

## DR. KUNDELL'S EXPLANATION OF WHY WE GIVE BABIES SO MANY SHOTS SO EARLY

Parents frequently wonder why we give so many vaccines to young children. I will try to provide some clarification as to why we have these recommendations.

**PASSIVE IMMUNITY:** Before baby is born, the mother is passing high levels of antibodies from her blood to the baby's blood. Since the mother has had exposure to many common illnesses and been vaccinated, she transfers her immunity to the baby. This immunity protects a baby early on against many serious illnesses. Unfortunately, the level of the protective antibodies drops every month, so that by 6 months of age the infant is no longer protected.

**BABIES IMMATURE IMMUNITY:** The baby's immune system is immature in the first two years, often inadequate to fight off a number of life threatening diseases. So even though the mother has protected the baby for the first 6 months, the time between 6 months and 24 months is a very vulnerable period for a number of illnesses such as bacterial meningitis and whooping cough.

**NEED FOR MULTIPLE DOSES:** If vaccinations worked immediately, we could just give them at 6 months of age, and the baby would be protected. Unfortunately, because of the baby's immature immune system, the baby does not develop protective levels of antibodies from a single vaccination. The baby will develop a little bit of antibodies after a first dose of vaccines, more when the vaccines are repeated 6 to 8 weeks later, but is usually not until the third dose of vaccines another 6 to 8 weeks later, that the baby is finally able to produce levels of antibodies as protective as the levels he got from the mother early on. So if the goal is to protect the baby by 6 months of age, and it takes 3 doses of vaccines separated by 6 to 8 weeks, we have to start these vaccines by no later than two months.

**SPLITTING VACCINES:** Parents are often concerned over giving so many vaccines together. It ends up that this is a very well studied area, and getting multiple vaccines on the same occasion does not reduce the effectiveness of the individual vaccines, or increase the risk of serious reactions. Despite the scientific evidence, it has become popular folklore that it is better for the babies to "split the vaccines", hoping to reduce reactions. In my opinion, this is rarely warranted, and means that the baby will be subject to the discomfort of vaccines on many more occasions.

**SERIOUS SIDE EFFECTS OF VACCINES:** None of our vaccines is absolutely perfect, and there have been rare circumstances in which children have had neurologic damage from vaccines. The risk of this occurring is very small, and tremendously less than the risk of the child having brain damage from not being vaccinated. In fact, one of the most common reasons we vaccinate children is to prevent diseases that damage children's brains. The slight risk is not unique to just vaccines. We wear seat belts to reduce our risk of getting killed in car accidents, but everyone has heard of cases where a person not

wearing a seat belt gets thrown from their car and saved in an unusual accident. Nevertheless, we wear seat belts, and put our babies in car restraints, because overall the benefit is so much greater than the risk. This is the same situation with vaccines.

**VACCINES AND AUTISM:** One of the tremendous concerns parents have is regarding the risk of autism and vaccinations. The original suspicion related to this came from research of a British scientist, who subsequently disavowed his research as an inaccurate observation, as did his colleagues. Large population studies by the Center for disease control in this country have not shown an increased risk of autism associated with having received the MMR vaccine. The state of Denmark looked at their entire childhood population, and found no increased risk of autism in children in who had received the MMR vaccine, or in children who had been fully vaccinated compared to unvaccinated children. The concern was also raised over 10 years ago that perhaps Mercury preservatives in vaccines were contributing to autism. This was highly doubted by the medical community because mercury poisoning looks clinically very different from autism. Nevertheless, because of public pressure, the Mercury preservative thimerisol was removed from all of the childhood vaccines in the first two years. This was complete over 6 years ago, and according to current statistics, there has been no reduction in the rate of autism. All of these findings make me confident that vaccines are not causing the significant increase in autism that has been noted over the past couple of decades. The actual cause remains unknown at this time.

**WHO EVER HEARD OF THESE DISEASES?:** Finally, parents question why we vaccinate against so many diseases that most of us never see. The fact is, we doctors are victims of our success. Entire categories of disease have become tremendously less frequent than just a few decades ago. For example, thousands of children per year used to get meningitis from a germ called Haemophilus influenza B, and one third ended up permanently brain-damaged. Since we have had this vaccine for almost 2 decades, invasive disease by this germ has dropped tremendously. On the other hand, I still see the germ. I occasionally find it on throat cultures, and in the nasal passages of children from time to time. So, although we have prevented serious invasive disease, we have not destroyed the actual germ. We know that if vaccination rates drop, the germ will become more abundant and there will be cases of serious invasive disease. We saw this happen in the Soviet Union with Diptheria after vaccination rates dropped about 15 years ago. It also happened in England with whooping cough when vaccination rates dropped. This pattern of reducing disease but not eliminating the germ totally has been repeated with multiple of the early childhood vaccines. To date, the only germ we have been able to eliminate is smallpox. We are hoping we will be able to eliminate polio soon, but since polio still exists in certain parts of the world, we have to continue to vaccinate.