

Eton's water supply: Q&A sessions at Eton Primary School



Two Q&A sessions were held at Eton Primary School on November 8 & 9 2016 to discuss community concerns about Eton's drinking supply.

Does uranium consumed in water accumulate in the body?

Only a very small amount of dietary uranium (1-6%) is absorbed when ingested. The

uranium that is absorbed is spread throughout the body. About 65% of the uranium in the body is found in the bone, with most of the rest in the kidney.

Can uranium be absorbed through the skin? Is bathing and showering an issue?

A very small amount of uranium can be absorbed through the skin. At the levels found in the Eton bore water uranium is very unlikely to cause skin irritation in humans.

Are there issues with the consumption of the water for children, infants and pregnant females as it relates to both uranium and selenium?

There are not expected to be any adverse health effects for children, infants or pregnant women from consumption of the very low levels of uranium and selenium in the Eton water supply.

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Is it true the body excretes uranium and selenium when consumed? If so, at what rate? Is this dependant on internal organs functioning properly?

In animal studies, it takes 5 to 15 days for half of the uranium in the kidneys to leave the body, and 100-300 days for uranium stored in bone. The vast majority of uranium is excreted in faeces with the balance in urine. If a person has impaired renal (i.e. kidney) function there will be slightly slower clearance of uranium in the urine, but at the levels seen in the drinking water at Eton this will have no health effects.

Selenium is usually excreted within 24 hours, mainly in urine, but also in faeces and breath. If a person has impaired renal function there will be slower clearance of selenium, but it is unlikely that the level of selenium in the Eton water supply would result in adverse health effects, even in those with impaired renal function.



What are the symptoms of high levels of exposure/ consumption through water?

Everyone is exposed to uranium in food, air and water as it is naturally present in the environment. Excessive exposure to uranium is only likely to occur in occupational settings. The kidney is the most sensitive organ for damage by uranium. Naturally occurring uranium has not been found to cause cancer in either humans or animals.

If excessive amounts of selenium are consumed over long periods, brittle hair and deformed nails can develop. In extreme cases, people may lose feeling and control in arms and legs.

Is there any concern with regard to animals, dogs, cats, chickens etc?

The levels of uranium and selenium in the water at Eton are much lower than the trigger values for irrigation and livestock watering, and are unlikely to cause any adverse health effects in domestic pets or livestock.

The primary route of human exposure to selenium is through eating food. Eton residents who irrigate their home gardens with groundwater are highly unlikely to be producing food with levels of selenium that could be hazardous to health.

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Is there any risk for residents that grow their own food and breed chickens for consumption?

Root vegetables contribute the highest amounts of uranium to the diet, principally from residues in soil. Much of this can be removed by washing vegetables thoroughly.

Uranium does not build up in the food chain. The consumption of home grown vegetables, particularly root vegetables, eggs and chickens raised on water containing uranium can contribute to overall uranium exposure. However, at the amount of uranium in the water at Eton is too low for this to be significant.

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With the hardness levels and calcification which occurs with the Eton Bore supply, does this mean that absorption of calcium can occur in any way?

Calcium is a nutrient found in most natural waters. About 5-10% of our daily calcium requirement comes from drinking water. There is no interaction between uranium in drinking water and calcium.

For more information phone council on **1300 MACKAY** (1300 622 529) or visit the website mackay.qld.gov.au



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