

# Sword and Spirit

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## — Why Budo? —

**Regardless of the times in which you live, or the circumstances of your life, success largely depends on things you can control:**

- **Building a foundation of strong relationships in a community of mutual support and achievement.**
- **Forging a disciplined and positive mindset.**
- **Enhancing your physical health and capabilities.**

*These are exactly the benefits membership in an authentic dojo provides.*

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## Hydration and Training

The human body is comprised of about 60% water. Given the prevalence of water, it should come as no surprise that this vital nutrient serves a number of important functions in the body. But, despite its importance, many Americans live in a state of dehydration.

Participating in vigorous physical activity and perspiring, without replenishing fluids, can contribute to dehydration. That's why it is important to ensure you are consuming enough water to support your daily activity levels, especially when participating in high-intensity forms of exercise, such as martial arts.

### The Roles of Water in the Body

Water helps to lubricate joints, absorb shock, cushion bones, and prevent tissues from sticking. Since training in martial arts requires repetitive movements of the bones and joints, presents the potential for impact through ukemi, and involves execution of techniques against resistance, drinking adequate amounts of water helps to support the body by mitigating the stress on bones and joints. Water can even help to reduce the discomfort caused by inflammatory joint conditions, such as arthritis.

Another important function of water is regulating body temperature. Training generates heat in the body, and the body cools itself down by excreting water through perspiration. This process allows the body to maintain a more consistent internal temperature and avoid overheating. Drinking water before, during, and after training supports your body's ability to produce sweat, cool down, and replace the fluid lost through sweat.

Water supports oxygen delivery to cells. The blood is more than 90% water, and is responsible for transporting oxygen to different parts of the body. The efficient transportation of oxygen throughout the body is particularly important during physical activity as it supports the muscles that are performing the exercise.

Proper hydration supports physical performance. Hypohydration, defined as "a body water deficit greater than normal daily fluctuation," has been shown to decrease strength by approximately 2%, power by approximately



3%, and high-intensity endurance by approximately 10%. Water, therefore, helps you to execute techniques as intended.

Water supports the body's natural healing process by transporting nutrients to cells that require repair and eliminating toxins from the body. It also helps to alleviate muscle soreness and tension. If you experience an injury, drinking sufficient amounts of water will support your body's ability to recover.

### Signs of Dehydration

Early signs of dehydration can occur if the body loses as little as 2% of its water content (i.e., hypohydration). Early signs of dehydration may include: thirst, fatigue, muscle cramps, headaches, and degradation of memory and the ability to concentrate. If the body's water content drops by as much as 10%, more significant health problems can occur. Signs of chronic dehydration may

include heartburn, joint pain, back pain, exercise asthma, and cardiovascular issues.

### How to Know if You're Drinking Enough Water

The amount of water an individual needs is highly unique to their specific circumstances. Adequate water intake varies based on factors such as age, gender, activity level, processed food and sugar consumption, environmental conditions, chronic and acute conditions, pregnancy, and more. The adequate intake of total beverages (including drinking water) is 100 fluid ounces per day for adult males and 74 fluid ounces per day for adult females (aged 19 and older).<sup>vii</sup>

Refer to the following guidelines to ensure you are drinking enough water throughout the day:

- Drink when you have a sensation of thirst. Note that thirst signals decline with age and are less sensitive during exercise.



- Drink water throughout the day until your urine becomes light yellow or straw colored. Factors such as diet, medications, and vitamin use can affect urine color, however, it can be a helpful tool to determine overhydration or dehydration.

- Ensure that your drinking water is mineral rich. Water that is rich in minerals and balanced with electrolytes can be absorbed more easily by the body. You can add a pinch of high-quality, unrefined sea salt to your water to increase its mineral content.

- Sip water throughout the day, instead of drinking large quantities at one time. This will help support your body's ability to absorb the water.

- Hydrate before, during, and after intense exercise. Be careful not to drink too much while working out as this can interfere with your body's ability to excrete excess water.

Martial arts can be a physically demanding practice. If you are practicing regularly, it is important to ensure you are drinking enough water so you can perform at your best, help prevent injury, and promote healing within your body. 🌿



## Reference Notes

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<sup>vii</sup> Nutritional Therapy Association. (2020). Hydration Student Lecture [PDF Document].

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