

What are the health benefits of eating fish?

Fish provide a high-protein, low-fat diet that also is low in saturated fats. Fish may provide substantial health benefits when they replace a high-fat source of protein in the diet.

The American Heart Association recommends two servings of fish per week as part of a healthy diet.



Should I stop eating fish?

No! Fish are an excellent source of protein and other nutrients and should be part of a healthy diet.

Where can I get more information?

Colorado Department of Public Health and Environment

Water Quality Control Division
4300 Cherry Creek Drive South
Denver, CO 80246-1530
303 692-3500

<http://www.cdphe.state.co.us/wq/FishCon/FishCon.html>

Colorado Division of Wildlife

6060 Broadway
Denver, Colorado, 80216
303 297-1192

<http://wildlife.state.co.us/>

Agency for Toxic Substances and Disease Registry

www.atsdr.cdc.gov/toxfaq.html

Environmental Protection Agency's Fish and Nutrition Information

www.epa.gov/waterscience/fish

Exposure and Health Effects Evaluation of PCE Contamination in Willow Springs Ponds

http://www.cdphe.state.co.us/dc/ehs/Schlag_eLockCo-WillowSpringsPondHC083006.pdf

Don't Forget!!

Unborn babies and breast-fed babies can be exposed to PCE in fish through the placenta and breast milk.

Colorado Department of Public Health and Environment



Find out what you need to know about Tetrachloroethylene (PCE) in fish at Willow Spring Ponds.

303 692-3500

<http://www.cdphe.state.co.us/wq/FishCon/FishCon.html>

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What is PCE and how does it get into the environment?

PCE is a colorless man-made liquid chemical used for dry cleaning clothes, degreasing metal parts, and is in some consumer products such as shoe polish, plastic and vinyl items, and latex paint. It belongs to a class of chemicals known as volatile organic compounds (VOCs). This means PCE easily evaporates from surface water into the air. It is released into the surface water and groundwater through industrial pollution. PCE does not mix very well with water. Once released, PCE can travel long distances and settle into bodies of water because it is denser than water. Sediments of the Willow Spring Ponds have been tested, and PCE was detected in only one sample at a low level. All other sediment data has been non-detect.

How does PCE get into fish?

PCE gets into fish from pollution in the water and sediment where fish live. Fish absorb the PCE as they feed in polluted waters and through direct contact with water and sediment, or by consumption of contaminated aquatic organisms including fish and plants. PCE accumulates in the fatty parts of fish. The levels of PCE in all fish in a lake, or even in one species, can vary greatly.

How does PCE in fish affect my health?

While health effects are unlikely at the fish consumption levels recommended in the CDPHE fish advisory, some people who eat PCE contaminated fish in excess of the fish advisory over a long period may have an increased theoretical risk of getting cancer. Long-term PCE ingestion, at levels higher than most people are generally exposed to, has also been shown to cause the liver and kidney problems mainly in animal studies. However, the most sensitive health problem associated with exposure to PCE in fish is cancer. PCE has been classified as a probable human carcinogen. The fish consumption advisory protects against the most sensitive health endpoint (cancer) by preventing consumers from being exposed to a theoretical cancer risk greater than one in 100,000 (1×10^{-5}). This also assures that the public is protected against other potential health effects such as the liver and kidney problems. The cancer risk level of 1×10^{-5} is appropriate to balance the benefits and risks of fish consumption.

How can I reduce my exposure to PCE in fish?

Choose fish species low in PCE and prepare fish properly while continuing to gain the health benefits of fish.

Exposure to PCE that accumulates in the fatty parts of fish can be reduced by preparing fish the following way:

- Remove the fat before cooking: remove skin, trim off the belly fat and the fat along the back and the side of fish.
- Eat fish fillet.
- Do not eat fish skin.
- Grill, broil or bake the fish.
- Let all the fat drip off during cooking.
- Do not use fat for gravies and sauces.

Remember the following tips when eating fish to reduce your exposure even more:

- Eat a variety of cooked fish.
- Eat fish from water bodies that do not have fish consumption advisories.
- If you eat more than the recommended amount of fish in a month, eat less the next month.
- Do not combine fish consumption advice for different species and locations.
- Serve smaller meals to children.

Can I tell if a fish contains PCE?

No! Fish that contain PCE do not smell, look or taste differently than other fish.