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Mercury in vaccines raises wider concern

The possibility that preservative thimerosal causes autism worries lawmakers and parents.

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Like conscientious parents, Rita and Arnold Shreffler made sure their two children got all the recommended immunizations from birth to kindergarten.

Within 18 months to two years of getting their required shots — about 23 doses of vaccine — Andrew, and later Mary Kathryn, started having screaming fits and rages. They also developed obsessive-compulsive behavior.

Doctors eventually diagnosed the children's conditions as autism, a neurological disorder that affects the brain in the areas of reasoning, social interaction and communication.

Now the Shrefflers are convinced they unwittingly exposed their children to toxic levels of a mercury-based preservative in those vaccines. And when their bodies couldn't eliminate the mercury through waste — the way most people can — they believe it triggered neurodevelopmental problems.

The Nixa couple's work with other parents and medical experts has drawn them into a worldwide debate about the safety of a vaccine preservative: They side with researchers who believe mercury-based thimerosal causes autism and a range of developmental disorders.

"I think people should be angry about this," Rita Shreffler says.

The Shrefflers want manufacturers to stop adding thimerosal to vaccines. As part of that effort, they plan to attend a Missouri Senate hearing scheduled Wednesday at the Capitol on a proposal to ban vaccines with thimerosal in the state by 2006.

Ultimately, they want the government to research how to remove mercury from affected children.

On the opposite side of the issue: Health experts who say the link between thimerosal and autism is dubious. They warn against scaring parents away from immunizations.

"There are three reasons why longevity has gone from 40 years to 80 years: Clean water, good food and good vaccines," said Dr. Robert Belshe, director of the Division of Infectious Diseases and Immunology, Center for Vaccine Development at St. Louis University.

"...The benefits from those vaccines are enormous," he said. "And those benefits would disappear if we didn't use them."

But Rita Shreffler counters: "The parents I know who are involved with drawing attention to the devastating effects to children from mercury exposure through vaccines are not anti-vaccine, but are pro-vaccine safety.

"When several more mercury-containing vaccines were added to the prescribed schedule for infants and toddlers in the early 1990s, no one bothered to add up how many micrograms of

mercury these babies were being exposed to until 1999 — much too late for the millions who had already been grossly overexposed," Shreffler said. "Those unable to eliminate mercury from their bodies were damaged.

"A growing number of parents and scientists recognize that something went horribly wrong with this country's immunization program and that until this monumental medical blunder is owned up to and addressed by our federal regulatory agencies and the medical community, parent confidence in the vaccine program will continue to dwindle."

Belshe and public health experts tell parents rather than boycott these important immunizations, they should ask their doctors to obtain the thimerosal-free vaccines on the market.

Proposed state ban

The Institute of Medicine, the American Academy of Pediatrics and a host of other respected agencies staunchly maintain that the connection between thimerosal and autism is dubious.

They criticize research to the contrary, and say it's only coincidental that neurodevelopmental disorders surface by age 18 months to 2 years, after most immunizations are given.

Nevertheless, the AAP and U.S. Public Health Service asked vaccine makers in 1999 to reduce or eliminate thimerosal in vaccines, and some have done so. For that reason, the Centers for Disease Control don't consider mercury poisoning from vaccines much of a risk.

But watchdog groups report that older vaccine lots with thimerosal are still on clinic shelves and being used around the country.

Rep. Roy Holand, sponsor of Missouri's proposed thimerosal ban, said the two most common vaccines for diphtheria-tetanus-pertussis, or DTP, still contain thimerosal, but researchers are trying to develop alternative preservatives.

He said vaccine makers also plan to produce more non-thimerosal flu vaccine in single-dose vials this year.

If nothing else, getting rid of thimerosal makes financial sense to Gus Tomelleri, the Kansas City parent of two autistic boys who believes the mercury played a part in their condition.

"The state is forking out a lot of money for the treatment for my two sons," he said. "I think it is sort of unfair that taxpayers have to pay out all that money, when it could be the responsibility of the vaccine companies."

Compromise on flu shots

Although cautious, former Springfield-Greene County Health Department Director Harold Bengsch said he's OK with the bill after Holand said the legislation could allow for health officials to use thimerosal-added vaccines to prevent a disease outbreak, such as influenza.

Without that clarification, he and other health officials worried the next flu outbreak would kill even more than the 50,000 who die in an average year.

Ivah Scott, director of the Cole County Health Department in Jefferson City, worries any limits threaten the state's flu vaccine program and all the at-risk children and older adults who need the protection.

Other than the nasal spray FluMist, there is no flu vaccine without trace amounts of thimerosal, Scott said. FluMist is given only to people ages 6 through 49.

Vaccine makers add thimerosal to multidose vials so they can be stored and reopened as needed. It's not necessary in single-dose vials, but manufacturers say it would be too expensive to put everything in single-dose vials.

And health officials say single-dose vials would take longer to dispense to the throngs of people who line up for the shots: The inefficiency would discourage people from waiting for their injection, public health directors say.

Link to autism?

No one disputes that mercury, a heavy metal, is one of the most toxic substances known to humans. It affects the nervous system, and has been shown to permanently damage the brain and kidneys, and may cause cancer. It also damages the stomach, lungs and large intestine, research shows.

Mercury was once used in many common household products, and thimerosal has been used as a preservative or sterilizing agent for vaccines since the 1930s. In 1982, a panel of the Food and Drug Administration concluded that thimerosal was unsafe, but it was 1998 before the FDA required it to be removed from over-the-counter products. It is still used in dental amalgam, or fillings.

The arguments for and against thimerosal are dizzying: There's debate over how each camp conducts and interprets research. They debate whether ethyl mercury used in thimerosal is as dangerous as methyl mercury — a known neurotoxin that accumulates in body tissues. The Environmental Protection Agency has guidelines for exposure to methyl mercury, but not ethyl mercury; officials say it leaves tissues within about a week.

Parent groups and some researchers disagree, saying the ethyl mercury can have toxic effects in the first hour after injection, and accumulates in children whose bodies can't eliminate it.

Another argument: Some scientists say cases of autism have grown from one case in 10,000 children to one in 200 as health officials added more mandatory vaccines.

Belshe disagrees, saying doctors diagnose more cases because they know what to look for, and because science has broadened the definition of autistic behaviors.

But Dr. Mark Geier, a Maryland geneticist, told a 2002 federal congressional hearing that his research showed autism and mental retardation were about six times more likely, and speech disorders were twice as likely, in children who received DTP vaccine with the thimerosal preservative over those who got thimerosal-free vaccines.

"Realistically, these children are receiving large doses of mercury at intervals that far exceed all the federal agency guidelines," Geier said. "I think there's a very good chance thimerosal contributes to or causes autism in about 40 percent of children who are autistic."

Dr. David Baskin, a professor of neurosurgery at Baylor College of Medicine, Houston, told the congressional hearing, "There is no debate that this is a toxin that causes brain injury and it's found in association with very low doses of mercury and neurodevelopmental disorders just like autism."

He concluded: "The argument with thimerosal is not an anti-vaccine argument. Vaccines are wonderful. They're here to stay. They save lives. The argument is you don't need to put a toxic poison in them to deliver them."

The CDC, however, relies on independent research that shows no link between thimerosal and disorders like autism. Public health experts like Kansas City Health Department Director Bert Malone fall in behind the CDC. He testified against Holand's House Bill 852 at a Feb. 4 hearing at the Capitol.

"If we had the belief, or if there were a scientific, causal relationship between ethyl mercury and neurodevelopmental disorders, we would be the first to ... prohibit the use of thimerosal in vaccine. Until that point, we know the vaccine needs a preservative and this is the best we can do," Malone said. "I find it hard to believe the CDC would put their heads in the sand about this or deny when there is scientific evidence."

'What is ... the truth?'

However, the Shrefflers said CDC researchers acknowledged an increased risk for autism among infants due to higher thimerosal exposure in a confidential report obtained through the Freedom of Information Act.

The CDC also keeps a public database, the Vaccine Adverse Events Reporting System, which tracks "hot lots." Those are numbered vaccine supplies that doctors later reported were connected to adverse reactions, including death. Some lots were attributed to eight and 10 deaths, Arnold Shreffler said.

The Shrefflers were angry, but not surprised, to discover both of their children had received several vaccines from so-called "hot lots."

Nixa parent Shelley Hume discovered that her son, Sean, had also received vaccines from "hot lots" in his early months. He was barely 5 weeks old when he experienced a spate of seizures and developmental problems.

Hume sought every kind of therapy available to build his skills. At age 11 and diagnosed with autism, Sean can walk but doesn't talk.

On a recent sunny day, Hume took her son to a playground. He can't use the regular swings, and it's the first year Hume can't lift him into the baby swing.

"That's the kind of thing that's crushing," Hume said. "It's never going to be OK. ... And I can't help but think, 'This didn't have to happen.' You never get used to that."

Hume, like the Shrefflers and Gus Tomelleri, takes some comfort in the 1999 recommendation to reduce or remove thimerosal from vaccines.

They remain alarmed about reports that vaccines presented as thimerosal-free are still packaged with fliers listing thimerosal as an ingredient. Vaccine makers explain that packaging hasn't caught up with production.

Springfield Rep. Holand considers the lingering debate over thimerosal and asks, "What is really the truth?"

He adds, "This is one of the reasons why I filed the bill. There is no issue if, indeed, there is no mercury."

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Web Note: This article may be viewed at:

<http://springfield.news-leader.com/health/thisweek/0330-Mercuryinv-50462.html>