



Wise up
on water!

Hydration and
healthy ageing

Introduction

Water is well known for its revitalising properties. Yet even though it is vital to health, it frequently gets overlooked as an essential nutrient. This can result in vulnerable individuals missing out on the support and guidance they need to maintain a healthy level of hydration.

Older people are a diverse group with individual needs, desires, and aspirations, which include maintaining their own health and fitness. As we get older our body's needs and health concerns change due to an increasing susceptibility to degenerative disease.¹ Water can make a valuable contribution to health in old age.

Water requirements

Older people have very similar water requirements to those of younger adults. Although there is currently no agreed recommended daily intake level for water in the UK, estimates range from approximately 1.2 litres² to 3.1 litres per day.³ A conservative estimate for older adults is that daily intake of fluids should not be less than 1.6 litres per day.⁴ Unfortunately, many older people do not drink adequate amounts of water. A recent survey of water provision in UK care homes for the elderly found that most residents only consumed 2-4 glasses of water per day (480-960ml).⁵

Age as a factor in poor hydration

The two dietary sources of water are food and drink. About 80 per cent comes from drinks and 20 per cent is contained in food.³ Some older people, however, have diminished appetites or poor nutrition and may miss out on the valuable component of their fluid intake contained in food.⁶

The kidneys play a vital role in regulating the amount of fluid in the body, but their function deteriorates with age. Age-related changes, such as alterations in hormone levels, also mean that water balance takes longer to be restored even after a drink has been consumed.⁷ Although fluid balance can usually be maintained under normal circumstances, dehydration can occur as a result of:

- cognitive impairment
- changes in functional ability
 - medication such as laxatives, diuretics or hypnotics
 - illness, or
 - stress arising from other factors.⁸

In addition, thirst, the body's natural response to dehydration, has been shown to be impaired in older people.⁹ Patients with stroke or those who are suffering from Alzheimer's disease may be particularly insensitive to thirst.¹⁰

'Tis a little thing
To give a cup of water; yet its draught
Of cool refreshment, drain'd by fever'd lips,
May give a shock of pleasure to the frame
More exquisite than when nectarean juice
Renews the life of joy in happiest hours.

Sir Thomas Noon Talfourd (English dramatist, poet and jurist
(1795 - 1854), Ion (act I, sc. 2), (Sonnet III)



Benefits of good hydration

Some of the medical evidence for the benefits of good hydration in older people is summarised below.

Pressure ulcers: Poorly hydrated individuals are twice as likely to develop pressure ulcers because dehydration reduces the padding over bony points.¹¹ Fluid intake to correct impaired hydration, increases levels of tissue oxygen and enhances ulcer healing.¹²

Constipation: Inadequate fluid intake is one of the most frequent causes of chronic constipation.¹³ It is more frequent in incapacitated or institutionalised older people, affecting some 42 per cent of patients admitted to geriatric wards.¹⁴ In individuals who are not adequately hydrated, drinking more water can increase stool frequency and enhance the beneficial effect of daily dietary fibre intake.¹⁵

Urinary infections and continence: Water helps maintain a healthy urinary tract and kidneys. Maintaining adequate hydration levels, rather than high fluid intake, per se, is important in the prevention of urinary tract infection.¹⁶ Many older people are loath to drink during the evening to eliminate the need to go to the toilet during the night. Evidence shows, however, that the restriction of overall fluid intake does not reduce urinary incontinence frequency or severity.¹⁷

Kidney and gallstones: Good hydration can reduce the risk of kidney stone formation by 39 per cent because dilute urine helps to prevent crystallization of stone-forming salts.¹⁸ Consumption of water at regular intervals can also help by diluting bile and stimulating gallbladder emptying, which in turn helps to prevent gallstone formation.¹⁹

Heart disease: Adequate hydration reduces the risk of coronary heart disease by 46 per cent in men and 59 per cent in women. It also protects against blood clot formation by decreasing blood viscosity.²⁰

Low blood pressure: Many older people suffer a drop in blood pressure on standing, which sometimes causes them to pass out. Drinking a glass of water five minutes before standing helps stabilise blood pressure, and prevents fainting.²¹

Diabetes: Water is an essential part of the dietary management of diabetes since dehydration can worsen diabetic control.³ In poorly controlled diabetic individuals, high urine output can increase the risk of dehydration.²² Good hydration levels also help to slow down the development of diabetic ketoacidosis during insulin deficiency in Type 1 diabetes, and help maintain healthy blood sugar levels.²³

Cognitive impairment: Dehydration adversely affects mental performance. Symptoms of mild dehydration include light-headedness, dizziness, headaches and tiredness,²⁴ as well as reduced alertness and ability to concentrate.^{25,26} Once thirst is felt (0.8-2 per cent dehydration²⁴), mental function may be affected by as much as 10 per cent.²⁵ Mental performance deteriorates progressively as the degree of dehydration increases. In older people this impacts on cognitive function leading to increasing frailty, functional decline, and a reduction in the quality of life.²⁷

Falls: The risk of falls increases with age and in older people this can result in injury and fractures. A broken hip, for example, can lead to a reduced quality of life, over and above the trauma and hurt. Such individuals rarely get back to the same degree of independent living as they enjoyed before they fell.²⁸ Dehydration has been identified as one of the risk factors for falls in older people, since it can lead to a deterioration in mental state, and increase the risk of dizziness and fainting. The maintenance of adequate levels of hydration in older people could be effective in preventing falls, particularly as part of a multifactorial falls prevention strategy.²⁹ In addition, in hard water areas, tap water provides a significant proportion of dietary calcium, which is essential for good bone mineral density and the prevention of osteoporosis and fractures.³⁰

Hospitalisation in older people: Dehydration has been shown to increase by two-fold the mortality of patients admitted to hospital with stroke. It also increases the length of hospital stay for patients with community-acquired pneumonia.³¹

Skin: Being well hydrated is a good way to keep skin healthy and young-looking. The skin acts as a water reservoir and participates in fluid regulation for the whole body. Mild dehydration causes skin to appear flushed, dry and loose, with a loss of elasticity, which makes it look older than it is. The effects of dehydration on the skin are more noticeable on the face, than on the lower limbs.^{24,32,33}

The role of carers

Carers have a vital role in supporting older, more dependent, individuals to maintain healthy hydration levels. They can do this by ensuring that fluids are freely available and physically accessible both day and night as well as with meals. They should be aware of the individual's need for fluid and encourage them to drink. Many types of foods contain a substantial amount of water. If an older person finds it difficult to increase the amount of fluid drunk, it may be possible to help maintain adequate hydration levels by increasing the amount of moisture consumed in foods, such as fruit and vegetables which are about 80-90 per cent water.⁶

Further information can be obtained from:

Water UK, Water for Health, *Ask about ...*

<http://www.water.org.uk/home/resources-and-links/water-for-health/ask-about>

Written by Hilary J Forrester, Independent Researcher and Senior Policy Executive, Science & Education, BMA

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- 2 Food Standards Agency. Eat well, be well. Drinking enough? <http://www.eatwell.gov.uk/healthydiet/nutritionessentials/drinks/drinkingenough/#elem256315>
- 3 Dietary Reference Intakes for Water, Potassium, Sodium, Chloride and Sulfate (2004) Institute of Medicine of the National Academies. Washington DC: The National Academies Press. <http://books.nap.edu/catalog/10925.html>
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Water UK represents UK water and wastewater service suppliers at national and European level.

Water UK, 1 Queen Anne's Gate, London SW1H 9BT,
Telephone: 020 7344 1844. Web: www.water.org.uk
www.waterforhealth.org.uk