

Most flu shots contain mercury, but few know it

Experts say vaccine's benefits outweigh potential risk

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A record 130 million Americans are expected to get a flu shot this season in hopes of ducking the nasty virus, but as the needle pierces the skin more than 80% will also get what some say is a hefty and dangerous dose of mercury.

The U.S. Centers for Disease Control and Prevention recommends that almost everyone - including pregnant women - get the injection, despite written warnings from the vaccine manufacturers.

Citing an estimated 36,000 deaths a year from the flu and flu-related illness, the mainstream medical community, including the American Academy of Pediatrics and American Lung Association, says the benefits far exceed any risk from the shot.

In a typical year between 5% and 10% of the population will get the flu virus, resulting in roughly 200,000 hospitalizations, according to the CDC. The flu can be especially dangerous for very young children and people 65 and older. Elderly people account for about 90% of all flu-related deaths.

Simply stated: The flu shot saves lives, the CDC says.

Yet a growing number of doctors, scientists and citizen organizations, such as Safe Minds, the Coalition for Mercury-Free Drugs and Moms Against Mercury, say mercury in flu shots has not been proven to be safe and can be linked to neurological disorders and other serious problems. They push for mercury-free shots that are available in limited quantities but that few know about.

"Mercury causes tremendous damage to the brain," said Paul King, scientific adviser for the Coalition for Mercury-Free Drugs.

Mercury is among the most toxic heavy metals and is known to poison the central nervous system, liver, gastrointestinal tract and other systems in the body.

About 80% of all flu shots distributed in the United States contain a mercury-based preservative called thimerosal. Thimerosal consists of 49.6% ethyl mercury, an anti-bacterial, anti-fungal that allows manufacturers to sell the vaccine in large, multi-dose containers without fear of contamination.

The Environmental Protection Agency and federal Food and Drug Administration have not set an exposure limit for ethyl mercury. The FDA says it's continuing its efforts to reduce the exposure of infants, children and pregnant women to mercury from various sources.

The federal agencies have, however, set exposure limits for another organic and closely related form of mercury, methyl mercury - the type that comes from coal-fired power plants and is found in fish. They use that standard when estimating the safety of ethyl mercury.

Doctors and scientists debate the differences of the two forms in terms of how they affect the brain and body, but all agree: Both are toxins.

"Certainly it would be good to have no mercury exposure at all," said Jeanne Santoli, deputy director of immunization services division for the CDC. "But there's no conclusive scientific evidence that the amount of mercury one might get from a flu shot is linked with any neurological development outcome that's negative."

A typical 0.5 milliliter flu shot contains 25 micrograms - or 50,000 parts per billion - of mercury.

The EPA classifies a liquid with 200 parts per billion of mercury as hazardous waste. The limit for drinking water is 2 parts per billion.

Using the standards set for methyl mercury consumption - the kind that's in fish - an average 130-pound person getting the flu shot would exceed the daily limit by more than four times. A 22-pound baby would get more than 25 times the amount of mercury considered safe. And doctors are recommending that many babies and children get two flu shots this season.

A material safety data sheet from Eli Lilly and Co., which no longer makes a flu vaccine, says effects of exposure to thimerosal may include "fetal changes, decreased offspring survival and lung tissue changes. . . . Exposure in utero and in children may cause mild to severe mental retardation and mild to severe motor coordination impairment."

It does not state at what levels of exposure these consequences could occur.

The sheet is dated Dec. 22, 1999.

That same year, the Public Health Service agencies and American Academy of Pediatrics called for the reduction of thimerosal in all children's vaccines as a "precautionary measure." By 2001 it was eliminated from most vaccines, except for the flu shot. Converting to a preservative-free flu shot would take more time.

Effects uncertain

The CDC and National Institutes of Health have commissioned a number of studies looking at vaccine safety and any links vaccines might have with autism. In 2001 the Institute of Medicine reported that the evidence was inadequate to say whether thimerosal caused autism or other disorders. The issue warranted further investigation, the report stated.

Several other studies followed. In 2004, the Institute of Medicine reported that they couldn't find a causal relationship between thimerosal-containing vaccines and autism.

This September another study published in the New England Journal of Medicine was unable to prove a causal relationship between early exposure to thimerosal and neuropsychological outcomes in children ages 7 to 10. It did not address possible links with autism.

Amid all the uncertainty and considering that mercury is a known neurotoxin, several states, such as California, Illinois and New York, have banned thimerosal in vaccines - including the flu shot - given to young children and pregnant women.

Yet every day, in grocery stores, fast food restaurants, pharmacies, at work and elsewhere, people are bombarded with the message to "Shoo the flu" and repeatedly told "the best way to beat the flu is to get a flu shot."

Nothing is ever mentioned about thimerosal.

Nothing is ever said about the manufacturers' warnings for pregnant women.

In late October the American College of Obstetricians and Gynecologists reminded all pregnant women to get the flu shot.

"Flu vaccination is an essential part of prenatal care that provides protection to both women and their babies," the organization wrote in a press release.

Yet the country's largest maker of the flu vaccine, Sanofi Pasteur, in its own literature distributed in package inserts with the vaccine, specifically states:

"Animal reproduction studies have not been conducted with Influenza Virus Vaccine. It is also not known whether Influenza Virus Vaccine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Influenza Virus Vaccine should be given to a pregnant woman only if clearly needed."

The same warning appears on package inserts for vaccines that do not contain thimerosal.

Other flu vaccine makers include similar warnings in package inserts for both types of flu shots.

Novartis, maker of Fluzone, goes on to instruct that the "clinical judgment of the attending physician should prevail at all times in determining whether to administer the vaccine to a pregnant woman."

Yet physicians aren't present at most flu clinics. So, many, such as Aurora Health Care's Visiting Nurse Association, rely on information from the federal government and medical associations.

"The CDC recommends all pregnant women get them," said Lisa Taylor, a registered nurse and clinical coordinator for Aurora Health Care's Shoo the Flu program, which will vaccinate an estimated 90,000 people around southeastern Wisconsin this season.

The CDC cites one study supporting its claim that the vaccination is safe for pregnant women - a 1973 study designed primarily to look at tumors in children up to 1 year old whose mothers received a polio vaccination. It included a sentence stating that one child of more than 2,000 mothers vaccinated with the flu vaccine had a spinal cord tumor.

"It's ridiculous," said David Ayoub, a physician and medical director of Springfield, Ill.-based Prairie Collaborative for Immunization Safety, a group concerned about mercury in vaccinations. "It's a big, big deception.

"Half the kids could have died, but the study never would have shown that because they were specifically looking for tumors," said Ayoub, co-author of "Influenza Vaccination During Pregnancy: A Critical Assessment of the Recommendations of the Advisory Committee on Immunization Practices," published in the Journal of American Physicians and Surgeons in 2006.

Still the CDC defends the study, calling it "relevant" and says other studies also demonstrate the vaccine's safety during pregnancy.

"If there was any evidence that this is unsafe in pregnancy, it's likely the (CDC's advisory committee) would not be recommending it," said Anthony Fiore, a medical epidemiologist with the CDC. "It's a vaccine that's been given to pregnant women for decades."

Fiore also acknowledged that not enough is known about its safety.

"We would love to have better data on flu vaccine safety in all types of persons," he said.

Grass-roots groups, such as the North Carolina-based Moms Against Mercury, say it is just that lack of data that stokes their opposition to mercury-laden inoculations recommended for the masses.

"They are putting out a lot of false information about its safety," said Amy Carson, founder of the non-profit group.

Some thimerosal-free

Vaccine manufacturers such as Sanofi Pasteur, MedImmune and Novartis say they're ramping up production of thimerosal-free vaccines but don't have capacity to convert all the flu shots immediately.

"Our ultimate goal is to be entirely (preservative)-free," said Sanofi Pasteur spokeswoman Patricia Tomsy. "But it takes more time and effort to make single doses."

A thimerosal-free vaccine costs roughly \$3 to \$4 more per shot, Tomsy said.

The Wisconsin Department of Health and Human Services said about one third of its supply this flu season will be thimerosal-free. People need to ask for it, if they want it, health officials say.

But many people aren't aware that mercury is in the flu shot.

"I didn't know," said Kate Strzok, a 23-year-old Oak Creek woman, as she walked out of the Piggly Wiggly where she had just gotten the flu shot. "Interesting that they don't tell you."