

Nutrition Newsletter

This issue focuses on fluid and hydration.

- Importance of hydration and fluid goals.
- How exercise influences fluid needs.
- Ways to stay hydrated as the days start to get warmer.
- Tasty drink recipes to cool you off on warm summer days.



Hydration Goals and Why Adequate Hydration Matters

By: Kelsey Theisen, RD, CLEC

Did you know that your child's body is made up of about 70% water? Adequate hydration is essential for a healthy, functioning body. Fluids help regulate temperature, digest food, excrete waste, protect tissues and joints, circulate blood, transport nutrients and more. It is important to drink enough fluids to prevent dehydration. How do you know how much your child needs to drink, and how do you know if your child is dehydrated? Read on for this information and tips.

What is the best choice for hydration?

Water is generally the best choice as your child's main hydration source. Other sources of fluids include milk, juice, soft drinks, sports drinks, smoothies, tea, and foods (such as fruits, vegetables, soups). As a general guideline, drinks with added sugars should be limited.

How much water do I need?

Fluid needs are dependent on many factors, such as age, sex, weight, and environment. A general rule is to drink fluids with meals and snacks, and when thirsty. You may need more water in hot climates, when physically active, sick or with a fever, or if experiencing diarrhea or vomiting. Below are some general guidelines, but some health conditions may require more or less fluid. For infants younger than one year review fluid needs with your child's healthcare provider.

| Age Range | Total Fluids (per day) |
|-------------|------------------------|
| 1-3 years | 44 ounces |
| 4-8 years | 56 ounces |
| 9-13 years | |
| Males | 80 ounces |
| Females | 70 ounces |
| 14-18 years | |
| Males | 110 ounces |
| Females | 76 ounces |

Total fluids include all water contained in food, beverages and drinking water.

*During the 0-12 months period, fluids should come from breastmilk or formula.

Signs of dehydration:

Signs of dehydration include: thirst cues, decreased urine output, dry lips/mouth, headache, nausea, and fatigue.

An easy measure of adequate hydration is the color of your urine.

- Pale yellow or almost clear = adequately hydrated
- Yellow = your child should drink more water
- Dark yellow = dehydrated, your child may need to drink a lot of fluid, soon

Other tips:

- Children may not recognize that they are thirsty, so it is important to encourage and remind them to drink fluids throughout the day.
- If plain water is refused, try adding lemon or orange slices, cucumber, mint, or berries to naturally flavor the water.
- Pick out a fun, reusable water bottle and teach your child to refill throughout the day.

Low Sugar Drink Options and Hidden Sugars

Yasemin Unal, RD

When it comes to the topic of what drinks are best to keep our bodies hydrated, the simple answer is water. If you prefer more *flavor* to keep things interesting, then choosing low sugar drink options are important. Sugar sweetened beverages and juices often provide excessive amounts of simple carbohydrates and not enough fiber. Consuming these types of beverages regularly at large amounts can lead to elevated blood sugar, increased risk for cavities, and increased risk for developing Type II Diabetes.

Here are some drink options that can quench thirst while also being low added and hidden sugars:

Sparkling/carbonated water

Unsweetened Teas:

- Try steeping your favorite herbal teas (passion/orange) in sparkling water for some color and flavor.

Make fruit ice cubes to throw into your water or sparkling water

Infuse your water or sparkling water with freshly sliced fruits and herbs



Pro tip: when choosing your drink, peek at the ingredients list underneath the nutrition facts labels. If one of the first three ingredients listed is sugar, cane sugar, corn syrup, or fructose, then this product is high in added sugars.

Apple Peanut Butter Smoothie

By L. Boerner, MPH, RD, IBCLC

Fresh fruits and vegetables add fiber that can be lost if only the juice is consumed. Avocados are also a great addition to smoothies for fiber and healthy fats. Many of the following ingredients add sugar to smoothies: sweetened fruit juice, flavored yogurts, ice cream, chocolate/strawberry syrups, canned fruit in syrup. This recipe is lower in sugar since it is made with unsweetened almond milk and fresh fruit, with the addition of protein from nut butters. *Source: EatingWell.com October 2016.*

- 1 cup unsweetened vanilla almond milk
 - 1 small apple, chopped
 - 2 Tablespoons peanut butter or nut butter
 - 1 teaspoon vanilla extract
 - ¼ teaspoon cinnamon
- Blend all ingredients well until smooth. Add ice.



Makes about 12 oz

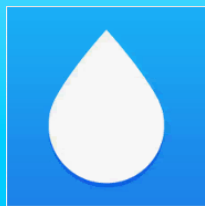
Nutrition facts per serving (analyzed using Food Processor nutrition program)

310 calories, 8.5 grams protein, 29 grams Carbohydrate, 18 grams fat. 475 mg calcium, 5 gm fiber. It contains 15 grams of sugar from the fresh

Hydration Monitoring Apps

Tara Beaston, RD, IBCLC

Proper hydration has important health benefits and it's not always easy to know if your fluid goals are met throughout a busy day. A hydration app can track your daily fluid intake to help promote adequate hydration. The following free apps are available on both iPhones and Androids.

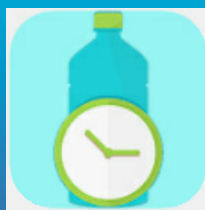


WaterMinder

This easy, intuitive app calculates appropriate hydration amounts based on your body weight or personal goal. Then it sends reminders all day long, making it easy to hit your target intake. Create custom cups for fast, simple logging, and browse your hydration history to see your progress.

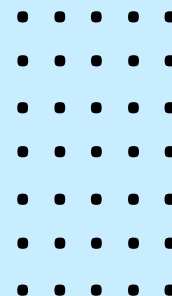
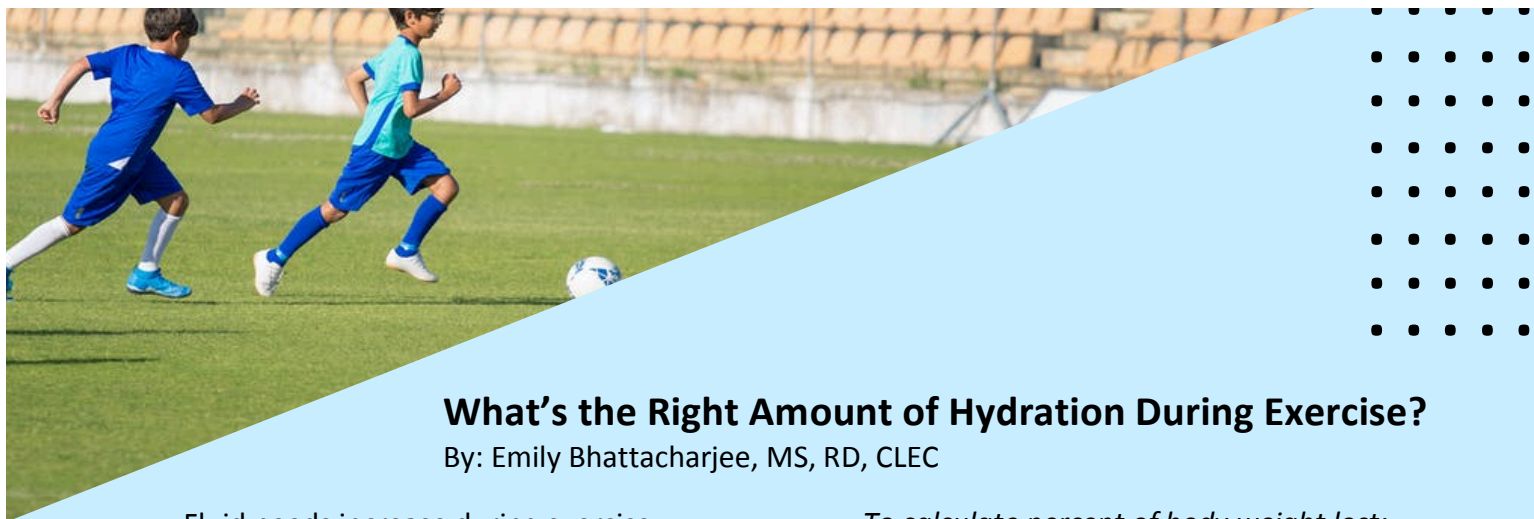
Daily Water Tracker Reminder

Set your daily water intake goal and then log in every milliliter or ounce with a tap. After every glass, track how close you're getting to your daily goal. There are 7 and 30 day charts that show overall progress on meeting your hydration goals.



Aqualert: Water Tracker Daily

Aqualert will notify you throughout the day to keep you hydrated. It also uses your activity level to calculate your daily requirements. There is a bedtime mode as well to keep the app from bothering you at night. A graphic display of your hydration level and daily consumption helps keep you on track. Plus, it also keeps a consumption history.



What's the Right Amount of Hydration During Exercise?

By: Emily Bhattacharjee, MS, RD, CLEC

Fluid needs increase during exercise. Adequate hydration is important to optimize athletic performance and overall health. Maintaining adequate hydration regulates normal body temperature, heart rate, concentration, and motor control. Staying hydrated also reduces muscle cramping and promotes recovery from heavy exercise.

If your body weight decreases more than 2% after an exercise session, then not enough fluid was consumed during the work-out or competition. This amount of fluid deficit can negatively impact overall performance.

To calculate percent of body weight lost:

$$[(\text{weight before exercise} - \text{weight after exercise}) / 2] \times 100$$

After working out, plan to drink 16 oz of fluid for every pound of body weight lost during exercise and even more if the body weight loss was greater than 2% of body weight.

Water is usually sufficient to maintain hydration when exercise lasts up to 75 minutes. If the exercise lasts longer, then a sports drink may be useful to replenish electrolytes that are lost in sweat. Sport drinks can also provide energy to sustain longer periods of exercise when there is no time for a snack break.

Blackberry Lime Popsicles

Rosio Hernandez, MS, RD, CNSC, CDE, CLEC

This refreshing popsicle is packed with vitamin C from both the lime juice and the blackberries. The vibrant purple color comes from the anthocyanins in the blackberries which provide many health benefits including antioxidant and anti-inflammatory properties.

Servings: 6 popsicles

Ingredients:

- 1 cup hot water
- 2 Tablespoons white sugar
 - *more, if needed, depending on sugar content of the berries
- ¼ cup lime juice
- 1 cup blackberry puree, strained (about 2 cups whole berries)

Directions:

1. Blend the blackberries in a blender. Strain pureed blackberries using a fine mesh strainer to remove the seeds.
2. Add the sugar to the hot water and stir until the sugar dissolves.
3. Add the blackberry puree and lime juice to the water and stir until well blended.
4. Pour into 6 popsicle molds and freeze for at least 4 hours.



Nutritional information:

Calories: 40, Fat: 0 grams, Protein: 0 grams, Carbohydrates: 10 grams, Total Sugars: 7 grams (includes 4 grams added sugars), Dietary Fiber: 1 gram, Cholesterol: 0 mg, Sodium: 0 mg, Potassium: 90 mg (2% DV), Vitamin C: 13 mg (22% DV)



Practical pH: Wondering About Our Water?

By Alissa Herrera, RD, CSP, CLEC

• • • • •

When walking down grocery store aisles, a common marketing label seen on water is “pH balanced” or “alkaline”. Proponents of alkaline water claim that it can slow aging, reduce cancer risk, improve digestion, reduce bone loss, and increase energy. Does this sound too good to be true?

As a chemistry refresher, we can first discuss what pH means. pH measures the concentration of hydrogen ions in solutions. It is based on a scale in which a pH of 7 is considered “neutral”. Solutions with a higher concentration of hydrogen ions have a pH lower than 7 and are known as “acidic”. Conversely, those with a lower concentration of hydrogen ions have a higher pH and are known as “basic”.

When it comes to foods we eat, we tend to eat some acids, but not many bases. For example, limes have a pH between 2-2.8. Apples have a pH between 3.3 and 4. Sweet potatoes have a pH between 5.3-6. Cow’s milk has a pH of between 5.4-6.8.

• • • • •

So, what does this mean for our body and overall health? A normal blood pH is around 7.4 and is slightly above neutral. Healthy functioning kidneys typically do a good job at maintaining a normal blood pH, unless caustic cleaners or chemicals are ingested.

Pure water has a pH of 7, which is completely neutral. Water advertised as alkaline may have a pH of closer to 8. However, the pH of local water varies modestly by natural mineral deposits and other surrounding factors. Current EPA guidelines call for tap water to have a pH between 6.5-8.5. Water advertised as “alkaline” has usually been through a process called electrolysis.

The overall consensus among scientists is that drinking alkaline water is not harmful. However, it does not live up to its health claims, because our kidneys already naturally regulate blood pH. In addition, our stomach acids create a very acidic environment to allow for the breakdown of foods. Thus, rather than focusing on the pH of water it is likely more beneficial to ensure that we’re drinking enough fluids. Ensuring adequate hydration helps your body naturally balance fluids and foods.

References:

Invissuto, D. (2021, December 6). What is alkaline water? <https://www.webmd.com/diet/what-is-alkaline-water>.

Anton TR, Huang T. Systematic review of the association between dietary acid load, alkaline water and cancer. *BMJ Open* 2016;6:e010438. doi: 10.1136/bmjopen-2015-010438

Goldman, R. (2019, May 30). Alkaline Water: Benefits and Risks. May 30, 2019. <https://www.healthline.com/health/food-nutrition/alkaline-water-benefits-risks>

Elmenstine, Anne Marie, Ph.D. (2020, August 27). What Is the Acidity or pH of Milk? <https://www.thoughtco.com/what-is-the-ph-of-milk-6036/>

Holland, Kimberly. (2022, April 14). All About pH for Stomach Acid. <https://www.healthline.com/health/how-strong-is-stomach-acid>

Table of pH Values of Common Foods and Ingredients. https://www.clemson.edu/extension/food/food2market/documents/ph_of_common_foods.pdf. Accessed April 18, 2022.