

## **Might Water Fluoridation have More Impact on Certain Population Groups?**

### **Is it safe for children and babies...?**

Some people believe that the only safe level of fluoride for babies is zero. However this is untrue. Fluoride is present in most water supplies so babies all over the world consume water containing fluoride. Some areas such as Hartlepool have water supplies that naturally contain levels of fluoride similar to those seen in water fluoridations schemes, in some cases slightly higher.

The British National Formulary does specify maximum fluoride levels for children but only in relation to fluoride supplements that can be prescribed by doctors and dentists, not in relation to water fluoridation.

The Committee on Toxicity (COT) of Chemicals in Food, Consumer Products and the Environment statement on fluorine (2003) is primarily around food but touches on fluoride from water and assumes an intake of 0.05mg fluoride per kilo body weight per day to be the “no observed adverse effect level” (NOAEL) for moderate dental fluorosis. It concludes that “based on the current information available .... no adverse effects other than mild to moderate dental fluorosis would be expected to be associated with fluoride intake from food, either in adults or in children, at the intake levels in the UK”.

#### [COT Statement on Fluorine](#)

If babies are consuming too much fluoride then the impact, as COT suggests, would be more severe dental fluorosis, but ongoing monitoring of dental fluorosis has not shown higher levels of dental fluorosis that might be of concern.

#### [Water Fluoridation: Health monitoring report for England, PHE 2014](#)

Indeed, both the World Health Organisation (WHO) guideline value and the UK Water Quality Regulations 2016 maximum value for fluoride in water is 1.5mg/L (1.5ppm), which is intended to be protective against dental fluorosis.

#### [WHO Water Quality Guidelines 2011](#)

#### [Water Supply \(Water Quality\) Regulations 2016](#)

It should be emphasised that water fluoridation schemes aim to achieve a fluoride level of 1mg/L (1ppm), even lower than the WHO guideline value.

### **Is there harm from feeding babies with infant formula made with fluoridated water...?**

It is safe to use fluoridated water to mix infant formula. If your baby is primarily fed infant formula, then using fluoridated water might increase the chance for mild enamel fluorosis, but enamel fluorosis does not affect the health of your child or the health of your child's teeth.

However, if mothers are concerned about the appearance of fluorosis, there are ways to reduce the chances of it occurring:

Please note, this document will be updated as and when we receive more feedback on this particular topic.

- Breastfeeding - breast milk is very low in fluoride. Nursing mothers or pregnant women who drink fluoridated water do not pass on significant amounts of fluoride to their child.
- Using a ready-to-feed formula that contains little fluoride
- Using a concentrated formula, mixed with fluoride-free or low-fluoride bottled water.

### **What about people with chronic kidney disease (CKD)....?**

Some people have expressed concerns that patients with reduced glomerular filtration rates (GFR) due to chronic kidney disease may be less able to excrete fluoride in the urine, so may have a higher risk of accumulating fluoride in their bodies.

The British Kidney Patient Association has not published any advice on this topic, but based on a systematic review of the scientific evidence, Kidney Health Australia has published a position statement on the 'effects of fluoridation of community water supplies for people with chronic kidney disease' which says:

- There is no evidence that consumption of optimally fluoridated drinking water poses any health risks for people with CKD, although only limited studies addressing this issue are available.
- There is limited evidence that people with stage 4 or 5 CKD who ingest substances with a high concentration of fluoride may be at risk of fluorosis.
- Monitoring of fluoride intake and avoidance of fluoride-rich substances would be prudent for people with stage 4 or 5 CKD, in addition to regular investigations for possible signs of fluorosis.
- Fluoride concentrations in the final feed water to the dialysis machine must comply with established water quality guidelines.

### [Effects of fluoridation of community water supplies for people with chronic kidney disease 2007](#)

### **What about kidney dialysis patients...?**

The UK Renal Association states that water used for the preparation of dialysis fluid must adhere to strict guidelines. This is because an average dialysis patient's blood is exposed to in excess of 300 litres of water per week through a non-selective membrane in contrast to an average 12 litres per week through a highly selective membrane (intestinal tract) in healthy individuals. It is therefore essential that the water used to produce dialysis fluid is of an appropriate chemical and microbiological purity. Fluoride is just one in a list of chemicals which have a maximum allowable concentration (at 0.2ppm) in dialysis water. Thus, water used in kidney dialysis is deionised and specially prepared and undergoes mandatory quality monitoring.

### [The Renal Association](#)

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