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CHILDREN AND HYDRATION

Although the heat of summer is dissipating, dehydration is not just a summer issue. Dehydration, particularly in children, is an ongoing, year-around issue.

What Is Hydration?

Hydration is simply drinking fluids in order to restore or maintain fluid balance in our bodies. Children should drink small amounts of water frequently throughout the day to remain hydrated.

Why Do Children Need to be Hydrated?

Children are more exposed to the risk of dehydration because their thirst mechanisms are immature and come into play only when dehydration is already happening; therefore it is vital that children have access to water wherever they are! Water is one of the most important nutrients, for children in particular, essential for everything from physical growth to learning and concentration.

Children + Hydration = ?

Paying attention to proper hydration can make a difference at school. Children that are hydrated are more alert, can concentrate longer, perform better physically and have a better chance at learning.

Poor hydration adversely affects a child's mental performance and learning ability. Mental performance, including memory, attention and concentration can decrease by about 10% once thirst is felt. This deteriorates progressively as the degree of dehydration increases. Just a 2% drop in hydration causes a 20% reduction in performance in physical, mental and cognitive activities. A child's brain actually consists of 75% water, which means that it is not only a sponge for information but for water as well! Symptoms of mild dehydration can be difficult for teachers to spot. Some symptoms may include:

- Increased irritability.
- Tiredness, headaches and feelings similar to jet lag.
- Reduced alertness and ability to concentrate.

Although some of this behavior may be thought to be "normal," it is now known that it may, at least in part, be due to the effects of dehydration.

Effects of Dehydration on Health

The early effects of even mild dehydration are significant for health, well being, performance and learning. In the long term it carries a higher risk of a number of health problems and disease states. These include constipation, continence problems, kidney and urinary tract infections, kidney stones, and some cancers. In some scientific studies, a decrease in cancer risk was specifically associated with water, as opposed to any other fluids.

Wetting Problems and Drinking Fluids

There is a link between not drinking enough and day and night wetting problems. Low fluid intake is also a contributory factor in constipation and soiling.

If children do not drink adequately during the day, their urine becomes concentrated which can irritate the bladder and may cause daytime wetting. Insufficient daily fluid intake can also reduce bladder capacity. If children then drink when they get home, their bladder may not be able to cope and bed wetting may result. When children start drinking more during the day they may initially need to go to the bathroom more, but once their bladder capacity has improved, they will need to go less frequently but will produce larger quantities of urine.

How Much Should Children Drink?

- Infants 0 - 6 months - 680 ml/day or 100-190 ml/kg/day from human milk or formula (30 ml equals one ounce).
- Infants 6 - 12 months - 0.8-1.0 liters/day from human milk, formula, and complementary foods and beverages.
- Toddlers 1 - 2 years - 1.1-1.2 liters/day (Four 8 oz. cups = One liter)
- Preschoolers 2 - 3 years - 1.3 liters/day
- Children 4 - 8 years - 1.6 liters/day

What Should Preschool-age Children Drink?

The best drinks for preschoolers, and kids of all ages, are milk and water. Whenever possible discourage the consumption of soda and other sugary, calorie-dense drinks as thirst quenchers.

Now is the time to get children into the habit of drinking milk so they can get bone-building calcium and vitamin D as well as other important nutrients they need. Limit flavored milks, but if you serve it, avoid premixed chocolate or strawberry drinks, which often contain considerably more calories, sugar, and fat than milk you flavor yourself. For children who do not drink milk, calcium-fortified soy milk is a good alternative.

Avoid juice flavored drinks and limit even 100% juice, which has a significant amount of sugar, to no more than one serving (about 4-6 oz.) per day. Too much juice can contribute to excess weight gain, diarrhea, and tooth decay.

Important Points to Remember:

- Compared to children and adults, infants have a higher total body water content. In newborns the total body water content can be as much as 75% and this decreases to 50-60% by the time they reach adulthood.
- Infants and children need water not only to replace the losses via respiration, sweating and urine output, but also for growth.
- When electrolyte-replacement drinks such as Pedialyte are used in the child care center it must be treated as a medication. A signed doctor's order and parental permission form must accompany this request.
- Infants cannot easily communicate their needs and active children can be so involved in what they are doing that they forget to drink. It is, therefore, important for those caring for them to be alert to the possibility of dehydration, especially during hot weather or during periods of illness.

Practical Tips to Keep Active Children Hydrated Especially in Hot Environments

- Have children drink before heading out to play and offer drinks frequently while on the playground.
- To avoid overheating, encourage regular breaks in the shade when the sun is hot.
- Keep drinks cool whenever possible.
- Remember that many foods have a high water content and contribute to total fluid intake. Fruits, vegetables, and some other foods are high in water content.

Resources:

EFSA Panel on Dietetic Products, Nutrition, and Allergies; *Scientific Opinion on Dietary Reference Value for Water*. EFSA Journal 2010.

KidsHealth: The Nemour Foundation. (2012) *What Should Preschoolers Drink?*
<http://www.kidshealth.org/parent/hydration>.