

## General questions

**A child developed a rash diagnosed as viral rash by pediatrician within 24 hours of routine 4-month vaccines with Pentacel, Vaxneuvance 15, Rotateq and hepatitis b. The rash self-resolved within about a week. The parent is now hesitant about 6-month vaccines and concerned about an allergic reaction, etc. She is wanting to space vaccines. She is very concerned that the rash was from the vaccines or that the baby will have a severe reaction next time. Thoughts and counseling recommendations please?**

**Thank you!**

As you are likely aware, this group of vaccines is not generally associated with development of rash as a side effect, and many of the components protect against bacteria instead of viruses. As such, the rash was more likely coincidental than causal; however, the parent's hesitance is understandable. You may talk to them about the low chance that the vaccines were the culprit but offer extra understanding and support during the next round of vaccinations. For example, discuss the fact that severe allergic reactions will occur within the first few minutes after vaccination and offer for the parent to plan to stay at the office for 30 minutes after the vaccines are administered. Likewise, have the parent check in or have a staff member contact the family the next day, so that they can get any questions answered or report any concerns.

Even though the risk of a repeat rash is low, this approach can go a long way in helping the family be more comfortable about vaccines not just at the 6-month visit, but during future vaccine visits as well.

Another issue to consider is that children get vaccines in the pediatrician's office, where they might be exposed to other children with viral infections. It is, therefore, not unusual for children to develop a viral illness (presenting as a rash) within a few days of visiting the doctor.

## **Where can I obtain the slides for this presentation?**

The slides are available in the "resources" section of the console when you watch the event or on the webinar archive page of our site, <https://www.chop.edu/pages/vaccine-webinar-archive>.

## Coronavirus-related questions

**How do you address a person who says, "I have seen too many problems after vaccination. I couldn't be paid enough to get a COVID-19 vaccine." I have immunized thousands of people and have not seen any serious complications from vaccine.**

Most people fall into one of two groups. Those who are against vaccination and often have conspiratorial theories related to the vaccines, and those who are simply hesitant. The latter group will be more easily convinced than the former, but even if someone appears to be in the first category, sometimes it is difficult to tell. As such, you might start by asking more about their concerns and then addressing their concerns with evidence and your own experience. If someone will not listen to the evidence, they are unlikely to change their position, but in either case, leave the door open for future questions. In our experience if you can answer people's questions, most of them will be open to considering vaccination.

### **How soon after a COVID-19 infection can one get their missed booster dose?**

As a general rule, people should wait a few months after an infection to get a primary or booster dose of COVID-19 vaccine. This allows time for antibodies levels in the bloodstream to decrease, so they don't interfere with the response to the vaccine. The CDC's recommendation is to wait at least 3 months.

### **But aren't you relying on the Chinese to give you the evidence?**

The data related to the origins of SARS-CoV-2 virus come from numerous sources, not simply the Chinese government. First, we have hundreds of years of experience and evidence of viruses jumping from animals to people, but no instances of a man-made pandemic. Second, even if we look specifically at the COVID-19 data, several lines of evidence are available — despite Chinese officials trying to deny the virus began in their country:

1. Photos showing raccoon dogs, the type of animal that is hypothesized to have played a role in this spillover event, were taken by a customer at the market in early December of 2019. These photos were almost immediately deleted.
2. Two of the first three cases identified were in people with direct contact with that section of the market.
3. While sample testing of the market was indeed done by the Chinese government — they found the virus in those samples from the market, but again, they hid those data from the world for many months. The data were only found after being accidentally posted online and quickly removed, but not before U.S. and Australian scientists found the data and reviewed it.
4. Two types of SARS-CoV-2 virus were actually circulating in China early during the pandemic, which is much more indicative of an animal-human spillover event than one in which people intentionally developed and released a virus.

Dr. Offit described all of these details in more depth in his book, *Tell Me When It's Over: An Insider's Guide to Deciphering COVID Myths and Navigating Our Post-Pandemic World*.

### **Can the FL Surgeon General be disciplined by the FL Board of Medicine?**

We do not know what the requirements are for disciplining physicians who spread false information or practice medicine without taking scientific consensus into account; however, as misinformation and politicization of scientific knowledge continue to be issues, it would be useful to visit this and related questions in a concerted manner because the public does not necessarily distinguish between messengers they view as credentialed.

### **How can we encourage COVID-19 vaccination in a rural vaccine hesitant county, especially if many of the higher up staff do not support mRNA vaccines?**

We're sorry to hear that the issue is not just a hesitant public, but also hesitant officials. We recommend trying to identify and work with other thought leaders in the community. These may be church leaders, community organizations or others with a local voice. In the early months of COVID-19 vaccination, one PA county found such a messenger in a local gun store owner who supported vaccination. These community-based partnerships are useful to build and foster not just during public health emergencies, but as ongoing partnerships. You might also have partners that you already work with on other projects, who can either deliver a vaccine-related message or identify other messengers.

We also recommend continuing to address misinformation that is circulating in your local area and ensuring that people know where they can get questions answered.

### **Has there been an association between the COVID-19 virus and irregular menstrual cycle/bleeding?**

While [the study](#) Dr. Offit described only evaluated vaccination, a more recently published [retrospective cohort analysis](#) by Alvergne and colleagues evaluated cycle length during the three months before COVID-19 infection or vaccination compared with the month of and the month after the event (infection or vaccination). They found similar changes in length for vaccination and infection.

**Since orally ingested animal and plant DNA can survive digestion and enter our bloodstream, can oral mRNA vaccines be developed obviating the need to inject mRNA vaccines?**

Even though small quantities of animal and plant DNA enter our bloodstream, we do not make immune responses to it, so vaccination would not be as straightforward as orally delivering mRNA. The mRNA, which is less stable than DNA, needs to be delivered inside cells, not just into the bloodstream. Also, mRNA would be rapidly destroyed by intestinal enzymes making oral inoculation difficult.

**Do you think we'll see an increase in COVID-19 vaccination rates with the increased awareness of a protein-based COVID-19 vaccine?**

While some people may be more inclined to accept the protein-based COVID-19 vaccine, others will not. If both products are available, giving patients a choice may help some feel more in control, which could also be helpful.

**Is COVID-19 virus subject to genetic drift/shift necessitating annual boosters? If not, how long is protection sustained from complete immunization?**

Small genetic changes occur in many viruses as they reproduce, and we see that with SARS-CoV-2, the virus that causes COVID-19 as well. However, preliminary data suggest that immunologic memory, particularly T cell memory, continues to be protective against newer versions of SARS-CoV-2. This immunologic memory can protect against severe disease but may still allow for mild infection.

The annual COVID-19 boosters currently recommended aim to increase circulating antibodies, which can decrease the number of mild infections (at least for several months) and the amount of virus circulating in communities (if enough people are immune).

**Isn't another reason other countries target vaccine for high-risk groups due to those governments funding the vaccines/national health systems themselves (and needing to do so in a financially sustainable way)?**

While decision-making can be based on financial considerations for a country or population, in this case, we don't have evidence to suggest that all people are benefiting equally from universal booster dosing. Hopefully, these studies will be done, so policies can continue to be refined as we move away from the original emergency.

**Did you say that 15-year-olds should not be vaccinated for COVID-19? Or 15-year-olds should not receive a booster for COVID-19 vaccine?**

Everyone six months of age and older should be vaccinated against COVID-19; however, the extent to which younger people, like 15-year-olds, are benefiting from booster doses remains a question. Because we know that older teens and young adults, particularly males, are at increased risk for experiencing myocarditis after vaccination, understanding the risks and benefits for different sub-populations is critical.

**What is the evidence that people should receive the vaccine even after natural infection?**

[Studies](#) have shown that people with hybrid immunity, meaning immunity from both vaccination and infection, have the most robust protection, so even if someone was infected, they can benefit from being vaccinated.