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It is well known that dehydration can impair performance and that being dehydrated by as little as 2% of body mass can slow an endurance athlete down and impair their ability to regulate body temperature. For athletes in team sports or speed/power events it is just as important to drink adequate fluids in maintaining coordination, concentration and ensuring that recovery is optimized. Although most athletes and coaches are aware of the importance of hydration, recent data collected from our performance services team indicate that greater than 50% of high performance athletes are not adequately hydrating during training and or competition. Below are some simple performance points that may help athletes to stay hydrated and train and perform optimally.

1. **Hydration Before Exercise**

- Most individuals dehydrate overnight by at least 1 L. Keep a water bottle at bedside for easy access to fluid during the night. Upon waking consume several glasses of water.
- Be organized. Always carry a drink bottle and sip water regularly during the day. Don't wait until you are thirsty to drink.
- Drink 250-500 mL of water 30-60 minutes before exercise.

2. **Hydration During Exercise**

- Practice drinking during training and aim to keep dehydration about 1% of body weight, or replace about 80% of sweat loss. For example, if you lose 1 kg during training that equates to approximately 1 L of fluid and you should be aiming to drink at least 800 ml.
- For endurance exercise or long training sessions a carbohydrate-electrolyte drink will provide both fluid and energy. As a general guide, ingest 200-250 mL of 6-8% carbohydrate drink every 15-20 minutes (up to ~60g carbohydrate/hour). In very hot conditions, diluting a sports drink by 15-20% may enhance fluid absorption.
- Drink cold fluids that you like. Fluids that taste good at rest may not taste so good while exercising, therefore it is recommended that you try different flavours and concentrations.

3. **Hydration After Exercise**

- Replace fluids, carbohydrate and sodium lost during exercise to minimize dehydration, to stabilize blood volume, and to avoid muscle cramps. Carbohydrate and sodium is best replaced through food intake!
- Fluid loss continues after exercise stops so you need to consume more fluid than your existing fluid deficit. For example, consume 3 L in 4 hours to achieve replacement of 2 L.
- A simple way of checking hydration status is to monitor urine output. It should be clear or pale yellow and produced in sufficient volume. As urine gets darker, you are more dehydrated (however do note that some vitamin supplements and medications can also make urine darker).
- Athletes should all drink a minimum of 2L of water/day **plus** extra to replace losses from training/competition.

"Building a solid hydration plan has been a crucial factor in enhancing my performance in hot climates. My plan addresses pre-competition preparation, race hydration and recovery."

Lauren Groves, National Team Athlete, Canadian National Triathlon Centre



Groves rehydrates after the Lavaman Triathlon in Kona.

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