Enough?

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**WATER. MOST, IF NOT ALL, OF US HAVE HEARD THAT HUMAN BEINGS ARE COMPRISED OF ABOUT 60%–70% WATER.** You can imagine, then, that reaching adequate levels of fluid intake is essential to the healthy functioning of our body's overall physiology. The big question has always been how much water to drink and when? Scientists, coaches, and athletes have deliberated over this question for years. In addition to these, let's also consider how proper hydration can be essential to peak performance.

### *What are the effects of not being hydrated?*

The value of water cannot be underestimated. In 2011, in the *American Journal of Public Health*, researchers Patel and Hampton wrote that water has been deemed an essential nutrient because of it's importance in the overall functioning of all bodily systems. Despite this knowledge, many of us are far from getting an adequate amount of water to suitably hydrate and replenish our body to optimal levels.

So what are the real effects of not being hydrated? What happens to us during a state of dehydration? According to researchers Vianna, Oliveira, Silva, Ricardo, and Araújo, in the *European Journal of Applied Physiology*, inadequate water intake affects our cardiovascular system, placing a great deal of stress on the heart and it's output of blood to the body, which has a direct effect on maintaining optimal function.

The same research also shows that depleted fluid levels have a negative effect on the autonomic responses in humans, affecting our body's ability to rejuvenate and restore itself after the physical stress of exercise. Autonomic responses control the stresses placed on the organs of the body, such as the heart, kidneys, liver, lungs. This process helps the body to recover its normal ranges following physical activity.

### *So how much is enough?*

Do you gauge your need for fluid intake throughout the day and during physical activity, based on how you feel? Or do you have a routine for reminding yourself to drink? If you're the "going by feel" type, then you may be among the 33% of people that research shows are under-hydrated and don't know it.

If you haven't taken time to develop your own specific routine to remind yourself, then you may be doing yourself a disservice. In the *Journal of Sports Sciences* (2004), Edward F. Coyle wrote that, when only listening to our body's signals for deciding when to drink, you may be giving in to "voluntary dehydration." He also found that most athletes and active individuals only replenish about one-half to two-thirds the actual fluid that is lost during exercise.

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It is advisable that athletes and those competing in sports where water loss exceeds 2% of body weight should be mindful of monitoring adequate fluid intake to replace this fluid loss. Timing is also key; during any activity lasting anywhere from 40 to 60 minutes, the individual should keep in mind that ingested fluids typically take about 40 minutes before being useful to the body.

**Water intake is essential to health. Adequate fluid intake lowers core temperature by about 0.3º C, in addition to lowering heart rate and, therefore, reducing cardiovascular stress. All these effects eventually lead to better overall performance and optimal health.**

## WHAT ARE THE DANGERS OF DEHYDRATION?

**HERE ARE JUST A FEW OF THE MAJOR SYMPTOMS THAT CAN OCCUR DUE TO IMPROPER HYDRATION:**

- ***Increased core temperatures of more than 38.5º–39.5º C.***
- ***Impaired overall muscle metabolism and nerve function.***
- ***Reduced muscle blood flow, which limits further oxygen delivery to exercising muscles.***
- ***Increased muscle glycogen use during continuous exercise.***
- ***Reduced heat dissipation by reducing skin blood flow during exercise, which can lead to increased body core temperature.***
- ***Cardiovascular strain during exercise.***