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.

Water is the athlete’s best friend.
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.

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.

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\text{Carbohydrate concentration} = \left( \frac{\text{Amount of carbohydrate}}{\text{Amount of fluid}} \right) \times 100
\]

Evaluate this sport drink label

1. Calculate the carbohydrate concentration.

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\text{Carbohydrate concentration} = \left( \frac{14 \text{ grams}}{240 \text{ milliliters}} \right) \times 100 = 5.83 \text{ or } 6\% \text{ carbohydrate concentration}
\]

2. Is this a fluid replacement drink, a high carbohydrate drink, or a meal replacement drink?

3. Does the drink have caffeine or carbonation?

4. Would this be appropriate to consume during competition? If not, when might it be consumed?

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