



**M Y T H B U S T E R S / F A Q S**

**MYTH BUSTERS**

**MYTH: Immunizations are no longer needed. Diseases that vaccines prevent are gone.**

**FACT:** Many diseases still exist in the United States and other countries (measles, mumps, rubella, varicella, pertussis, tetanus, *Haemophilus influenzae* type b, polio, pneumococcal disease, rotavirus, hepatitis B and A).<sup>1,3</sup> Many of these diseases would have a much higher incidence if we did not vaccinate against them.

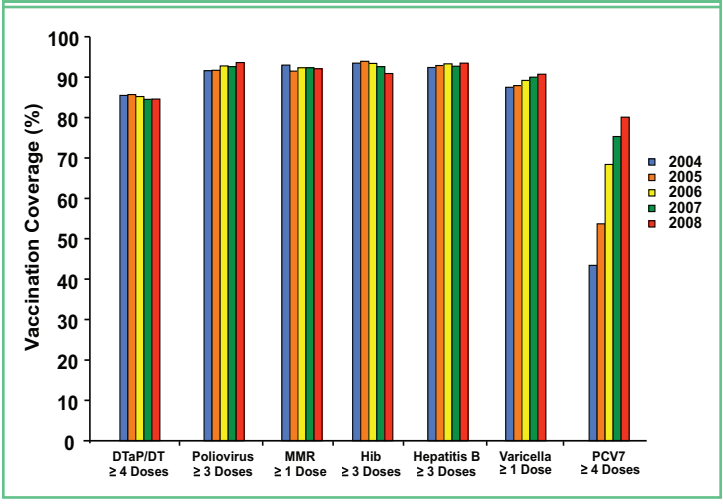
**MYTH: Vaccines cause autism.**

**FACT:** This is a harmful urban legend circulating in our society. Evidence from multiple studies examining trends in vaccine use and changes in autism frequency disproves such an association.<sup>4,7</sup> Very few vaccines have thimerosal in them anymore.

**MYTH: A large proportion of children are not being immunized.**

**FACT:** Surveys of childhood vaccination rates consistently show high rates of immunization with no significant downward trends in recent years.<sup>8</sup> (see figure below)

**Vaccination Coverage Children 19 to 35 Months, United States, N = 18,4308**



**MYTH: It is dangerous to have so many vaccines at the same time.**

**FACT:** No evidence suggests that the recommended childhood vaccines can "overload" the immune system.<sup>9-10</sup> From the moment babies are born, they are exposed to numerous bacteria and viruses on a daily basis. Eating food introduces new bacteria into the body; numerous bacteria live in the mouth and nose; and an infant places his or her hands or other objects in his or her mouth hundreds of times every hour, exposing the immune system to still more antigens.

**MYTH: Because of the cost of vaccines, they are not available to the general public.**

**FACT:** Vaccines are available to those without funds for vaccines. In addition to insurance coverage, the federal Vaccine for Children Program (VFC) is available for children under 19 years of age.<sup>11-12</sup>

**MYTH: Vaccines should not be administered when a patient has a minor illness.**

**FACT:** Minor illnesses are rarely a contraindication to vaccine administration. Many "lost opportunities" for vaccination are due to this misconception. True contraindications to vaccines are available online through the CDC at: <http://www.cdc.gov/vaccines/recs/vacadmin/contraindications.htm> and the Immunization Action Coalition at: <http://www.immunize.org/catg.d/p3072a.pdf>.<sup>13-14</sup>

**MYTH: I don't remember if I have ever had a pneumococcal vaccination, so it isn't safe for me to get vaccinated.**

**FACT:** Pneumococcal vaccination with pneumococcal polysaccharide vaccine (PPSV23) should not be withheld from patients for whom the vaccine is recommended even if their prior vaccination history is unknown. A single dose of PPSV23 is recommended for all adults ≥ 65 years, those aged 2 to 64 years at high risk for pneumococcal disease, and asthmatics and smokers aged 19 to 64 years.<sup>15-16</sup>

One-time revaccination after 5 years is recommended for persons at high risk. For individuals ≥ 65 years, one-time revaccination is recommended if the initial vaccination was ≥ 5 years previously and they were < 65 years at the time of primary vaccination.

**MYTH: My 65-year-old patient reports that he had shingles in the past, so he does not need the shingles vaccine.**

**FACT:** A single dose of the shingles vaccine is recommended for adults 60 years and older regardless of whether they report that they have had shingles in the past.<sup>15</sup>

**MYTH: Pertussis (whooping cough) only affects children.**

**FACT:** In 2007, about 1/3 of pertussis cases occurred in adults. Furthermore, young infants who develop severe pertussis often catch it from an adult. Vaccination of adults against pertussis (eg, with Tdap) can help to protect them and their household contacts.<sup>2</sup>

**MYTH: Women who have received the human papillomavirus (HPV) vaccine don't need to have periodic screening for cervical cancer.**

**FACT:** Two HPV vaccine strains (types 16 and 18) cause about 70% of cervical cancers. HPV vaccines do not protect against all types of HPV that can cause cervical cancer, so vaccinated women should continue to receive periodic cervical cancer screening.<sup>17-18</sup>



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**MYTH: HPV vaccine will make my daughter more promiscuous.**

**FACT:** Prevention does not cause risky sexual behavior. A vaccine to prevent cervical cancer will not cause promiscuity any more than an umbrella will cause rain or a seat belt will cause an accident. The vaccine does not protect against all strains of HPV or the many other sexually-transmitted diseases.<sup>17-18</sup>

**MYTH: The H1N1 vaccine is a new, experimental vaccine.**

**FACT:** The H1N1 vaccine was produced using the same production method as seasonal flu vaccine.<sup>19-20</sup> The FDA has indicated that the H1N1 vaccine was not experimental. The antigens in the seasonal flu vaccine change each year but the manufacturing process and vaccine components, other than the antigens, do not change. If the H1N1 antigen had been added as one of the three antigens in the seasonal vaccine product (rather than being produced as a single antigen product) these concerns would not have surfaced.

**MYTH: The effectiveness of the H1N1 vaccine is questionable.**

**FACT:** The variable that determines the effectiveness of the flu vaccine each year is how well the antigens are matched to the virus strains that circulate. With the H1N1 vaccine, it is a perfect match and the effectiveness of the vaccine will be about as high as a flu vaccine can get.<sup>19-20</sup>

**MYTH: I don't want to get the flu from a flu shot.**

**FACT:** You can't get the "flu" from an inactivated injectable influenza vaccine. Inactivated influenza virus vaccines are made from inactivated virus particles, not live viruses.<sup>2</sup> Mild reactions to inactivated injectable influenza vaccines may include pain, redness or swelling at the injection site, headache, myalgia, fatigue, or low-grade fever. These reactions are a natural host response to the vaccine viral antigens and not the flu.

**MYTH: Vaccine companies reap in huge profits on vaccine products.**

**FACT:** There are very few companies left that continue to make vaccines. Vaccines are not as profitable as many other pharmaceutical products. Half of child vaccines are purchased through the Vaccine for Children Program, which are bought at fixed, relatively low, government rates.<sup>12</sup> Most vaccine experts are grateful that the few remaining companies that produce vaccines continue to do so.

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## FREQUENTLY ASKED QUESTIONS

**QUESTION: What are the current trends for vaccination coverage in adults?**

**ANSWER:** Vaccination rates for adults are too low. In 2008, only<sup>21</sup>:

- 52% of eligible adults 19 to 64 years had received the Tdap vaccine since 2005
- 7% of adults 60 years and older had received the shingles vaccine
- 11% of women 18 to 26 years had received the HPV vaccine
- 67% of the elderly had received an influenza vaccination
- 60% of the elderly reported having ever received a pneumococcal vaccination

**QUESTION: What are the important factors influencing a patient's decision to have a vaccine?**

**ANSWER:** Among the most important factors influencing whether or not patients have received a vaccination is their health care provider's recommendation.<sup>22</sup> If health care providers recommend vaccinations to their adult patients, their patients are much more likely to be vaccinated. What the health care provider says makes a big difference to their patients.

**QUESTION: Why are people concerned about vaccine safety?**

**ANSWER:** Sometimes patients have misunderstandings about the safety of vaccines, and fear of side effects can contribute to low vaccination rates. The fact of the matter is that current vaccines are very safe and effective. Furthermore, there is constant monitoring of vaccine safety at a national level through the Vaccine Adverse Events Reporting System (VAERS) and through several programs sponsored by the Centers for Disease Control and Prevention such as the Vaccine Safety Datalink (VSD) project.<sup>23</sup> Information is available online at: [http://www.cdc.gov/vaccinesafety/Vaccine\\_Monitoring/Index.html](http://www.cdc.gov/vaccinesafety/Vaccine_Monitoring/Index.html). Health care providers should reassure their patients about the safety of currently available vaccines.



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**QUESTION: Is it OK to have more than 1 vaccine on the same day?**

**ANSWER:** In general, there are no contraindications to simultaneous administration of routinely recommended vaccines.<sup>13-16</sup> Simultaneous administration is a convenient way to take advantage of opportunities to immunize patients. And the data exist that simultaneous vaccine administration is safe and effective. However, there are exceptions. For example, 2 live attenuated intranasal influenza vaccines (seasonal and H1N1) should not be given on the same day. In addition, recent data suggest that simultaneous administration of the shingles vaccine and the pneumococcal polysaccharide vaccine may result in somewhat lower immunogenicity of the shingle vaccine. Simultaneous administration of the shingles vaccine with inactivated influenza virus vaccine has not been associated with lower levels of antibody response.

**QUESTION: Should health care workers get vaccinated?**

**ANSWER:** Health care workers should “model what they preach” and make sure that they are up to date on their immunizations. Immunizations that are recommended for health care providers include<sup>24</sup>:

- Annual influenza vaccination
- Hepatitis B vaccination
- MMR vaccine for health care workers not already immune
- Td every 10 years (Tdap replacing single dose of Td for those health care workers who have not previously received Tdap)
- Varicella (chickenpox) vaccine for health care workers not already immune

**QUESTION: Why is the quadrivalent HPV vaccine (HPV4) not recommended for boys/men?**

**ANSWER:** HPV4 is now licensed for males but is not recommended for routine use by the Advisory Committee on Immunization Practices (ACIP).<sup>25-26</sup> Instead it has been given a

permissive recommendation (cost effectiveness and the relatively minor morbidity caused by genital warts factored into this decision). If evidence of HPV4 effectiveness against HPV-related cancers in males is accumulated, the ACIP is likely to reconsider this recommendation.

**QUESTION: Wouldn't vaccinating males with HPV4 prevent HPV infections in females?**

**ANSWER:** While this is true, much larger gain in female HPV-related morbidity would be gained by vaccinating a higher percentage of women.<sup>25</sup> As the number of women vaccinated increases, the benefit to women, and cost benefit, from vaccinating men decreases.

**QUESTION: If the use of a combination vaccine product results in the administration of an additional dose of a certain antigen, is there any harm?**

**ANSWER:** There is no known harm from an additional dose of any antigens, except perhaps those in PPSV23, which are not present in combination vaccines.<sup>10</sup>

**QUESTION: Since the manufacturers of and those who administer an H1N1 vaccine are protected from liability, do patients who experience an adverse reaction to an H1N1 vaccine have any recourse?**

**ANSWER:** Anyone who suffers a serious adverse reaction to an H1N1 vaccine will be compensated by a system similar to that which is in place for children, the vaccine injury compensation system.<sup>27-28</sup> Information about the National Vaccine Injury Compensation Program and the Countermeasures Injury Program are available online at:

<http://www.hrsa.gov/vaccinecompensation/> and  
<http://www.hrsa.gov/countermeasurescomp/>.

**ADDITIONAL RESOURCES**

Immunization Schedules  
[www.cdc.gov/vaccines/recs/schedules/](http://www.cdc.gov/vaccines/recs/schedules/)

ACIP Recommendations & Provisional Recommendations  
[www.cdc.gov/vaccines/pubs/ACIP-list.htm](http://www.cdc.gov/vaccines/pubs/ACIP-list.htm)  
[www.cdc.gov/vaccines/recs/provisional/default.htm](http://www.cdc.gov/vaccines/recs/provisional/default.htm)

The Guide to Community Preventive Services. Vaccinations for Preventable Diseases  
[www.thecommunityguide.org/vaccines/index.html](http://www.thecommunityguide.org/vaccines/index.html)

Assessment, Feedback, Incentives, and Exchange (AFIX)  
[www.cdc.gov/vaccines/programs/afix/default.htm](http://www.cdc.gov/vaccines/programs/afix/default.htm)

National Foundation for Infectious Diseases  
[www.nfid.org](http://www.nfid.org)

Centers for Medicare & Medicaid Services  
[www.cms.hhs.gov](http://www.cms.hhs.gov)

Vaccines & Immunizations. Guide to Evaluating Information on the Web.  
[www.cdc.gov/vaccines/vac-gen/evalwebs.htm](http://www.cdc.gov/vaccines/vac-gen/evalwebs.htm)

Vaccine Information Statements (VISs)  
<http://www.cdc.gov/vaccines/pubs/vis/default.htm>

Vaccine Safety  
[www.cdc.gov/Features/VaccineSafety](http://www.cdc.gov/Features/VaccineSafety)

National Network for Immunization Information (NNii)  
[www.immunizationinfo.org](http://www.immunizationinfo.org)



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Vaccines and Immunizations  
[www.cdc.gov/vaccines](http://www.cdc.gov/vaccines)

Immunization Action Coalition (IAC)  
[www.immunize.org](http://www.immunize.org)

Vaccine Education Center at the Children's Hospital of Philadelphia  
[www.vaccine.chop.edu](http://www.vaccine.chop.edu)

Texas Children's Hospital Center for Vaccine Awareness and Research  
[www.texaschildrens.org/carecenters/vaccine/default.aspx](http://www.texaschildrens.org/carecenters/vaccine/default.aspx)

The Childhood Influenza Immunization Coalition (CIIC)  
[www.PreventChildhoodInfluenza.org](http://www.PreventChildhoodInfluenza.org)

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