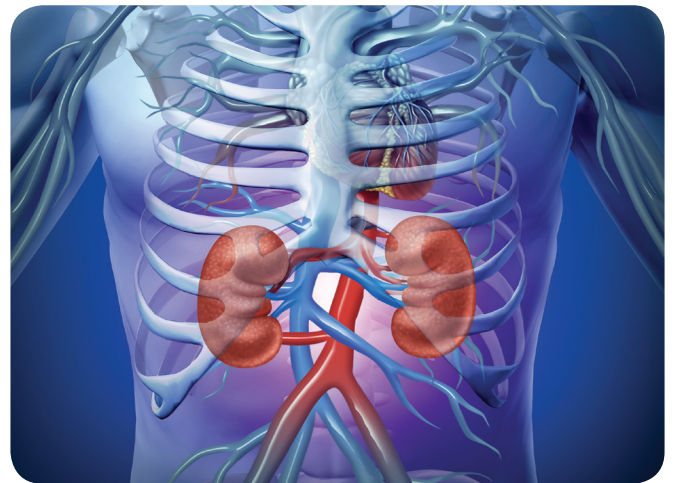




HYDRATION AND KIDNEY HEALTH

The kidneys are one of the most hard-working organ systems in the human body. Their main role is to act as a purification system for the blood, filtering out and excreting waste products such as urea and excess sodium, and maintaining fluid and electrolyte balance. Urine, the waste product of this process, is then passed on to the bladder and ultimately disposed of.

Kidneys also have other important functions in the body. They produce hormones that regulate red blood cell production (erythropoietin) and blood pressure; and activate vitamin D which plays a key role in bone health¹.



THE IMPORTANCE OF HYDRATION FOR MAINTAINING KIDNEY HEALTH

Drinking sufficient levels of fluid on a daily basis is an important part of kidney health. Dehydration, especially chronic dehydration, results in the production of urine which has a higher concentration of minerals and waste products². This can lead to the formation of crystals which can affect kidney function and contribute to certain kidney diseases, such as kidney stones, as discussed next.

Kidney stones, also known as nephrolithiasis, are formed when waste products from the blood (usually oxalate and urate) are filtered out by the kidneys into the urine. When the concentration of these waste products in the urine is too high, they form crystals. These crystals then build up in the kidneys to become stones. Once a kidney stone has formed, it will attempt to pass through the urinary system. Small stones may pass through without causing any problems, but large stones can block the

ureters or urethra, causing severe pain and sometimes urinary tract infections.

There are several factors which can contribute to kidney stone formation and dehydration is one. Keeping adequately hydrated is thought to help keep urine diluted, making the risk of kidney stone formation less likely³. Kidney stones are more likely to occur when the climate is hot and dry and fluid intake is insufficient.

FACT:

Kidney stones can affect anyone but male adults aged 30-60 years old are most at risk.

Kidney stones affect around 10-20% of men but only about 3-5% of women⁴.

Studies have shown that what you eat and drink affects your risk of stones. For example, adults with a higher salt intake are more likely to develop kidney stones⁵, while people who have adequate fluid intake could be up to 30% less likely to suffer from the condition⁶. Emerging science also suggests that drinking plain water, in particular, can have a potentially protective effect on kidney function⁷.



WATER GUIDELINES

The NHS recommends that women should drink eight 200ml glasses and men should drink ten 200ml glasses of fluid per day⁸. This is supported by European recommendations⁹.

Drinking plenty of fluids helps the kidneys to clear sodium, urea and waste products from the body, potentially lowering the risk of developing chronic kidney disease, according to researchers in Australia and Canada. Their findings, do not advocate “aggressive fluid loading”, which can cause side effects, but they do provide evidence that moderately increased water intake, to around two litres daily, may reduce the risk of decline in kidney function¹⁰.

It should be kept in mind that every individual is different and the right level of fluid intake depends on a range of factors such as gender, level of exercise, climate and health conditions, such as pregnancy and breast feeding¹⁰.

It should be noted, however, that some people with kidney diseases and specifically those whose kidneys have stopped working and are on treatment such as dialysis, have to monitor fluid intake very carefully.

TOP TIPS TO SUPPORT KIDNEY HEALTH

1. Whilst all fluid counts towards your fluid intake, water is one of the healthiest choices when it comes to maintaining kidney health^{7,11}.
2. Sip water a little and often.
3. Women should aim to drink eight 200ml glasses of fluid a day, as recommended by the NHS.
4. Men should aim to drink ten 200ml glasses of fluid a day, as recommended by the NHS.
5. During warmer weather conditions or when exercising strenuously you may need to drink more water than normal, due to fluid losses through sweating.
6. Track your urine colour – this should be straw coloured or paler. If it is any darker this, it is an indicator that you could be dehydrated.
7. Keep a bottle of water handy when you are on the move or exercising.
8. Kidney Research UK¹² provides further useful diet and lifestyle advice on how to look after your kidneys.



In conclusion...

Taking on board simple lifestyle changes, such as drinking the recommended amounts of fluid - ideally choosing water - could go a long way towards maintaining healthy kidneys.



Please note:

This information sheet has been based on scientific evidence available. The information contained in this fact sheet is not a substitute for medical advice or treatment, and we recommend consultation with your doctor or health care professional if you have any health concerns.

Useful websites:

World Kidney Day www.worldkidneyday.org

The British Kidney Patient Association
www.britishkidney-pa.co.uk

Kidney Research UK www.kidneyresearchuk.org

Kids Kidney Research www.kidskidneyresearch.org

National Kidney Federation www.kidney.org.uk

The Polycystic Kidney Disease Charity
www.pkdcharity.org.uk

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11. World Kidney Day (2015) Drink a glass of water. Available at <http://www.worldkidneyday.org/get-involved/drink-a-glass-of-water/> (accessed March 3rd 2015)
12. Kidney Research UK (2015) Looking after your kidneys. Available at: <https://www.kidneyresearchuk.org/health-information/resources/looking-after-your-kidneys> (accessed January 23rd 2015).

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Hydration for recreational and physical activities

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Natural Hydration Council

FURTHER INFORMATION

www.naturalhydrationcouncil.org.uk