



Seafood smart

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Seafood smart

Some caution should be taken when eating seafood

Fish and seafood are low in fat and are excellent sources of protein, vitamins, and minerals. However, the danger of eating seafood contaminated with toxins, bacteria, or viruses is a real public health concern.

As many as 9,000 deaths and 6.5 million to 33 million illnesses in the United States each year are believed to be related to all food-borne contaminants.

Pregnant women and their fetuses are among the groups at higher risk for food-borne infections.

However, there is some preliminary good news, according to an article in this issue of *JAMA* (page 701). The study indicates that

children of women who were exposed to mercury from eating fish while they were pregnant did not experience any more developmental problems than children born to women not exposed to mercury.

The overall health benefits of eating seafood outweigh the small possibility of food poisoning. Just follow the recommended precautions on this page to protect yourself.

Additional Sources: Food and Drug Administration, U.S. Department of Agriculture, U.S. Environmental Protection Agency, Centers for Disease Control and Prevention, Council for Agricultural Science and Technology, U.S. Department of Health and Human Services Public Health Service, National Academy of Sciences

HOW TO PROTECT YOURSELF:

When purchasing seafood at the grocery store or fish market:

- Buy seafood last before going home.
- Look for the freshest quality when buying fresh fish. Whole fish should have clear, bright eyes that protrude, bright red or pink gills, no slime, firm yet elastic flesh, and shiny skin. Fillets should also be firm and have a moist appearance, with no browning at the edges.
- The fish should be cold to the touch and not smell "fishy."
- At the checkout counter, ask to have your seafood bagged separately, at the top of your grocery bag or with other cold items. If your trip home will take more than an hour, pack your seafood in a cooler with ice.

At home:

- Store seafood in the coldest part of your refrigerator at a temperature as close to 32° F as possible.
- Do not use wooden cutting boards for cutting raw fish, poultry, or meat. Plastic boards are easier to clean and sanitize. Thoroughly clean any surface or utensil after each use.
- Do not reuse any platter or plate used to transport raw seafood until it has been thoroughly cleaned.
- The shelf life of fish varies by variety and quality. As a general rule of thumb, try to use fish or shellfish within 1 or 2 days of purchase.
- Never thaw frozen seafood at room temperature, or with hot or warm water. Defrost it in the refrigerator. If that's not possible, thaw it under cold running water.
- Marinate all seafood in the refrigerator and not at room temperature.
- Refrigerate leftover seafood within 1 hour and eat within 2 days.

WHO IS AT INCREASED RISK?

People more susceptible to food-borne infections include:

- Those with lowered immunity due to HIV or AIDS
- Those on medications for cancer treatment or organ transplantation
- Pregnant women and their fetuses
- People with diabetes
- Young children
- The elderly

CONTAMINANTS FOUND IN SEAFOOD:

- **Bacteria** – The **Vibrio bacterium** is most commonly reported as the cause of food-borne disease. It usually follows consumption of improperly handled seafood or raw shellfish. It usually causes diarrhea and abdominal pain lasting 1 to 7 days and can sometimes cause death.
- **Viruses** – The **Norwalk virus** results in outbreaks of gastrointestinal disease, which can cause dehydrating diarrhea. Recent outbreaks have been associated with the consumption of raw oysters, but the virus can also be spread through contaminated water and ice, salads, frosting, other shellfish, and person-to-person contact. **Hepatitis A virus (HAV)** infects the liver and causes symptoms that include fever, fatigue, nausea, abdominal discomfort, dark urine, and jaundice after a prolonged incubation period that can last more than 2 months. HAV is primarily spread person-to-person in a fecal-oral route. But outbreaks have occurred when certain types of foods (shellfish, lettuce, frozen raspberries, and frozen strawberries) were contaminated before preparation.
- **Natural Toxins** – These toxins cannot be identified by sight, smell, or taste and cannot be destroyed by cooking or processing. Symptoms range from upset stomach and diarrhea to paralysis and death.
- **Chemical Residues** – Toxic chemicals, such as **methylmercury (MeHg)**, **polychlorinated biphenyls (PCBs)**, and **dioxin**, can accumulate in aquatic animals and endanger the lives of people who eat them. Studies like the current one in *JAMA* continue to investigate the effects of these chemicals.

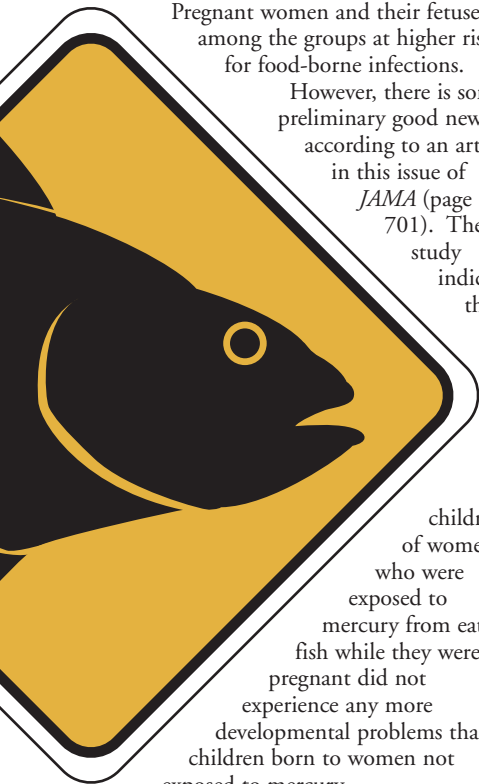
FOR MORE INFORMATION:

- Food and Drug Administration and the Center for Food Safety and Applied Nutrition Food Information & Seafood Hotline 800/FDA-4010 or www.fda.gov
- Centers for Disease Control and Prevention Office of Health Communication National Center for Infectious Diseases 1600 Clifton Road, MS C-14, Atlanta, GA 30333 or www.cdc.gov/ncidod/diseases/foodborn/foodborn.htm

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To find this and previous *JAMA* Patient Pages, check out the AMA's Web site at www.ama-assn.org/consumer.htm.

FOOD-BORNE ILLNESSES



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