IMMUNIZATIONS

Of everything I do as a pediatrician, immunizations receive the most resistance from families. Much of the parental hesitation results from media stories and celebrities claiming that vaccines cause autism or that preservatives in the vaccines will somehow harm the baby. Unfortunately what these stories don't tell is the great success that immunizations have had in reducing the incidence of severe illness and death related to these now preventable illnesses. In fact, these vaccines have been so successful that many of us have never seen somebody paralyzed by polio or suffering from meningitis from Haemophilus influenza, one of the bacteria prevented through immunization. With horror stories about vaccines abounding, and many of the preventable illnesses largely unknown to the general public, it is understandable that some parents hesitate to have their children immunized. Unfortunately this hesitation leaves their children vulnerable to these illnesses and is starting to lead to a resurgence of these preventable illnesses.

With a background in athletics, I often like to compare things to what I've seen or done in sports. I'd like to do the same with immunizations. When faced with a tough opponent in basketball, my coach would spend a lot of time studying the other team, learning how they would attack us, and how we could defend against those attacks. During the days before the game we would spend a lot of time practicing against their plays, so that when we faced those plays during the real game, our defense was ready, and we were able to do well.

Immunizations function in much the same way. Scientists have been studying these illnesses for years. Through their studies, they have discovered the bacteria and viruses leading to the illnesses. Once the cause of the illness was known, they were able to prepare a vaccine that could help train our immune system to fight the real bug. As they have continued to learn more about the specific organisms, they have been able to further fine-tune the vaccines, preserving their effectiveness while minimizing their side effects. Similar to practicing for the big game, when we receive immunizations, our immune system is able to practice fighting the bug without the risk of becoming ill from it. We give multiple doses so that our body can become even more effective at fighting the organism. Then when the real challenge comes from natural exposure, our immune system is ready and is able to overcome the infection, often without us knowing that we have even been exposed.

When our coach made us run through the drills, it was not always easy. We ran through the drills several times, in situations where if we weren't perfect, it wouldn't cost us the game. Then when we made it to the game, we were much more efficient at defending ourselves. We worked hard and were often tired and sometimes sore after the practices. Immunizations also have their side effects. As our immune system responds to the perceived threat, it acts as if we are truly infected, so some people will feel tired, achy or will get a little fever from the vaccine. This feeling may be very similar to the way people feel a few hours before becoming ill. Fortunately, there is nothing in the vaccines themselves that can go on to cause illness, so the body gets to have a full practice without the risk of failure. Similar to our practices in sports, our bodies learn how to defend against these illnesses before the true challenge, making our immune system more effective at defending us against the real threat.

One of the common concerns I hear is that we are immunizing children too early, stressing their immune systems too much. They often feel that by waiting to immunize until their children are older that they will be able to respond to the vaccine better without as many potential side effects. There are some very good reasons, however, to immunize according to the recommended schedule. Many of the organisms included in the immunization series are most serious when acquired early in life. A good example of this is pertussis (whooping cough). When older children and adults get whooping cough, it is miserable. It is often referred to as the "Cough of 100 days" because people will often have a severe cough for three to four months with this illness. It is annoying, may cause some time lost from work or school, but then usually we recover. Young infants, however, often do not do as well. Pertussis can cause very severe infections in young infants, sometimes causing apnea (the babies forget to breathe), and I have actually seen a young baby die due to a severe infection with pertussis.

Another example of a vaccine most important for young children is the HiB vaccine against Haemophilus influenza type B. This bacteria is well-known for causing illnesses such as meningitis (infection of the tissues surrounding the brain and spinal cord) and epiglottitis (swelling of the tissues that keep food and liquids from entering the airway and lungs). These infections can lead to death or permanent disability. These complications are much more common in infants and young children, and the vaccine is not even recommended for healthy children over five years old. Thanks to the vaccine, I have only had to participate in the care of one child with meningitis due to this organism; however, many of the physicians who helped to train me used to experience this bug as often as a few times every month. Unfortunately there has been a shortage of this vaccine recently, and because of this there have been scattered outbreaks in the United States in the past few months. Some of those infected have died, despite today's medical technologies. This just helps to emphasize the importance of continuing immunization, even though many of us have never had to see somebody suffer from these individual illnesses.

It is also important to realize that at birth the infant's immune system is prepared to fight literally thousands of things at the same time. Immunizations are no more stressful to the immune system than fighting colds, ear infections and other common childhood illnesses, so immunizing will not over-stress the infant's immune system.

Many people have been concerned about preservatives in the vaccines, especially thimerisol (a type of mercury). They are afraid that preservatives may be contributing to autism or other developmental delays. Fortunately there have been several studies that have refuted the link to vaccines and autism. It is also noteworthy that since 2001, the influenza vaccine is the only vaccine that contains thimerisol, and there is a preservative-free version of this vaccine for children under three whose parents have concerns about the safety of vaccines.

I could list several more arguments both for and against immunizations that I have heard in the past few years, and if you would like to discuss these, I would encourage you to talk with me or your regular provider, so that you may be as comfortable with immunizing your child as I have been with immunizing mine.