

Hydration

Fluid recommendations for athletes

Daily Recommendation:

Males– 3.7 L/day

Females– 2.7 L/day

(1 mL for every calorie consumed)

Approximately 60% of water is from ingested fluids

Approximately 30% from ingested foods

Approximately 10% formed during metabolism

2-3 hours before exercise

Amount: 17-20 oz

Type: Water or sports drinks; juices or milk if tolerated by athlete

15-20 minutes prior to exercise

Amount: 7-10 oz

Type: Water or sports drinks

During exercise

Amount: 7-10 oz every 10-20 minutes

Type: Sports drinks and water if over 1 hour consume 1 gram of carbohydrate with fluids for every minute of exercise if it is over 60 minutes

After exercise

Amount: 16-24 oz per pound of body weight lost during exercise, consumed within 2 hours

Type: Water, sports drink, juices, milk or other beverages



Facts about water

- It is the most essential nutrient.
- Restriction can lead to death in days.
- Slight dehydration decreases performance.
- Makes up 60% of your body weight.
- Muscle is 70% water.
- Provides cooling for the body.

Effects of Dehydration looking at % of body weight lost

1 thirst

2 increased thirst, loss of appetite, discomfort

3 impatience, decreased blood volume

4 nausea, slowing of physical work

5 difficulty concentrating, apathy, tingling extremities

6 increasing body temperature, pulse and respiration rate

7 stumbling, headache

8 dizziness, labored breathing

9 weakness, mental confusion

10 muscle spasms, indistinct speech

11 kidney failure, poor circulation from decreased blood volume



Electrolytes

Sodium, Potassium, Chloride

Sodium

Functions: muscle contraction, regulation of blood pressure

Signs of deficiency: hyponatremia (see below), nausea, vomiting, seizures

Sources: canned foods, condiments, ham

Chloride

Functions: Fluid balance, aids in digestion

Signs of deficiency: increased blood pH, abnormal heart rhythm

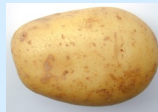
Sources: salt, tomatoes, lettuce, celery

Potassium

Functions: muscle contraction, blood pressure regulation

Signs of deficiency: muscle cramping, muscle weakness, loss of appetite, heart arrhythmias

Sources: potato (with skin), yogurt, tomato juice



effects of hyperhydration hyponatremia

(water intoxication and low blood sodium)

- usually not a problem
- excessive hyperhydration with extensive sweating replaced by only water
- muscle weakness, muscle incoordination, disorientation, seizures and come if not recognized and untreated

To avoid hyperhydration drink both fluids and sports drinks to achieve your intake of water, carbohydrates, and

suggestions for keeping your body hydrated

- calculate your individual hydration needs using a sweat trial
- if you are ideally hydrated you should urinate every 1 to 2 hours
- urine should be pale unless you are on certain medications or taking vitamins or minerals
- consume drinks with caffeine in moderation
- do not over consume protein (it requires water to break it down)
- be aware of medications you are taking and the possible effects on hydration
- consume fluids from a variety of sources such as milk, water, 100% juices, sports drinks, and watery foods such as soups, fruits, and vegetables
- alcohol consumption should be minimized or eliminated
- follow a well balanced diet

