



NATURAL
HYDRATION
COUNCIL

Hydration for Children Back to School

Children are at greater risk of dehydration than adults due to their lower body weight and smaller reserve of body fluids. Equally, whilst adults often have easy access to a supply of water, children tend to rely on their caregivers to provide drinks and often don't recognise the early stages of thirst. Research suggests that just a 1% to 2% body weight loss can lead to significant reductions in concentration and mental performance¹. As a child's body is around 60% water, it is important to keep them topped up with fluid during the day.



Water and children's cognition



The effect of dehydration on adult mental function is well researched but much less is known about children. In one recent study, 59 children aged 7 to 9 years, were divided into two groups; one group followed their normal drinking habits, while the other was offered extra water. The results showed that children offered extra water reported less thirst and performed better when visual attention tasks were carried out². This suggests that children's mental performance can be improved when they drink more water.

This study has an important message for schools since it is often difficult for children to access water throughout the day. Although many schools now make water available, children are not encouraged to drink on a regular basis due to concerns that the additional trips to the water fountain or toilet will disrupt the class³. Teachers may need to be convinced about the positive role that adequate hydration plays in maintaining normal attention span and performance in schoolchildren.

Soft drinks or water?

Regular consumption of sugar sweetened beverages, including fruit juice drinks, has been linked to excess weight gain and obesity in children.⁴ In a review of 30 different studies authors concluded that the consumption of sugar-sweetened soft drinks appeared to be associated with greater weight gain and obesity, particularly amongst adolescents.⁵ More research is now needed to study this further.

The School Food Trust aims to encourage healthy hydration habits in children. They recommend that schools serve only plain, natural drinks such as water, milk and pure fruit/vegetable juices. The Trust's voluntary code of practice for drinks, followed by schools in England and Wales, aims to encourage the consumption of healthier drinks that are unsweetened and additive-free whenever possible⁶.



How much water do children need?



Few UK surveys have studied the beverage habits of children in detail but data is available from other parts of Europe. Findings from a recent French survey of children (6-11 years) and teenagers (12-19 years) found that average fluid intakes were 1 to 1.3 litres a day. Water accounted for about 50% of fluids, but the amount and types of beverages consumed varied enormously between the different age groups. It would be useful to conduct similar studies in other European countries where climate differences may also contribute to different beverage habits⁷.

Table 1 summarises the European Food Standards Agency (EFSA) guidelines for fluid requirements for children of different ages⁸. It is important to consider that children's water requirements change with age, and that boys and girls have slightly different requirements. This is because girls have a higher percentage of body fat and store slightly less water than boys. These recommendations are for fluid provided from both food and beverages sources.

In terms of glasses of water, it is advised that children older than one year have 6-8 drinks a day. Parents of toddlers are advised to offer them small drinks (120-150ml), while older children can have larger volumes (e.g. 250-300ml size per drink for young teenagers)⁹.

Table 1: EFSA children's guidelines for fluid requirements⁸

Age	Boys requirements*	Girls requirements*
2-3 yrs	1.3 litres/day	1.3 litres/day
4-8 yrs	1.6 litres/day	1.6 litres/day
9-13 yrs	2.1 litres/day	1.9 litres/day
Adolescents (>14yrs)	2.5 litres/day	2.0 litres/day

Source: EFSA (2008)

Key: * Values relate to fluid from both foods and drinks

In summary, water is one of the most natural, healthy beverages that children can drink. Encouraging children to quench their thirst with water before offering other types of beverages will help children to develop a taste for water. This is the first step towards developing lifelong healthy preferences. Choosing to offer water instead of calorie-laden soft drinks can also help children to maintain a healthy body weight as they grow, as well as preventing dental decay and erosion. It is important that parents and care-givers make sure that young children are offered sufficient amounts of water to maintain optimal hydration. Parents of schoolchildren should encourage them to make use of any water supplied at school in order to support their children's mental performance during the day.

Top Tips

1. Children should aim to hydrate healthily with plain, natural drinks that are unsweetened and free from additives.
2. Research suggests that adequately hydrated children may perform better and be better behaved in school.
3. Limit empty calories by putting a bottle of water in lunchboxes instead of a sugary drink.
4. Parents and other caregivers should offer younger children drinks on a regular basis and actively encourage consumption.
5. Caregivers, including teachers, have an important role to play in educating children about making the right beverage choices.
6. Children should aim to have 6-8 drinks per day which should ideally be water, milk or fruit/vegetable juices.
7. Children taking part in sports need to replenish the lost fluids by drinking more water.



Further information

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Other fact sheets in this series

Stay Hydrated whilst on Holiday
Water and Weight Management
Essential Guide to Hydration
Hydration vs. Hangover

References

1. D'Anci KE et al. (2006) Hydration and cognitive function in children. *Nutrition Reviews* 64(10 Pt 1), 457-64.
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4. Stephens MB, Keville MP, Hathaway NE & Kendall SK (2009) Clinical inquiries. When is it OK for children to start drinking fruit juice? *Journal of Family Practice* 58(9), E3.
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6. School Food Trust (2010) Voluntary code of practice for drinks provided in schools. Available from: <http://www.schoolfoodtrust.org.uk/the-standards/the-food-based-standards/voluntary-code-of-practice-for-drinks-provided-in-schools> (accessed May 2010).
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8. EFSA (2008) Draft dietary reference values for water. Scientific Opinion of the Panel on Dietetic Products, Nutrition and Allergies, (agreed on 11 April 2008 for release for public consultation).
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Related websites:

<http://www.wateriscoolinschool.org.uk/>
<http://www.schoolfoodtrust.org.uk>