



Vaccine Myths

Public health officials are now battling not only a fast-spreading influenza virus but also unfounded fears about the vaccine that can prevent it.

The good news is that for the first time in more than 50 years we've made a vaccine against a pandemic strain of influenza before the onset of winter, when lower temperatures and humidity allow the virus to spread more easily. Distributing this vaccine to those who need it most — pregnant women, health care workers, children older than six months and people with compromised immunity — will be difficult enough. But the task is made harder by the various myths, spread on TV talk shows and Web sites, suggesting that Americans have more to fear from the vaccine than from the deadly disease it prevents. Here are some of those myths, and why they're wrong:

Myth #1 - SWINE FLU VACCINE IS UNSAFE

The H1N1 virus revealed itself too late for it to be included in this year's seasonal flu vaccine. But the H1N1-specific vaccine was manufactured in the same way as the regular vaccine: The shot form is made by growing the virus in hen's eggs, purifying it and then treating it with a chemical that inactivates it. This technology has been used to make influenza vaccines for 60 years, and it has an excellent safety record. The nasal spray form is made by adapting the virus to temperatures below those typically found in the body. This allows it to reproduce in the relatively cool lining of the nose, but not in the lungs where it could cause harm. This technology has been used safely for more than 30 years. FluMist, a seasonal flu vaccine used since 2003, is made the same way.

Myth #2 - THE VACCINE IS UNTESTED

The H1N1 vaccine has already been given to thousands of volunteers to determine whether it could protect them from the virus and to make sure that it caused no adverse reactions. Only then did the Food and Drug Administration license it.

Myth #3 - THE VACCINE CONTAINS A DANGEROUS ADJUVANT

Some vaccines, like the hepatitis B and human papillomavirus vaccines, have substances called adjuvants, which are added to enhance the immune response, so that smaller quantities of vaccine can be given. Some people fear that the H1N1 vaccine contains, in particular, squalene, an adjuvant that, while included in other vaccines in Europe and Canada, has never been used in routine vaccines in the United States. **But the H1N1 vaccine available in the United States has no adjuvant of any kind.**

Myth #4 - THE VACCINE HAS A DANGEROUS PRESERVATIVE

According to the CDC, the 2009 novel H1N1 influenza vaccines that FDA is licensing will be manufactured in several formulations. Some will come in multi-dose vials and will contain thimerosal as a preservative. Multi-dose vials of seasonal influenza vaccine also contain thimerosal to prevent potential contamination after the vial is opened.

Some vaccine manufacturers will be producing novel H1N1 influenza vaccine in single-dose units, which will not require the use of thimerosal as a preservative. In addition, the live-attenuated version of the vaccine, which is administered intranasally (through the nose), is produced in single-units and will not contain thimerosal.

Thimerosal is an important preservative that protects vaccines against potential microbial contamination, which may occur in opened multi-dose vials of vaccine. Such contamination could cause serious illness or death. Since seasonal influenza vaccine is produced in large quantities for annual immunization campaigns, some of the vaccine is produced in multi-dose vials, and contains thimerosal to safeguard against possible contamination of the vial once it is opened.

Three leading federal agencies (CDC, FDA, and NIH) have reviewed the published research on thimerosal and found it to be a safe product to use in vaccines. Three independent organizations (The National Academy of Sciences' Institute of Medicine (IOM), the Advisory Committee on Immunization Practices (ACIP), and the American Academy of Pediatrics (AAP)) reviewed the published research and also found thimerosal to be a safe product to use in vaccines.

Nonetheless, the presence of the preservative thimerosal in vaccines and suggestions of a relationship to autism has raised concerns. Since 2001, no new vaccine licensed by FDA for use in

children has contained thimerosal as a preservative. All vaccines routinely recommended by CDC for children under six years of age have been thimerosal-free, or contain only trace amounts, except for some formulations of influenza vaccine. Yet, we have not seen reductions in the numbers of children diagnosed with autism, indicating that the cause of autism is not related to thimerosal.

As pointed out by one pediatrician, Ari Brown, MD, FAAP, “a tuna sandwich has FIVE TIMES more mercury than one dose of flu vaccine.”¹

H1N1 influenza vaccine is expected to have a similar safety profile to seasonal flu vaccines, which have a very good safety track record. Data from novel H1N1 trials among children are not available yet.

Excerpted paragraphs from Paul A. Offit, the chief of the infectious diseases division of the Children’s Hospital of Philadelphia, “Nothing to Fear but the Flu Itself” New York Times article:

http://www.nytimes.com/2009/10/12/opinion/12offit.html?_r=4&scp=1&sq=Nothing%20to%20Fear%20but%20the%20Flu%20Itself%20&st=cse.

1 - Dr. Ari Brown received her medical degree from Baylor College of Medicine in Houston, Texas; she did her pediatric residency at Harvard Medical School/Boston Children’s Hospital. Quote excerpted from:

<http://www.immunize.org/catg.d/p2068.pdf>.