



# AAP IMMUNIZATION INITIATIVES NEWSLETTER

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<i>Two new parent handouts from the AAP on vaccine safety and ingredients!</i>	

### Links to AAP Resources

[Practice Management Online](#)  
[Member Center](#)  
[The Bookstore](#)  
[Red Book Online](#)

*The Childhood Immunization Support Program (CISP) is a cooperative agreement grant between the CDC and AAP.*



## Updates and Alerts



### ➤ **The National Vaccine Advisory Committee Seeks Input**

The National Vaccine Advisory Committee (NVAC) is currently reviewing the nation's vaccine safety system and seeking broad input from various groups to finalize the CDC ISO scientific agenda. These community meetings will be held in Ashland, OR, Birmingham, AL, and Indianapolis, IN. For more information, go to: [www.hhs.gov/nvpo/nvac/PublicEngagement.html](http://www.hhs.gov/nvpo/nvac/PublicEngagement.html).

### ➤ **Immunization Administration Code Update**

Beginning January 1, 2009, CPT codes 90465-90474 will include increased practice expense (PE) relative value units (RVUs). The 2009 PE RVUs will now include clinical staff time for vaccine registry input, refrigerator/freezer temperature log monitoring/documentation, and refrigerator/freezer alarm monitoring/documentation. The RVUs for the immunization administration codes can be found at: [www.cispimmunize.org/pro/pdf/IACodes2009RBRVS.pdf](http://www.cispimmunize.org/pro/pdf/IACodes2009RBRVS.pdf). For code 90465, PE value increased from 0.38 to 0.43, which will raise the overall value of the Medicare administration fee codes. See the Special Section below for more details.

## **Pediatric Practice in Action!**

### **Recording Lot Numbers for Vaccines with Multiple, Linked Lot Numbers**

CDC has issued the following guidance for recording lot numbers for certain vaccines. For questions or more information, contact [nipinfo@cdc.gov](mailto:nipinfo@cdc.gov).

Pentacel is supplied as a box containing 5 vials of liquid DTaP/IPV vaccine and 5 vials of lyophilized Hib vaccine. The vaccine component should be kept together in the original box until one vial of each component is removed, reconstituted, and administered. The combined vaccine must be used within 30 minutes of reconstitution. The lot numbers of the Pentacel components are linked so that the lot number of one component will identify the lot number of the other component. If Pentacel is used as supplied there is no need to record both numbers - the carton lot number or tear-off lot number label on the hib vial (which are identical) is adequate and identifies all components. However, if the DTaP-IPV component is used to reconstitute a vial of ActHIB that is not supplied as Pentacel, both numbers should be recorded. Similarly, TriHIBit has a lot number for each of its two components, and there is no need to record both numbers when used as supplied.

Rotarix rotavirus vaccine (GlaxoSmithKline) is supplied in a carton containing 10 doses of lyophilized vaccine and 10 prefilled oral applicators of diluent. The outer carton, vaccine, and diluent each have different lot numbers which are linked. The lot number from either the outer carton, vaccine or diluent can be used by the manufacturer to identify the other components supplied in the same carton. The outer carton lot number is also listed on the packing slip. Only the outer carton lot number needs to be recorded.

## Upcoming Events

- **Advisory Committee on Immunization Practices (ACIP)**  
February 25-26, 2009 Atlanta, Georgia  
**For more info:**  
<http://www.cdc.gov/vaccines/recs/acip/meetings.htm>
- **Twelfth Annual Conference on Vaccine Research**  
April 27-29, 2009 Baltimore, Maryland  
For more info: <http://www.nfid.org/conferences/vaccine09>

## Resources

- **New Way to Look at Flu Trends**  
Google.org launched Google Flu Trends, a website that provides real-time influenza-like illness (ILI) estimates based on public search queries on Google.com. To access this new resource, go to: [www.google.org/flutrends](http://www.google.org/flutrends).
- **CDC Creates IIS 101**  
CDC's Immunization Information Systems Support Branch, in partnership with immunization grantees and stakeholders, has developed a web-based education module with entry-level information about immunization information systems (IIS). This module will serve as a reliable, up-to-date source for ground-level training and orientation within the IIS community. It is intended for use primarily by those new to IIS such as new immunization program and IIS managers, programmers, immunization program staff, and their partners who may use IIS. For more on IIS 101 visit: <http://www2a.cdc.gov/vaccines/ed/iis/>.
- **CDC Releases PSAs Promoting Pre-teen Vaccines**  
CDC's National Center for Immunization and Respiratory Diseases has released new public service announcements (PSAs) targeting the parents of pre-teens. The television and radio spots, part of CDC's Pre-Teen Vaccine campaign, urge the parents of 11- and 12-year-olds to vaccinate their kids to protect them against serious, sometimes life-threatening diseases such as meningitis, whooping cough, and cervical cancer. The PSAs, are available in both English and Spanish at lengths of 60, 30 and 15 seconds, and can be viewed at [www.cdc.gov/vaccines/preteen](http://www.cdc.gov/vaccines/preteen). Health providers are encouraged to download the files and burn them onto DVDs or CDs for playing in waiting rooms.
- **The second edition of "The Vaccine Handbook: A Practical Guide for Clinicians" is now available.**  
The "Purple Book" contains practical advice for the practitioner on vaccine infrastructure, standards and regulations, business aspects of vaccine practice, general recommendations, schedules, special circumstances, and how to address a patient's concerns about vaccines. Specific information about vaccine-preventable diseases, the rationale for vaccine use, and available products is included. For ordering information, go to: [http://www.pcibooks.com/book\\_info.php?id=49](http://www.pcibooks.com/book_info.php?id=49).

### **Red Book Online Immunization Schedules**



Stay updated on pediatric immunizations with the 2008 Immunization Schedules on *Red Book Online* at <http://aapredbook.aappublications.org>. Included are schedules for children and adolescents, 0-6 years and 7-18 years, as well as a catch-up schedule for those children and adolescents whose vaccinations were started late or who are more than one month behind. The schedules are continually kept current with the inclusion of errata and the latest updates.

*Red Book Online*, the online version of the authoritative guide to pediatric infectious diseases, provides important updates between editions of the *Red Book*. Among the regularly updated features on *Red Book Online* are the "Spotlight Section" and the "Image of the Week" at <http://aapredbook.aappublications.org>.

## ***Featured Research Findings***

### **Variation in Provider Vaccine Purchase Prices and Payer Reimbursement**

*Gary L. Freed; MD, MPH, Anne E. Cowan, MPH; Sashi Gregory, MPH; and Sarah J. Clark, MPH*

While there is anecdotal evidence that physicians are losing money on vaccines, little is known about the actual cost of vaccines to private practices and how much they are being reimbursed by third-party payers. This study aimed to collect data demonstrating actual vaccine prices and reimbursements in private practices.

A 20-question survey was conducted in 5 states (California, Georgia, Michigan, New York, and Texas) with private practices that purchase vaccines for administration to privately insured children/adolescents. The survey included questions on prices paid to purchase vaccines recommended for children and adolescents and reimbursement from the 3 most common, non-Medicaid payers for vaccine purchase and administration.

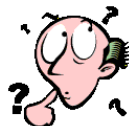
Findings showed there was a considerable difference between the maximum and minimum prices paid for vaccines by practices, which ranged from \$4 to more than \$30 for specific vaccines. There was also variation in insurance reimbursement for vaccine purchase, mean net yield per does (reimbursement for vaccine purchase minus price paid per dose), and reimbursement for the first dose of vaccine administered. Comparing reimbursements to prices paid, variation was found within a practice and across practices for the same vaccine.

This study highlights the need for individual practices to have a detailed understanding of their own costs and reimbursements for vaccines, especially given the expanding schedule of vaccines for children and adolescents and the rising costs of these vaccines. It also suggests that private practices need the assistance of immunization policy-makers and other stakeholders to address larger vaccine financing issues.

The full article is available at:

<http://pediatrics.aappublications.org/cgi/content/full/122/6/1325?>

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Got an idea about a topic you'd like us to cover?  
Email us at: [cispimmunize@aap.org](mailto:cispimmunize@aap.org)

## ***Featured Research Findings***

### **Primary Care Physician Perspectives on Reimbursement for Childhood Immunizations**

*Gary L. Freed, MD, MPH; Anne E. Cowan, MPH; and Sarah J. Clark, MPH*

As the number of vaccine doses recommended for children and adolescents increases there is anecdotal evidence suggesting that physicians are under increasing financial pressures due to vaccine purchase and administration. This financial stress may lead some physicians to stop administering vaccines to privately insured children.

While the exact financial burden and the likelihood that physicians will discontinue providing immunizations is unknown, this study aimed to examine physicians' attitudes and behaviors related to vaccine financing issues within their practice.

Mail surveys were sent over a 3-month period to a random sample of 1280 US pediatricians and family physicians doing direct patient care. The survey asked questions relating to delay in purchasing specific vaccines for financial reasons; profit margin decrease from immunizations; and practice consideration to stop providing vaccines to privately insured children. There was also a question targeting the respondent's decision-making involvement in the practice with respect to vaccine purchase.

About half of the respondents reported that their practice had delayed the purchase of specific vaccines for financial reasons and experienced decreases profit margin from immunizations in the past three years. Twenty one percent strongly disagreed that "reimbursement for vaccine purchase is adequate" and 17% strongly disagreed that "reimbursement for vaccine administration is adequate." Eleven percent of respondents said their practice had seriously considered whether to stop providing all vaccines to privately insured children in the previous year.

The study confirms the sense that physicians providing vaccines to children and adolescents are dissatisfied with reimbursement levels and increasing financial strain due to immunizations.

The full article is available at:

<http://pediatrics.aappublications.org/cgi/content/full/122/6/1319?>

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## Questions and Answers about Vaccine Ingredients

### Q. What ingredients are in vaccines?

A. All vaccines contain antigens. Antigens make vaccines work. They prompt the body to create the immune response needed to protect against infection. Antigens come in several forms. The form used in a vaccine is chosen because studies show it is the best way to protect against a particular infection.

#### Antigen forms include:

- **Weakened live viruses.** They are too weak to cause disease but can still prompt an immune response. Measles, mumps, rubella, rotavirus, chickenpox, and one type of influenza vaccine contain weakened live viruses.
- **Inactivated (or killed) viruses.** These viruses cannot cause even a mild form of the disease, but the body still recognizes the virus and creates an immune response to protect itself. The polio, hepatitis A, influenza and rabies vaccines contain inactivated viruses.
- **Partial viruses.** These are made up of the specific part of the dead virus that will prompt a protective immune response. Some vaccines are made this way including the hepatitis B and HPV vaccine.
- **Partial bacteria.** These vaccines work in two ways. First, the Hib, pneumococcal and meningococcal vaccines are made using part of the sugar coating (or polysaccharide) of the bacteria. The vaccine creates immunity against this sugar coating, providing protection against the bacteria. Second, vaccines against diphtheria, tetanus and pertussis (whooping cough) are made by inactivating the protein in the bacteria that causes harm.

**Vaccines also contain other ingredients, which help make them safer and more effective. They include:**

- **Preservatives.** They keep the vials from getting contaminated with germs.
- **Adjuvants.** They help the body create a better immune response. These are aluminum salts.
- **Additives.** They help the vaccine stay effective while being stored. Additives include gelatin, albumin, sucrose, lactose, MSG and glycine.
- **Residuals of the vaccine production process.** Some ingredients are needed to make the vaccine. Although these ingredients are removed, tiny (residual) amounts are left in the final product. Depending on how the vaccine is made, it may include tiny amounts of antibiotics (neomycin), egg protein or yeast protein.

### Q. Why are these other ingredients in vaccines? Are they safe?

A. Each ingredient has a specific function in a vaccine. These ingredients have been studied and are safe for humans in the amount used in vaccines. This amount is much less than children encounter in their environment, food and water.

- **Aluminum salts.** Aluminum salts help your body create a better immune response to vaccines. Aluminum salts are necessary to make some of the vaccines we use more effective. Without an adjuvant like aluminum, people could need more doses of shots to be protected. Everyone is exposed to aluminum because there is much aluminum in the earth's crust. It's present in our food, air and water, including breast milk and formula. The amount of

aluminum in vaccines is similar to that found in 33 ounces of infant formula. Aluminum has been used and studied in vaccines for 75 years and is safe.

- **Formaldehyde.** Formaldehyde is used to detoxify diphtheria and tetanus toxins or to inactivate a virus. The tiny amount which may be left in these vaccines is safe. Vaccines are not the only source of formaldehyde your baby is exposed to. Formaldehyde is also in products like paper towels, mascara and carpeting. Our bodies normally have formaldehyde in the blood stream and at levels higher than in vaccines.
- **Antibiotics.** Antibiotics, such as neomycin, are present in some vaccines to prevent bacterial contamination when the vaccine is made. Trace amounts of antibiotics in vaccines rarely, if ever, cause allergic reactions.
- **Egg protein.** Influenza and yellow fever vaccines are produced in eggs, so egg proteins are present in the final product and can cause allergic reaction. Measles and mumps vaccines are made in chick embryo cells in culture, not in eggs. The much smaller amount of remaining egg proteins found in the MMR (measles, mumps, rubella) vaccine does not usually cause a reaction in egg allergic children.
- **Gelatin.** Some vaccines contain gelatin to protect them against freeze-drying or heat. People with severe allergies to gelatin should avoid getting gelatin-containing vaccines.

#### **Q. Do vaccines contain antifreeze?**

A: No. Antifreeze is typically made of ethylene glycol, which is unsafe. Polyethylene glycol (a chemical used in antifreeze and personal care products like skin creams and toothpaste) is used in vaccines and is safe. It is used to inactivate the influenza virus in some influenza vaccines. It is also used to purify other vaccines.

#### **Q. Do vaccines contain mercury?**

A: Thimerosal, a mercury-based preservative, was removed from most childhood vaccines in 2001. It is still present in some influenza vaccines. Thimerosal is still used in the manufacture of some vaccines to prevent contamination. The thimerosal is removed at the end of the manufacturing process. In some cases, a tiny amount of thimerosal remains. The remaining amount is so small, that it is not possible for it to have any effect. Valid scientific studies have shown there is no link between thimerosal and autism. In fact, autism rates have actually increased since thimerosal was removed from childhood vaccines. The American Academy of Pediatrics (AAP), the American Medical Association (AMA), the CDC, and the Institute of Medicine (IOM) agree that science does not support a link between thimerosal in vaccines and autism. For the IOM report, go to <http://www.iom.edu/CMS/3793/4705/4717.aspx>.

#### **Q. Should vaccines be “greener”?**

A. The amount of each additive used in vaccines is very small. In fact, we are exposed to much higher levels of these chemicals in our everyday lives. In vaccines, these ingredients are used to make the vaccine safer and more effective. Each vaccine is tested many times to make sure it is safe and works. Taking ingredients out might affect the ability of the vaccine to protect a child.

The information contained in this publication should not be used as a substitute for the medical care and advice of your pediatrician. There may be variations in treatment that your pediatrician may recommend based on individual facts and circumstances.



## The Childhood Immunization Schedule: Why Is It Like That?

### **Q1: Who decides what immunizations children need ?**

A: Each year, top disease experts and doctors who care for children work together to decide what to recommend that will best protect U.S. children from diseases. The schedule is evaluated each year based on the most recent scientific data available. Changes are announced in January, if needed. The schedule is approved by the American Academy of Pediatrics, the Centers for Disease Control and Prevention, and the American Academy of Family Physicians.

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

A: Each vaccine dose is scheduled using 2 factors. First, it is scheduled for the age when the body's immune system will work the best. Second, it is balanced with the need to provide protection to infants and children at the earliest possible age.

### **Q3: Why are there so many doses?**

A: Researchers are always studying how well vaccines work. For many vaccines three or four doses are needed to fully protect your child. The doses need to be spaced out a certain amount to work the best.

### **Q4: Why is the schedule “one size fits all?” Aren’t there some children who shouldn’t receive some vaccines?**

A: Your child's health and safety are very important to your child's doctor. The schedule is considered the ideal schedule for healthy children but there may be exceptions. For example, your child might not receive certain vaccines if she has allergies to an ingredient in the vaccine, or if she has 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 not given at all.

Your pediatrician stays updated about new 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; why not spread these out over 2 or 3 years?**

A: First, you would not want your child to go unprotected that long. Babies are hospitalized and die more often from some diseases, so it is important to vaccinate them as soon as it is safe. Second, the recommended schedule is designed to work best with a child's immune system at certain ages and at specific times. There is no research to show that a child would be equally protected against diseases with a very different 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 another 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 protect your child from diseases. And if many parents in any community decided to follow such a schedule, diseases will be able to spread much more quickly. Also, people who are too sick or too young to receive vaccines are placed at risk when they are around unvaccinated children.

For example, following one alternative schedule 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 delays the measles vaccine until age 3. We have already seen outbreaks of measles in some parts of the country because children were not immunized. This is a highly infectious disease that can cause serious harm--even death. The reason we recommend vaccines when we do is because young children are more vulnerable to these diseases.

Pediatricians want parents to have reliable, complete, and science-based information, so that they can make the best decision for their child about vaccination.

**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: Tests that check for immunity to certain diseases do not work well in young children.

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

A: Infants and children are exposed to many germs every day just by playing, eating, and breathing. Their immune systems fight those germs, also called antigens, to keep the body healthy. The amount of antigens that children fight every day (2,000-6,000) is much more than the antigens in any combination of vaccines on the current schedule (150 for the whole schedule). So children's immune systems are not overwhelmed by vaccines.

**Q9: There are no shots given at 9 months, other than maybe flu vaccine or catch-up vaccines. Why not give 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, but 9 months is too early for some of the 12-18 month vaccines. For example, it is too early for the live measles, mumps, rubella and varicella vaccines, since some infants might have a bit of protection left from their mother during the pregnancy, and that protection could make the vaccine less effective.

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