Hydration

Health Services

University of Oklahoma

StudentAffairs

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Hydration
and exercise

Meeting the health needs of OU students, faculty, staff, and dependents

Health Services

Key Facts About Fluid And Hydration

1 **The human body is composed of 55 to 60% water!** Water within the body helps to maintain proper body temperature and provides the heart with the proper fluid balance to assure optimal functioning.

2 **By the time a person becomes thirsty his/her body is already partially dehydrated!** The thirst mechanism is like the warning light in a car; it signals a problem after it has already occurred.

3 **A person's perception of sweat loss is often underestimated!** This is due to the failure to recognize the large surface area of the skin and all the thousands of sweat glands throughout the body.

4 **As little as 1% dehydration from sweat loss can adversely affect athletic performance!** Research indicates that most people only consume 1/3 to 2/3 of the fluids lost during exercise. This can lead to problems when multiple workouts or competitions are required and may result in an increased state of dehydration prior to the time of exercise or competition.

Which Fluids Provide the Most Benefits?

Primary fluids for hydration include: water, fruit juices, and sports drinks.

- Water is the cheapest and most reliable source of fluid and can be consumed at any time.
- Fruit juices and sports drinks contain approximately 40 to 80 calories per cup (8 oz) of fluid. These beverages should be diluted with water when the concentration of calories exceeds this range.
- Fruit juices and sports drinks do not provide effective amounts of sodium and potassium. Consuming whole foods rich in these nutrients will adequately replace electrolytes lost during exercise.
- Fruit juices and sports drinks are only effective during and after intense exercise lasting longer than 60 minutes. Using these fluids before exercise can cause hypoglycemic-like reactions and provide no benefit other than a source of fluid for the body.

Pre-Exercise Hydration

"It is recommended that individuals consume a nutritionally balanced diet and drink adequate fluids during the 24 hour period before an event. Especially during the period that includes the meal prior to exercise, to promote proper hydration before exercise or competition." - ACSM

Guidelines

Weight should be measured before every workout or competition; this measurement will be used for post-exercise comparison.

- 2-3 cups (16-24 oz) of fluid should be consumed 2 hours prior to exercise to ensure proper hydration; approximately 5-10 minutes prior to exercise or competition another half cup to 1 cup (4-8 oz) of fluid should be consumed
- Limit the consumption of beverages that contain caffeine prior to exercise and especially on the day of competition (caffeine is a diuretic or substance that causes water loss)

Hydration status can greatly affect mental and physical performance during an event, exercise, or competition.

Hydration During Exercise

A water deficit of just 2-4% of body weight can cut strength training aerobic power by 48%. In addition, muscle cell dehydration promotes protein breakdown and inhibits protein synthesis, and thus, muscle development.

Guidelines

- Drink approximately 1-1 1/4 cups (8-10 oz) of fluid every 15-20 minutes during exercise; including weight training.

Post-Exercise Rehydration

Rehydration is not a process that can be achieved immediately. Therefore it is important that one completely hydrates and rehydrates him/herself before and after each exercise session to ensure optimal athletic performance.

Guidelines

- Weigh and compare value to pre-exercise weight and drink 2 cups (16 oz) of fluid for every pound of bodyweight lost

Example:
160 lbs – 154 lbs = 6 lbs Lost
6 x 2 cups= 12 cups (96 oz) of fluid needed to rehydrate

References

www.eatright.org [American Dietetic Association (ADA)]
www.acsm.org (American College of Sports Medicine)