

Fact Sheet: Mercury and the Unborn Child

by the National Association of Evangelicals (NAE)
and the Evangelical Environmental Network (EEN)¹

Current estimates are that **up to 630,000 newborns each year or approximately one in every six babies** are born with harmful mercury levels in their blood.²

Christians are called by our Savior and Lord, Jesus Christ, to love our neighbors and do unto others as we would have them do unto us. We are also called to protect our most vulnerable populations, including unborn children. Since 1971 the NAE has proclaimed that all life is a gift of God, and that God Himself in Scripture has conferred divine blessing upon unborn infants and desires their protection.

Many Christians are unaware of an important threat to the unborn child that must be addressed: mercury pollution.³ Just as we successfully dealt with lead in gasoline as a society, so now we must do so with mercury.

Mercury is a Serious Threat to Unborn Children

A recent report by the US National Academy of Sciences concluded that there is strong evidence for the neurotoxicity of mercury⁴ to the unborn child, even at low levels of exposure.⁵ (High levels of exposure are rare, but can result in blindness, deafness, seizures and mental retardation.)

How is the unborn child exposed? **Consumption of fish** that has become contaminated by mercury is the main route of human exposure. The main source of mercury pollution is dirty air released by **coal-burning power plants**. (Coal produces over 50% of the nation's electricity.) The mercury drops from the air into the water system, where it is eventually taken up by fish we eat.⁶

Mercury is extremely toxic to the brain and nervous system, especially to the rapidly developing brain of the unborn child. When a pregnant woman eats mercury-contaminated fish, the mercury in the fish enters the mother's blood stream. Once in the mother's bloodstream mercury can move directly across the placenta to enter the body of her unborn child. One of the body's protective shields against damage to the brain, called "the blood-brain barrier," is not fully developed until the first year of life. Thus, in the unborn child mercury can cross this incomplete barrier and accumulate in the brain, causing brain damage.

1 Established in 1942, the National Association of Evangelicals (NAE) is an association of over 50 denominations, over 250 organizations, and 50,000 churches, collectively representing over 30 million Christians. The Evangelical Environmental Network (EEN), begun in 1994, is a network of 23 Partner organizations, including World Vision, World Relief, and the International Bible Society. Visit their websites at www.nae.net and www.creationcare.org, respectively.

2 This figure comes from the latest presentation from the EPA's top mercury scientist, Kathryn R. Mahaffey, found at <http://www.epa.gov/waterscience/fish/forum/2004/presentations/monday/mahaffey.pdf>. See also Kathryn R. Mahaffey et al., "Blood Organic Mercury and Dietary Mercury Intake: National Health and Nutrition Examination Survey, 1999 and 2000," *Environmental Health Perspectives*, 112, #5 (April 2004): <http://ehp.niehs.nih.gov/members/2003/6587/6587.html>.

3 This fact sheet relies heavily on an October 12, 2004 background paper written at the request of the Evangelical Environmental Network (EEN) by Philip J. Landrigan, MD and Leonardo Trasande, MD of the Mount Sinai School of Medicine entitled "The Hazards to the Unborn Child of Methylmercury in the Environment." Dr. Landrigan, a committed Catholic Christian, is one of the world's leading experts on environmental health threats to children. At Mount Sinai he is Professor of Pediatrics and Chair of the Department of Community & Preventive Medicine. This background paper is available on EEN's website, www.creationcare.org.

4 Mercury exists in nature in three different forms: (1) metallic mercury – the dense silvery liquid metal that we all know from thermometers and from our high-school chemistry labs; (2) inorganic salts of mercury; and (3) organic mercury compounds, most notably methylmercury and ethylmercury. Each of these forms of mercury has a different distribution in the environment, and each poses different risks to human health. It is **methylmercury** (chemical symbol, **Me-Hg**) that poses the greatest risk to the unborn child. In this fact sheet, the word mercury refers to methylmercury.

5 National Research Council, *Toxicological Effects of Methylmercury*, National Academy Press (Washington, DC): 2000.

6 A recent study suggests that there may be a natural source for some of the mercury in large deep sea ocean fish such as tuna. More research is needed. See Anne M. L. Kraepiel et al., *Environmental Science & Technology*, 37 (24), 5551 -5558, 2003.

Studies examining low levels of exposure consistent with what the average unborn child currently faces in the womb provide evidence of brain damage. Such brain damage can result in:

- **lowered intelligence**
- **learning problems.**⁷

How to Protect Your Unborn Child from Mercury

1. Do Not Eat Certain Fish

Do not eat fish or seafood that is high in mercury, if you are pregnant, lactating, or thinking of becoming pregnant. (Your body needs up to 6 months to get rid of mercury you may have consumed.) The worst are Shark, Swordfish, King Mackerel, or Tilefish, and should not be eaten. To find the mercury levels of other fish/seafood, go to <http://www.cfsan.fda.gov/~dms/admehg3.html>.

2. Tuna

Concerning tuna, it is safest to eat canned light tuna. Albacore or “white” tuna has more mercury than canned light tuna. If you eat albacore tuna, limit yourself to 6 ounces (one average meal) of albacore tuna per week.

3. Locally Caught Fish

Check local advisories about the safety of fish caught by family and friends in your local lakes, rivers, and coastal areas. If no advice is available, eat up to 6 ounces (one average meal) per week of fish you catch from local waters, but don't consume any other fish during that week.

4. Don't Avoid All Fish

Don't avoid fish and seafood, because it provides you and your baby with the omega-3 fatty acids that are beneficial to the development of your baby's brain and cardiovascular system. Eat fish/seafood low in mercury, such as shrimp, canned light tuna, salmon (but not farm raised to avoid PCBs), and pollock.

How to Protect All Unborn Children from Mercury

To protect all unborn children from mercury we must significantly reduce the amount of mercury pollution we create as a society. The largest contributor is coal-burning power plants. Currently mercury pollution from coal-burning power plants is not regulated. This must change! There are several Clean Air bills before Congress that include the regulation of mercury. The strongest on mercury is the Clean Power Act by Senator Jeffords (I-VT). The weakest is the Clear Skies Act of Sen. Inhofe (R-OK). In the middle is the Clean Air Planning Act by Senators Carper (D-DE) and Alexander (R-TN).⁸

Contact your Senators and the Bush Administration with the following message: **mercury from air pollution must be strictly regulated to protect the unborn.**

If you are a Christian, let them know that this is important to you as a Christian.

For More Information:

For a chart with commonly eaten fish and their mercury levels, see the joint advisory from the Food and Drug Administration and the Environmental Protection Agency, <http://www.cfsan.fda.gov/~dms/admehg3.html>. If you would like more information about how to protect your loved ones from health concerns in the environment, go to www.healthyfamiliesnow.org. To find out more information about the National Association of Evangelicals, go to www.nae.net. To find out about the Evangelical Environmental Network, go to www.creationcare.org.

⁷ Evidence for learning problems included decreased performance on a wide range of tests that assess memory, attention, language and visual-spatial perception.

⁸ For an analysis by the independent Energy Information Administration of the Department of Energy of the Clean Power Act, the Clean Air Planning Act, and the Clear Skies Act, go to: <http://www.eia.doe.gov/oiaf/servicerpt/csa/>.