

# eat to compete:



Water is the athlete's best friend.

## What you should know about fluids...

### Water...

- is essential for life and should be consumed on a daily basis
- transports energy (such as glucose) to and waste products (such as lactic acid) away from muscles
- regulates body temperature
- prevents muscle cramps

### Lack of water decreases...

- physical performance, such as coordination, strength, stamina, and concentration
- the body's ability to cool off and can lead to muscle cramps, headaches, nausea, and exhaustion

If you are tempted to use dehydration for weight loss remember it takes 24 to 36 hours to rehydrate and regain strength.

### Recommended fluid intake

Make water part of your daily training. New Dietary Reference Intakes (DRIs) recommend 80 to 120 ounces of water daily. Additional water is needed to replace fluids lost during physical activity.

- Before practice/competition
  - 4 hours before activity, 1 ounce per 10 lbs body weight
  - 2 hours before activity, 1 ounce per 15 lbs body weight
- During prolonged activity
  - 4 to 8 ounces every 15 minutes
- After practice/competition
  - Drink 3 cups of water for every 1 pound lost

### What about sport drinks?

Carbohydrate adds flavor, but also can cause stomach problems and dehydration in higher concentrations such as that found in full-strength fruit juices and pop. Athletes prefer sport drinks because of the flavor. To select the most appropriate sport drink consider the situation and use the following criteria:

#### Fluid replacement drinks—

Recommended when there is 1 hour or less before an event AND during an event. Enhances performance for athletes exercising at high intensities for 60 minutes or more of continuous duration.

#### Check the label—

- ✓ Carbohydrate—less than 19 grams per 8 ounces
- ✓ Sodium—50 to 170 milligrams per 8 ounces
- ✓ Potassium—30 to 50 milligrams per 8 fluid ounces
- ✓ No caffeine or carbonation

#### High carbohydrate drinks—

Recommended as pre-event fluid when there are at least 1 to 2 hours before an event OR as a fluid replacement immediately after an event.

#### Check the label—

- ✓ Carbohydrate—50 to 70 grams per 8 ounces
- ✓ Protein—none or up to one-fourth the carbohydrate content
- ✓ Fat—none

#### Meal replacement drinks—

Recommended as a pre-game meal replacement (3 to 4 hours before) for athletes with sensitive stomachs OR for athletes requiring additional calories as a snack or meal supplement.

#### Check the label—

- ✓ 250 to 350 calories
- ✓ Includes protein, carbohydrate, and fat

### Did you know...

- Thirst is NOT a good indicator of hydration.
- Using thirst as a guide, only 50 percent of your fluid needs are replaced.
- You will drink more if the fluid is cool (about 50°F) and non-carbonated.
- Water is the best fluid in most situations, especially if the practice/competition lasts less than one hour.

## How to read a sport drink label—

A sodium level of about 50 to 170 milligrams per 8 ounces enhances the taste, facilitates absorption, and maintains body fluids. Higher amounts can lead to stomach upset and dehydration because the body sends water to the stomach to dilute the mixture.

Research shows that 0 to 8% concentration of carbohydrate (0 to 19 grams per 8 ounces) promotes rapid fluid replacement.

Nutrition Facts	
Serving Size 8 fl. oz (240ml)	
Serving Per Container 2	
Amount Per Serving	
<b>Calories 50</b>	
% Daily Value*	
<b>Total Fat</b> 0g	0%
<b>Sodium</b> 110mg	5%
<b>Potassium</b> 30mg	1%
<b>Total Carbohydrate</b> 14g	5%
Sugars 14g	
<b>Protein</b> 0g	
Not a significant source of Calories from Fat, Saturated Fat, Cholesterol, Dietary Fiber, Vitamin A, Vitamin C, Calcium, Iron	
* Percent Daily Values are based on a 2,000 calories diet.	

## fluid replacement drink

**INGREDIENTS:** WATER, SUCROSE SYRUP, GLUCOSE SYRUP, GLUCOSE FRUCTOSE SYRUP, CITRIC ACID, NATURAL LEMON AND LIME FLAVORS WITH OTHER NATURAL FLAVORS, SALT, SODIUM CITRATE, MONOPOTASSIUM PHOSPHATE, ESTER GUM, YELLOW 5

The type of carbohydrate (as well as the percent) affects sweetness and can reduce fluid intake if too sweet. High fructose levels can cause gastrointestinal distress by slowing absorption. (Ingredients are listed from greatest amount to least amount.)

The level of potassium also replaces body losses in proportion to what is lost in sweat. A potassium level of 30 to 50 milligrams is recommended.

### Carbohydrate concentration is NOT the same as % Daily Value.

To calculate the carbohydrate concentration of any beverage as a percentage, divide the amount of carbohydrate in one serving (in grams) by the amount of fluid in one serving (8 ounces equals 240 milliliters), and then multiply by 100.

$$\frac{14 \text{ grams carbohydrate}}{240 \text{ milliliters}} \times 100 = 5.83 \text{ or } 6\% \text{ carbohydrate concentration}$$

## Evaluate this sport drink label

- Calculate the carbohydrate concentration.
- Is this a fluid replacement drink, a high carbohydrate drink, or a meal replacement drink?
- Does the drink have caffeine or carbonation?
- Would this be appropriate to consume during competition? If not, when might it be consumed?

Nutrition Facts	
Serving Size 18 fl oz (532 mL)	
Amount of Serving	
<b>Calories 400</b>	
%DV*	
<b>Total Fat</b> 0g	0%
<b>Sodium</b> 100mg	4%
<b>Potassium</b> 99mg	3%
<b>Total Carbohydrate</b> 100g	33%
Sugars 35g	
Protein 0g	
Calcium 2%	Phosphorus 8%
Iodine 25%	Magnesium 6%
Chromium 170%	
Not a significant source of calories from fat, saturated fat, cholesterol, dietary fiber, vitamin A, vitamin C, or iron.	
*Percent Daily Values (DV) are based on a 2,000 calorie diet.	

**Ingredients:** Maltodextrin, Filtered Water, Dextrose, Fructose, Citric Acid, Natural and Artificial Flavor, Potassium Phosphate, Sodium Benzoate, Magnesium Succinate, Potassium Sorbate, Chromium Chloride, FD&C RED 40, FD&C Blue 1. NO FRUIT JUICE.

XXXXXXXX is more than just fluid. . . its optimal performance. Unlike other sports drinks, XXXXXXXX is a high energy drink that offers a balanced ratio of simple and complex carbohydrates, that means more energy and recovery for the ultimate in overdrive!

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- ANSWERS:**
1. 18% carbohydrate concentration (NOTE: serving size is 18 oz, thus carbohydrate content must be converted to 8 oz serving, which is 44 gms of carbohydrate.)
  2. High carbohydrate drink – the carbohydrate concentration is too high for a fluid replacement drink and it does not contain any protein or fat to be considered a meal replacement.
  3. No caffeine or carbonation
  4. It would not be appropriate to consume during competition; it would be appropriate to consume immediately after competition.

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