



IS THE CONSUMPTION OF FISH DANGEROUS DURING PREGNANCY?

Healthcare officials have issued an advisory on the dangers of eating fish. The advisory concerns the consumption of fish by expectant mothers, nursing mothers and women who are seeking to get pregnant. Healthcare officials are concerned that the level of mercury in fish might pose certain risks to a developing fetus.

HOW DOES MERCURY AFFECT THE NERVOUS SYSTEM?

Methyl mercury is highly toxic and dangerous to babies because it can cross the placenta and the blood brain barrier. It is easy for mercury to become concentrated in the brain of the developing fetus because the metal is absorbed quickly and is not excreted efficiently.

Children exposed to mercury may be born with symptoms that resemble cerebral palsy, or other movement abnormalities. They are also more susceptible to convulsions, visual problems and abnormal reflexes. Autopsy results show loss of neurons in the cerebellum and throughout the cerebral cortex in the brains of children who have died as a result of mercury poisoning.

Mercury also appears to affect brain development by preventing neurons from finding their appropriate place in the brain. Methyl mercury targets and kills neurons in specific areas of the nervous system including the visual cortex, the cerebellum and the dorsal root ganglia. Several mechanisms have been proposed to explain how mercury kills neurons:

- Inhibition of protein
- Disruption of mitochondria function
- Direct effect on ion exchange
- Disruption of neurotransmitters
- Destruction of the structural framework of neurons.

Each of the above functions is vital in the process of maintenance and interaction on a cellular level.

HOW ARE FISH AND WATER CONTAMINATED WITH MERCURY?

Contamination from mercury in fresh waters can occur naturally through environmental factors or by contamination from industrial wastes. Larger fish (such as sharks, swordfish, king mackerel and tilefish), that prey on smaller fish accumulate the highest level of mercury and therefore pose the greatest risk.

HOW IS MERCURY DETECTED?

Mercury levels within a person's body can be measured in blood, urine and hair samples. The normal level of mercury for someone who has not been exposed to mercury is about 2 ppm (hair) or 3-4 ug/dl of blood or 25 ug/l or urine. When levels get to about 50 ppm (hair), people may start to experience nerve damage. Because hair continues to grow, it can be used to document when and how much a person has been exposed to mercury. The developing system of a baby and a young child is more sensitive to the effects of mercury than the system of an adult or older child.

HOW MUCH FISH SHOULD I EAT?

It is recommend that pregnant women and young children limit their consumption of freshwater fish to one meal per week or the equivalent of eight ounces of uncooked fish for adults and three ounces for young children.

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