American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

The Childhood Immunization Schedule: Why Is It Like That?

Q1: How is the childhood immunization schedule determined?

A: The schedule is determined by top experts in the fields of epidemiology, infectious disease prevention, and immunology to best protect U.S. children against vaccine-preventable diseases. The schedule is evaluated each year based on the most recent scientific data available, and adjustments are made as appropriate. It is approved by the American Academy of Pediatrics, the Centers for Disease Control and Prevention and its Advisory Committee on Immunization Practices, and the American Academy of Family Physicians. Updated recommendations are announced each January.

Q2: How are the timing and spacing of the shots determined?

A: Each vaccine dose is scheduled for the age range that is considered optimal for producing the best immune system response, balanced with the need to provide protection to infants and children at the earliest possible age. Doses of some vaccines must be spaced a certain amount of time apart to create a protective response.

Q3: Why are there so many doses?

A: Fortunately, in the U.S. we are able to immunize children against many serious diseases. However, for many of these diseases, a single vaccine dose is not effective. For some vaccines, a three- or four-dose series of shots is needed for full protection.

Q4: Why is the schedule "one size fits all?" Aren't there some children who shouldn't receive some vaccines?

A: The schedule is not "one size fits all." It is considered the ideal schedule for healthy children, but it has flexibility built in. There are established medical reasons why some children should not receive certain vaccines; for example, allergies to one or more ingredients in the vaccine, or a weakened immune system due to illness, a chronic condition, or another medical treatment. Sometimes a shot needs to be delayed for a short time, and sometimes it may need to be skipped altogether. Your pediatrician is educated and updated about such exceptions to the immunization schedule. This is one reason your child's complete medical history is taken at the pediatrician's office, and why it is important for your child's health care providers to be familiar with your child's medical history.

Q5: Why can't the shots be spread out over a longer period of time? There are 25 shots recommended in the first 15 months of life; what would happen if we spread those out over 2 or 3 years?

A: First, you would not want your child to go unprotected that long. Second, the AAP/CDC/AAFP schedule is designed around the way the vaccines work best with a child's immune system at certain ages and at specific intervals. There is simply no research to show how the immune system response would be affected by drastically altering the

schedule. Also, there is no scientific reason why spreading out the shots would be safer. But we do know that any length of time without immunizations is a time without protection.

Q6: I've seen an alternative schedule in a magazine that allows the shots to be spread out. It was developed by a pediatrician. Why can't I follow that schedule? My child would still get his immunizations in time for school.

A: There is no scientific basis for such a schedule. No one knows how well it would work to keep infectious diseases at bay for the individual child. And if a significant portion of parents in any community decided to follow such a schedule, the consequences would be magnified. In addition, people who are unable to receive vaccines would be placed at risk by exposure to unvaccinated children.

One alternative schedule that has been proposed would leave children without full polio protection until age 4. Yet it would take only one case of polio to be brought into the U.S. for the disease to take hold again in this country. This schedule also withholds the measles vaccine until age 3. We have already seen outbreaks of measles in some parts of the country due to failure to immunize, and this is a highly infectious disease that can have serious--even deadly--consequences. The reason we recommend the vaccines we do for very young children is because they are more vulnerable to these diseases.

Pediatricians recognize that parents want to take an active role in decisions about vaccination. These decisions should be based on reliable, complete and science-based information.

Q7: Isn't it possible that my child has natural immunity to one or more diseases? If he does, can't he skip the shot?

A: Testing for levels of immunity for certain diseases does not work well in young children, so this is not a practical approach to disease prevention.

Q8: Isn't it overwhelming to a child's immune system to give so many shots, especially combination vaccines, in one visit?

A: Infants and children are able to respond to a much larger quantity and variety of antigens (tiny amounts of substances that provoke an immune response) than those found in any combination of vaccines on the current schedule. Their immune systems routinely fight antigens of many different kinds on any given day, which they are exposed to through activities like playing, eating, and breathing.

Q9: There are no shots given at 9 months, other than possibly flu vaccine or catch-up vaccines. Would it help if we gave some at that visit instead of at 6 months or 12 months?

A: Waiting until 9 months would leave the child unprotected from some diseases. Nine months is too early for the boosters recommended for use at 15 to 18 months. It is too early for the live measles, mumps, rubella and varicella vaccines since some infants might have a bit of antibody left that they got from their mother during the pregnancy, and this antibody could inactivate the vaccine virus.