

Vaccine Safety: The Facts.

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In our current day and age of Twitter, Google, Blogs and other instant access to information and personal opinion it can be very difficult to separate out the true facts. Many opinion websites or articles operating under the First Amendment can look very similar to official websites or articles with proven facts.

One area where this information overload can be particularly confusing is on the topic of vaccinations. Physicians of all disciplines strive to educate and inform on a daily basis regarding health and well-being including the use of vaccinations. Dr. Archana Chatterjee, M.D., Ph.D. Professor and Chair Department of Pediatrics and Senior Associate Dean for Faculty Development of the University of South Dakota Sanford School of Medicine states, “Immunizations are an essential aspect of preventative healthcare for children and adults. It is important that the public trust in immunization programs be sustained in order to maintain the gains achieved against vaccine-preventable diseases in the past century. All stakeholders including patients, caregivers, healthcare providers, the scientific community and public health authorities need to ensure that rigorously researched scientific information on the issue of vaccine safety is accurately collected and appropriately disseminated.”

MYTH: VACCINES ARE ASSOCIATED WITH AUTISM

A major concern for parents is the previously-held theory that vaccines were associated with autism. The controversy was sparked by a 1998 article in the British journal Lancet stating that there may be a link between autism and the MMR vaccine in a study of 12 children. Within a few years after publication, 10 of the 12 authors asked to “formally retract the interpretation” of their report from the article noting “no causal link was established between MMR vaccine and autism as the data were insufficient”. In 2010 the article was retracted by Lancet, finding that sound research procedure was not followed and the researchers were guilty of fraud as they chose only the patients that proved their theory. It was additionally found that they received money from lawyers attempting to sue medical entities for vaccine concerns. Since the original publication of the erroneous article, multiple, scientifically sound studies have been performed in an attempt to find a link between vaccines and autism, and none have been able to prove that such an association exists.

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Another theory regarding the cause of autism is its purported association with thimerosal (a preservative historically added to keep certain vaccines safe, which contains ethyl mercury). Despite the lack of evidence that there was any association between thimerosal and autism, the American Academy of Pediatrics, the United States Public Health Services and the



TO VIEW THE CDC VACCINE SCHEDULE VISIT:
www.cdc.gov/vaccines/schedules

Food and Drug Administration took precautionary measures and advised the removal of mercury from all childhood vaccines in 1999. Since 2001, the only vaccines that still contain even trace amounts of mercury are the multi-dose vials of influenza vaccines (most are given preservative free in a single dose syringe). A little known fact is that the MMR vaccine never has contained thimerosal or any other form of mercury.

It is also interesting to review the studies that have been completed after the removal of thimerosal as a preservative. One such study was in California (and the findings were confirmed in separate studies in Denmark and Sweden) that found the rates of autism increased dramatically after the removal of all thimerosal. This increase is attributed to the increased awareness, diagnosis and treatment of autism spectrum disorders (pervasive developmental disorders).

MYTH: GIVING MULTIPLE VACCINES AT ONCE IS DANGEROUS

Another concern frequently expressed is the number of immunizations given at one time. Part of the reason behind multiple vaccines is that the human body is complex and recognizes different particles in very different ways. Some are identified by the white blood cells directly and others use carrier proteins to evoke an immune response as an example. Each preventable disease is unique in its pathway to immunity therefore vaccines go through multiple research steps to determine what presentation is needed to make the vaccine effective and safe. Researchers are currently working on ways to produce vaccines that can combine the different methods into fewer effective and safe vaccines in order to decrease the

number of immunizations. Examples of combination vaccines formed thus far are MMR (measles, mumps, rubella), DTaP (Diphtheria, tetanus, pertussis), Pediarix® (Diphtheria, tetanus, pertussis, polio, hepatitis B), and Pentacel® (Diphtheria, tetanus, pertussis, polio, and *Hamophilus influenzae b*).

The same concern also involves the number of items (antigens) that are over time given with the vaccines. The number of immunizations given is carefully studied to balance the number of vaccines needed to reach the maximum number of protected children. The safety of multiple immunizations/antigen exposure at one time is studied in detail for each vaccine as well as combination of vaccines and no increased risk of autism or side effects has been found.

VACCINES PREVENT DISEASE AND SAVE LIVES

Vaccines have been responsible for the eradication of deadly diseases such as smallpox and nearly complete eradication of polio and *Hamophilus influenzae type b*. Vaccination programs have significantly decreased the life-threatening effects of measles, mumps, rubella, whooping cough, diphtheria, tetanus, hepatitis A and B, chicken pox, influenza, pneumonia due to pneumococcus, meningitis due to *Nesseria*, human papilloma virus, and rotavirus with countless other less common diseases also having safe and effective vaccines. According to Dr. Lon Kightlinger, MSPH, PhD, state epidemiologist for South Dakota Department of Health,

“Immunizations are among the most important and most reliable means of protecting the public’s health. Immunizations are effective and safe. They prevent disease and save lives. One only needs to look historically to see that.”

To learn more factual information regarding vaccines, it is best to speak with your child’s primary care provider or go to the Centers for Disease Control and Prevention, American Academy of Pediatrics or World Health Organization websites.

**For more information,
or to set up an appointment
for your child, please call:**
Yankton Medical Clinic at 605-665-7841
or Vermillion Medical Clinic at
605-624-8643.