

Pediatrician discusses the importance of vaccines

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With vaccinations a major topic of continuing interest in mainstream news, we asked Dr. Jody Terranova, a pediatrician and assistant professor of pediatrics at UConn Health, to provide some insight, exploring several different angles of the ongoing discussions.

What is the importance of being vaccinated?

Vaccines save lives. Immunizations protect against diseases that cause significant illness and death. They protect not only the individual receiving the vaccine but they also provide indirect protection to those around them through herd immunity. BY this I mean that individuals who are too young to receive vaccines or have a medical contraindication and can't receive the vaccine themselves rely on others to stay healthy and keep diseases out of the community.

Are vaccines safe?

Yes, vaccines are safe. Vaccines are regulated by the FDA and go through rigorous testing and [clinical trials](#) prior to approval, and continue to be monitored throughout their use. As with any food or medication, there is always the potential for [side effects](#) or allergic reactions, but the number of reactions is extremely low, especially when one thinks of other commonly used products like acetaminophen or highly allergenic foods like peanuts.

Is there a link between the ongoing debates that have led to children not being vaccinated and the re-emergence of diseases that were once eradicated?

In recent years, we have been seeing localized outbreaks of diseases that we were close to eradicating in the United States. Measles is the one commonly featured in the media most recently, but we have also seen outbreaks of pertussis (whooping cough) and varicella (chickenpox). The clusters of outbreaks can be clearly linked to clusters of unvaccinated populations. Multiple studies by major institutions around the country have looked at outbreaks and unvaccinated populations. Low herd immunity in an under-vaccinated population allows diseases to spread

through that community, and also spread outside of that community. Some of the recent debates across the country have been about how to improve vaccination rates so that they are at the level required for [herd immunity](#) (95% for measles) to prevent a disease from spreading throughout a community. Allowing only medical exemptions is one way to do that. Or in other words, not allowing exemptions for personal, philosophical, or religious reasons for children attending public schools. This approach is supported by the professional societies of pediatrics, family medicine, internal medicine, infectious disease, and others.

Can people build up an immunity to the diseases so they can forgo vaccinations?

In general, no. Having a strong immune system may lessen the severity of an illness but it will not prevent someone from getting it in the first place. If someone had naturally occurring disease—for example, most adults over 35 had chickenpox as a child—their immune system developed antibodies while they were ill, and they will not contract chickenpox now if exposed. But that only protects them from catching chickenpox, and does not protect them against any other diseases.

There are some who believe that breastfeeding should protect their children from diseases, and nothing more is necessary. Is this true?

Breastfeeding alone is not sufficient to protect infants from [vaccine-preventable diseases](#). While breastfeeding provides some short-term protection from diseases that the mother herself is immune to by transmitting antibodies to the baby, this is short-lasting and does not provide long-term immunity. To be technical, it provides passive immunity, a type that wears off usually within months, while vaccines provide active immunity that last years or even a lifetime.

Is there a relationship between getting vaccinated and developing autism?

No. While we are still researching the causes of autism, one thing the scientific community is certain of is that vaccines do not cause autism. Researchers across the world have spent millions of hours and millions of dollars to reaffirm that there is no connection between vaccines and autism. The proclaimed link between vaccines and autism was a false and fraudulent claim that has since been retracted, and the physician who made that connection has been barred from practicing medicine.

Are there side effects to watch for when children are vaccinated?

Each time a child receives a vaccine, the parent should receive a Vaccine Information Statement that outlines which vaccine they are receiving, the disease it prevents, the number and timing of vaccines in the series, any contraindications to receiving the vaccine, and the possible side effects of the vaccine. With most vaccines, mild side effects such as swelling, redness or pain at the injection site are the most common. Moderate side effects, such as fever, are less common but do occur with some types of vaccines. Serious side effects, such as an allergic reaction or seizure, are rare but can occur.

What are the pitfalls of not being vaccinated?

For the individual, the risk of disease and its complications. For the public as a whole, the risk of outbreaks and the return of diseases that we have been close to eradicating.

How do you educate people on the facts regarding

immunizations?

First you have to listen to their concerns. Parents really want to do what's best for their children, but sometimes they perceive the risk of a [vaccine](#) side effect as being higher than the risk of the disease. The medical community has plenty of reliable resources that can be shared that address some of the most common concerns and misperceptions that have spread over the years. Continued [open dialogue](#) and building a relationship of trust between the family and the healthcare provider are essential.

Do you have anything else to add on vaccinations?

Vaccines have been proclaimed to be one of the greatest achievements of modern medicine. In the past 25 years, almost 1 million lives have been saved in the United States, thanks to vaccines. But they can also be said to be the victim of their own success, since the diseases they prevent have never been seen by many of today's parents or physicians. Vaccines are important not only for individual health, but also for population health. We need to remember that the recommendation to vaccinate is not only to protect the individual, but to protect the most vulnerable among us—babies, those with compromised immune systems, and children and adults who cannot be vaccinated or for whom vaccines don't work.

Provided by University of Connecticut

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