

Promoting Health and Preventing Disease: Childhood and Adult Vaccine Updates and Recommendations

**Clinician Outreach and
Communication Activity (COCA)
Conference Call
July 27, 2010**



TODAY'S PRESENTER



Iyabode Akinsanya-Beysolow, MD, MPH
Medical Officer
National Center for Immunization and
Respiratory Diseases - CDC

Objectives

At the conclusion of this hour, each participant should be able to:

- 1. Discuss two recent vaccine recommendations made by the Advisory Committee on Immunization Practices (ACIP)**
- 2. Describe two emerging issues**
- 3. Identify the types and location of immunization resources and steps for accessing resources**

Continuing Education Disclaimer

In compliance with continuing education requirements, all presenters must disclose any financial or other relationships with the manufacturers of commercial products, suppliers of commercial services, or commercial supporters as well as any use of unlabeled product or products under investigational use.

CDC, our planners, and our presenter wishes to disclose they have no financial interests or other relationships with the manufacturers of commercial products, suppliers of commercial services, or commercial supporters. Presentations will not include the discussion of the unlabeled use of a product or a product under investigational use with the exception of certain vaccine use that is recommended by the Advisory Committee on Immunization Practice but not approved by the Food and Drug Administration. These vaccines are: Meningococcal, DTaP, Tdap, ActHib, PedvaxHib, TriHIBit, Comvax and Hiberix, MMR, Varicella, Zoster, Comvax, Pediarix, Rotavirus, Cervarix and HPV.

There is no commercial support.

Accrediting Statements

CME: The Centers for Disease Control and Prevention is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The Centers for Disease Control and Prevention designates this educational activity for a maximum of 1 AMA PRA Category 1 Credit. Physicians should only claim credit commensurate with the extent of their participation in the activity.

CNE: The Centers for Disease Control and Prevention is accredited as a provider of Continuing Nursing Education by the American Nurses Credentialing Center's Commission on Accreditation. This activity provides 1 contact hour.

CEU: The CDC has been approved as an Authorized Provider by the International Association for Continuing Education and Training (IACET), 8405 Greensboro Drive, Suite 800, McLean, VA 22102. The CDC is authorized by IACET to offer 0.1 CEU's for this program.

CECH: The Centers for Disease Control and Prevention is a designated provider of continuing education contact hours (CECH) in health education by the National Commission for Health Education Credentialing, Inc. This program is a designated event for the CHES to receive 1 Category I contact hour in health education, CDC provider number GA0082.

ACPE: CDC is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. This program is a designated event for pharmacist to receive 1.0 Contact Hours in pharmacy education.

Promoting Health and Preventing Disease: Childhood and Adult Vaccine Updates and Recommendations

Iyabode Akinsanya-Beysolow, MD, MPH

Medical Officer

National Center for Immunization and

Respiratory Diseases - CDC

What would providers like to know about vaccines?

What's new?

What are CDC/ACIP Recommendations?

What should I tell my patients/parents?

Where can I find resources quickly?

Updated Recommendations

- **Pediatric and Adult Vaccines**
 - **2010 Immunization schedule**
 - **PCV13**
 - **Meningococcal conjugate revaccination**
 - **HPV2 and HPV4 for males**
 - **Influenza**

Recommended Immunization Schedule for Persons Aged 0 Through 6 Years—United States • 2010

For those who fall behind or start late, see the catch-up schedule

Vaccine ▼	Age ►	Birth	1 month	2 months	4 months	6 months	12 months	15 months	18 months	19–23 months	2–3 years	4–6 years
Hepatitis B ¹	HepB		HepB			HepB						
Rotavirus ²			RV	RV	RV ²							
Diphtheria, Tetanus, Pertussis ³			DTaP	DTaP	DTaP	<i>see footnote³</i>		DTaP				DTaP
<i>Haemophilus influenzae</i> type b ⁴			Hib	Hib	Hib ⁴		Hib					
Pneumococcal ⁵			PCV	PCV	PCV		PCV				PPSV	
Inactivated Poliovirus ⁶			IPV	IPV			IPV					IPV
Influenza ⁷							Influenza (Yearly)					
Measles, Mumps, Rubella ⁸							MMR		<i>see footnote⁸</i>			MMR
Varicella ⁹							Varicella		<i>see footnote⁹</i>			Varicella
Hepatitis A ¹⁰							HepA (2 doses)				HepA Series	
Meningococcal ¹¹											MCV	

 Range of recommended ages for all children except certain high-risk groups

 Range of recommended ages for certain high-risk groups

This schedule includes recommendations in effect as of December 15, 2009. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Considerations should include provider assessment, patient preference, and the potential for adverse events. Providers should consult the relevant Advisory

Committee on Immunization Practices statement for detailed recommendations: <http://www.cdc.gov/vaccines/pubs/acip-list.htm>. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS) at <http://www.vaers.hhs.gov> or by telephone, 800-822-7967.

CHILDHOOD IMMUNIZATION SCHEDULE

www.cdc.gov/vaccines/recs/schedules

Changes to the Schedules

0-6 year old and 7-18 year old:

- **MCV revaccination**
- **Combination vaccines**
- **IPV dosing**
- **Bivalent HPV, HPV4 in males**
- **Footnotes revised**

Changes to the Schedules

Adult schedule

- HPV4 and HPV2
- Footnote changes

Updated Recommendations

Pediatric and Adult Vaccines

- ❑ 2010 immunization schedules
- ❑ **PCV13**
- ❑ Meningococcal conjugate revaccination
- ❑ HPV2 and HPV4 for males
- ❑ Influenza

PCV13

- ❑ **Contains same serotypes of *S. pneumoniae* as PCV7**
 - plus serotypes 1, 3, 5, 6A, 7F, and 19A conjugated to nontoxic diphtheria CRM₁₅₇ carrier protein
- ❑ **Each dose contains 0.125 mg of aluminum phosphate adjuvant**
- ❑ **No preservative or latex**
- ❑ **Approved by FDA for use among children 6 weeks through 71 months of age**

ACIP Recommendations for PCV13

- ❑ **Routine vaccination recommendation the same as for PCV7**
 - all children 2 through 59 months of age
 - 4 doses at 2, 4, 6, and 12 to 15 months
 - fewer doses if series started at 7 months of age or older
 - Children 60-71 months with underlying medical conditions that increase risk of pneumococcal disease
- ❑ **Children who have received 1 or more doses of PCV7 should complete the immunization series with PCV13**

MMWR 2010;59(No. 6):258-61

TABLE 2. Recommended routine vaccination schedule for 13-valent pneumococcal conjugate vaccine (PCV13) among infants and children who have not received previous doses of 7-valent vaccine (PCV7) or PCV13, by age at first dose — Advisory Committee on Immunization Practices (ACIP), United States, 2010

Age at first dose (mos)	Primary PCV13 series*	PCV13 booster dose†
2–6	3 doses	1 dose at age 12–15 mos
7–11	2 doses	1 dose at age 12–15 mos
12–23	2 doses	—
24–59 (Healthy children)	1 dose	—
24–71 (Children with certain chronic diseases or immunocompromising conditions‡)	2 doses	—

* Minimum interval between doses is 8 weeks except for children vaccinated at age <12 months for whom minimum interval between doses is 4 weeks. Minimum age for administration of first dose is 6 weeks.

† Given at least 8 weeks after the previous dose.

‡ For complete list of conditions, see Table 1.

• *MMWR* 2010;59(No. 6):258-61

ACIP Recommendations for PCV13 Supplemental Dose

- ❑ **A single supplemental dose of PCV13 is recommended for children who have received a complete age-appropriate series of PCV7**
 - healthy children 14 through **59** months
 - children with an underlying medical condition 14 through **71** months (including those who have already received a dose of PPSV)

MMWR 2010;59(No.6):258-61

TABLE 1. Underlying medical conditions that are indications for pneumococcal vaccination among children, by risk group — Advisory Committee on Immunization Practices (ACIP), United States, 2010

Risk group	Condition
Immunocompetent children	Chronic heart disease* Chronic lung disease† Diabetes mellitus Cerebrospinal fluid leaks Cochlear implant
Children with functional or anatomic asplenia	Sickle cell disease and other hemoglobinopathies Congenital or acquired asplenia, or splenic dysfunction
Children with immunocompromising conditions	HIV infection Chronic renal failure and nephrotic syndrome Diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, and Hodgkin disease; or solid organ transplantation Congenital immunodeficiency§

* Particularly cyanotic congenital heart disease and cardiac failure.

† Including asthma if treated with prolonged high-dose oral corticosteroids.

§ Includes B- (humoral) or T-lymphocyte deficiency; complement deficiencies, particularly C1, C2, C3, and C4 deficiency; and phagocytic disorders (excluding chronic granulomatous disease).

ACIP Recommendations for PCV13 Supplemental Dose

- A single supplemental dose of PCV13 may be administered to children 6 through 18 years of age who are at increased risk for invasive pneumococcal disease*
 - Anatomic or functional asplenia (including sickle cell disease)
 - HIV infection and other immunocompromising conditions
 - cochlear implant
 - CSF leak

***off-label recommendation**

MMWR 2010;59(No. 6):258-61

Updated Recommendations

Pediatric and Adult Vaccines

- ❑ 2010 immunization schedules
- ❑ PCV13
- ❑ **Meningococcal conjugate revaccination**
- ❑ HPV2 and HPV4 for males
- ❑ Influenza

Meningococcal Conjugate Vaccine Recommendations

- Routinely recommended for:
 - All children at 11-18 years of age
 - All college freshmen living in a dormitory
 - Other persons 2 through 55 years of age at increased risk of invasive meningococcal disease

Meningococcal Conjugate Vaccine

High risk Group- Initial Vaccination

- Functional or anatomic asplenia
- Frequent Travelers to and U.S. citizens residing in countries in which *N. meningitidis* is hyperendemic or epidemic
- Persistent complement component deficiency
- Microbiologists routinely exposed to isolates of *N. meningitidis*
- Military recruits
- Children with HIV infection

MMWR Mar 2010;59(09)

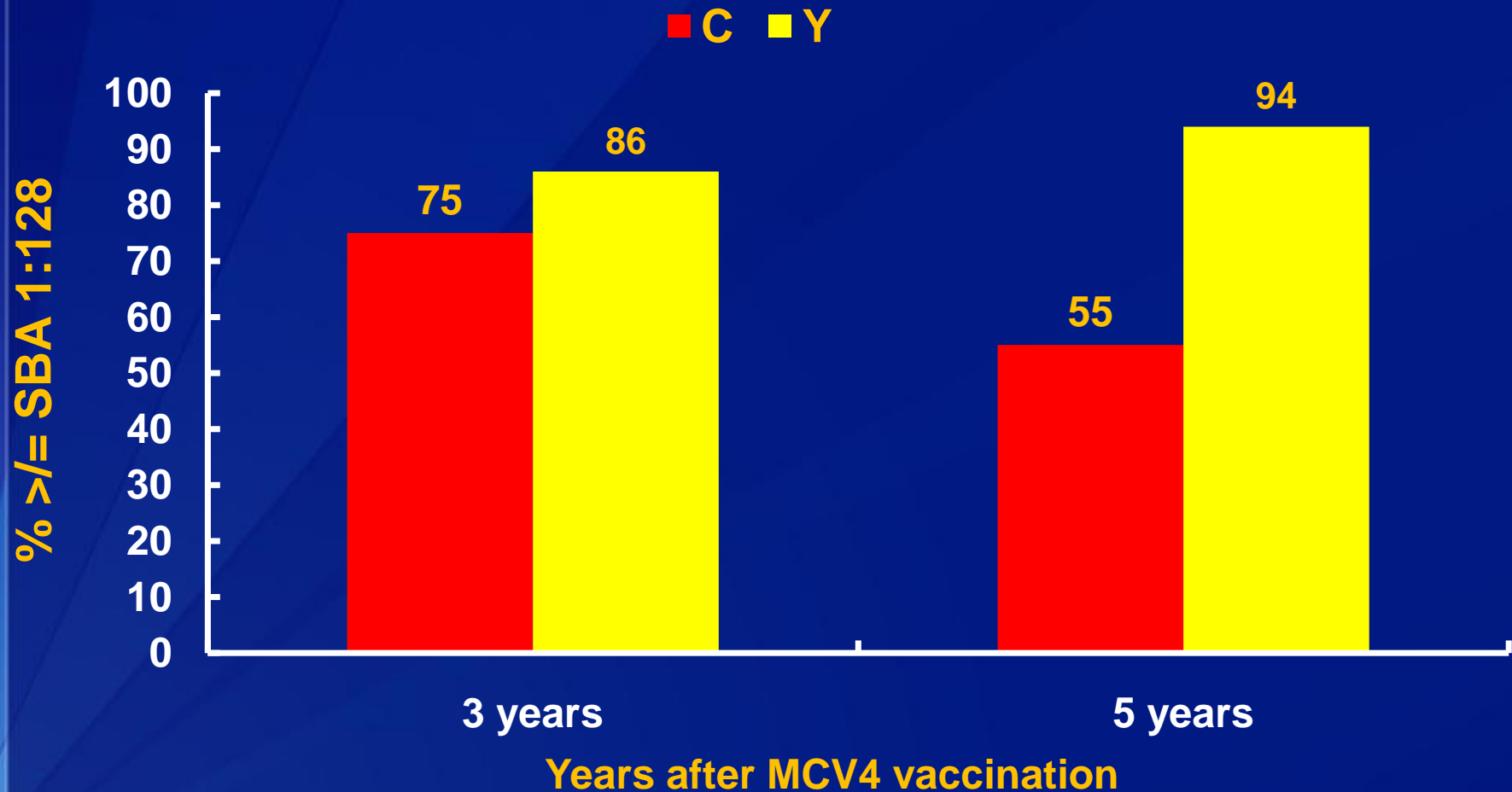
MMWR Dec 2007;56 (48)

2005 Meningococcal ACIP Statement: Revaccination after MCV4

- ❑ In its 2005 recommendations for MCV4, ACIP made no recommendation about revaccination pending the availability of additional data**
- ❑ Serologic data are now available from the manufacturer that show significant decline in antibody 3-5 years after vaccination although few “breakthrough” cases have been reported**

MMWR 2005;54(RR-7)

Seroprotection Rates Following MCV4 Vaccination



MMWR, Sept 2009,58(37)

MCV4 Revaccination Recommendations

- ❑ **Children through age 18 years who received their first dose of MCV4 or MPSV4 at ages 2 through 6 years and remain at increased risk for meningococcal disease should receive an additional dose of MCV4 three years after their first dose***

*off-label recommendation

MMWR 2009;58(No. 37)

MCV4 Revaccination Recommendations

- ❑ Persons through age 55 years who received a dose of MCV4 or MPSV4 after age 6 years and remain at increased risk for meningococcal disease should receive an additional dose of MCV4 five years after their previous dose*
- ❑ Persons 56 years and older needing meningococcal vaccine should receive MPSV

*off-label recommendation

MMWR 2009;58(No. 37)

MCV4 Revaccination Recommendations

□ High-risk persons who should be revaccinated* with MCV4:

- persistent complement component deficiency
- anatomic or functional asplenia
- Microbiologists with prolonged exposure to *Neisseria meningitidis*
- frequent travelers to or persons living in areas with high rates of meningococcal disease

*off-label recommendation

MMWR 2009;58(No. 37)

MCV4 Revaccination Recommendations

- ❑ MCV4 revaccination is NOT currently recommended for persons whose only risk factor is living in on-campus housing (i.e., college student living in a dormitory)**
- ❑ May give MCV4 if college student received MPSV at 11-12 year old age**

Menveo (Men ACYW-CRM) Vaccine

- ❑ **Approved by FDA on February 19, 2010 for persons 11 through 55 years of age**
- ❑ **Lyophilized serogroup A vaccine reconstituted with liquid containing serogroups C, Y, and W135**
- ❑ **May be used for any person 11 through 55 years of age for whom MCV4 is indicated**

Updated Recommendations

Pediatric and Adult Vaccines

- ❑ 2010 immunization schedules
- ❑ PCV13
- ❑ Meningococcal conjugate revaccination
- ❑ HPV2 and HPV4 for males
- ❑ Influenza

HPV Vaccines

□ HPV4 (Gardasil, Merck)

- contains HPV types 16, 18, 6 and 11
- approved for the prevention of cervical, vaginal and vulvar cancers (in females) and genital warts (in females and males)

□ HPV2 (Cervarix, GSK)

- contains HPV types 16 and 18
- approved for the prevention of cervical cancers in females

HPV Vaccine Recommendations

- ❑ Administer the first dose to females at age 11 or 12 years
- ❑ Administer the series to females at age 13 through 18 years if not previously vaccinated
- ❑ HPV4 may be administered in a 3-dose series to males aged 9 through 26 years to reduce their likelihood of acquiring genital warts

HPV4 and Males

- ❑ Only HPV4 licensed for males (Oct 2009)
 - 9 through 26 years
 - 3 dose series

- ❑ **Permissive recommendation by ACIP based on prevention of genital warts (types 6 and 11)**

Future of HPV Vaccines

- ❑ **HPV4 for females 27- 45 years**
 - pending FDA decision

- ❑ **HPV4 for males for prevention of anal cancers**
 - application submitted to FDA

Updated Recommendations

Pediatric and Adult Vaccines

- ❑ 2010 immunization schedules
- ❑ PCV13
- ❑ Meningococcal conjugate revaccination
- ❑ HPV2 and HPV4 for males
- ❑ **Influenza**

Influenza Vaccine Recommendations for the 2010-2011 Season

- ❑ On February 24, 2010, ACIP unanimously approved a revision for the 2010-2011 influenza season.
- ❑ Influenza vaccination recommendations for adults were expanded to include all adults beginning in the 2010-11 influenza season
- ❑ All people age 6 months and older are now recommended to receive annual influenza vaccination.

ACIP provisional recommendation, February 24, 2010

Influenza Vaccine Composition

□ 2009 – 10 : Two (2) vaccines

1. Seasonal 2009 -10

*A/Brisbane/59/2007 (H1N1)-like,
A/Brisbane/10/2007 (H3N2)-like, and
B/Brisbane/60/2008- Victoria lineage*

2. Novel H1N1

A/California/7/2009

□ New for 2010 – 11 (Combined, trivalent)

A/California/7/2009 (H1N1)

A/Perth/16/2009 (H3N2)

B/Brisbane/60/2008 – Victoria lineage

ACIP provisional recommendation, February 24, 2010

2010-11 ACIP Recommendations for Flu Vaccine

□ Recommended for everyone Ages 6 months through adulthood

- Still target high risk groups :
 - Children 6 months through 4 yrs
 - House hold contacts (esp. for those under 6 mos)
 - Adults > 50 yrs, house hold contacts
 - Women who will be pregnant
 - Persons with chronic illnesses
 - immunosuppressed
 - Residents nursing homes
 - Health care workers

2010-11 Influenza Vaccination for Children 6 mos through 8 years old

- ❑ All children ages 6 mos through 8 yrs who receive a seasonal influenza vaccine for the first time should be given 2 doses
- ❑ Children who receive only 1 dose of a seasonal influenza vaccine in the first influenza season they receive vaccine, should receive 2 doses, rather than 1, in the following influenza season

In addition, for the 2010-11 influenza season, children ages 6 mos through 8 yrs who did **not** receive at least 1 dose of an influenza A(H1N1) 2009 monovalent vaccine should receive **2** doses of a 2010-11 seasonal influenza vaccine, regardless of previous influenza vaccination history

Updated Recommendations

Pediatric and Adult Vaccines

- ❑ 2010 immunization schedules
- ❑ PCV13
- ❑ Meningococcal conjugate revaccination
- ❑ HPV2 and HPV4 for males
- ❑ Influenza
- ❑ **Other recommendations**

Hep A Vaccine

Hepatitis A vaccine for all household contacts and other close personal contacts (e.g. regular babysitters) of international adoptees from countries with high or intermediate Hep A endemicity

Zoster and Pneumococcal Polysaccharide (PPSV) Vaccines

- **Zoster package insert advises that zoster and PPSV should not be administered concurrently**
- **Based on a study that showed the titer against VZV was lower in persons who received zoster and PPSV at the same visit compared to persons who received these vaccines 4 weeks apart**
- **CDC has not changed its recommendation for either vaccine**
- **Zoster and PPSV should be administered at the same visit if the person is eligible for both vaccines**

Pertussis Tdap and DTaP Vaccines

PERTUSSIS (WHOOPING COUGH)
IS SPREADING IN YOUR COMMUNITY



To protect yourself and your baby, get vaccinated against pertussis.

Pertussis (whooping cough) is a serious disease for babies. Adults and older children can spread pertussis to babies.

Pertussis is very contagious. It can cause serious illness and even death. Most infants who get the disease must be hospitalized.

Find out about the booster shot (Tdap) that's recommended for yourself, older children, and other adults, including grandparents and babysitters.

<http://www.cdc.gov/features/pertussis>



National Center for Immunization & Respiratory Diseases
Office of the Director



CS13876
The recommended flu shot from www.cdc.gov/flu is available at www.cdc.gov/flu/pertussis. Get it with your flu shot at the same time.

www.cdc.gov/vaccines/vpd-vac/pertussis

Increasing Vaccine Coverage Rates

Task Force on Community Preventive Services

How to Increase Vaccination Levels

- 1. Enhance access**
- 2. Increase demand**
- 3. Address provider barriers**

10 Tips for Increasing Rates

- ❑ **Recommend the vaccine**
- ❑ **Send patient reminders/recall**
- ❑ **Have all providers agree on a unified schedule**
- ❑ **Use standing orders**
- ❑ **Use true contraindications only**
- ❑ **Give all recommended vaccines**
- ❑ **Use provider reminders**
- ❑ **Use a team approach to vaccination**
- ❑ **Document the vaccines you give**
- ❑ **Let the parent know about the next well check / vaccine due**

What You Say and Do DOES Matter



Providers Can Change Minds

2003-2004 NIS interviews suggested:

1. 28% of parents doubtful about benefits & safety of certain vaccines
 2. Doubtful parents delayed or refused their child's vaccination
- Most parents who changed their minds about delaying or refusing vaccination cited information from their physician as the main reason for the change

Parents With Doubts About Vaccines: Which Vaccines and Reasons Why

Deborah A. Gust, PhD, MPH, Natalie Darling, MPH, Allison Kennedy, MPH, Ben Schwartz, MD, MPH

*National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia; *National Vaccine Program Office, Washington, DC

The authors have indicated they have no financial relationships relevant to this article to disclose.

What's Known on This Subject

Publication has focused on vaccine safety in the past 2 decades, because of real and coincidental adverse events after immunization, decreases in vaccine-preventable diseases, high safety standards for vaccines, and increased interest in obtaining complete information about medical care.

What This Study Adds

This study adds to the existing literature on parental vaccine concerns in that it identifies the specific vaccines that prompted vaccine doubt or concern and the reasons why.

ABSTRACT

OBJECTIVES. The goals were (1) to obtain national estimates of the proportions of parents with indicators of vaccine doubt, (2) to identify factors associated with those parents, compared with parents reporting no vaccine doubt indicators, (3) to identify the specific vaccines that prompted doubt and the reasons why, and (4) to describe the main reasons parents changed their minds about delaying or refusing a vaccine for their child.

METHODS. Data were from the National Immunization Survey (2003–2004). Groups included parents who ever got a vaccination for their child although they were not sure it was the best thing to do (“unsure”), delayed a vaccination for their child (“delayed”), or decided not to have their child get a vaccination (“refused”).

RESULTS. A total of 3924 interviews were completed. Response rates were 57.9% in 2003 and 65.0% in 2004. Twenty-eight percent of parents responded yes to ever experiencing ≥ 1 of the outcome measures listed above. In separate analyses for each outcome measure, vaccine safety concern was a predictor for unsure, refused, and delayed parents. The largest proportions of unsure and refused parents chose varicella vaccine as the vaccine prompting their concern, whereas delayed parents most often reported “not a specific vaccine” as the vaccine prompting their concern. Most parents who delayed vaccines for their child did so for reasons related to their child’s illness, unlike the unsure and refused parents. The largest proportion of parents who changed their minds about delaying or not getting a vaccination for their child listed “information or assurances from health care provider” as the main reason.

CONCLUSIONS. Parents who exhibit doubts about immunizations are not all the same. This research suggests encouraging children’s health care providers to solicit questions about vaccines, to establish a trusting relationship, and to provide appropriate educational materials to parents. *Pediatrics* 2008;122:718–725

www.pediatrics.org/cgi/doi/10.1542/peds.2007-0538
doi:10.1542/peds.2007-0538

The findings and conclusions in this report are those of the author and do not necessarily represent the views of the Centers for Disease Control and Prevention.

Key Words: parents, vaccine concern, doubt, refusal, delay, unsure

Abbreviation: NIS—National Immunization Survey
Accepted for publication Dec 21, 2007

Address correspondence to Deborah A. Gust, PhD, MPH, National Center for HIV, Viral Hepatitis, STD and TB Prevention, Mail Stop E-45, Atlanta, GA 30333; E-mail: dgust@cdc.gov

PEDIATRICS (ISSN Numbers: Print, 0031-4020; Online, 1099-4275) published in the public domain by the American Academy of Pediatrics

Resources

Provider Resources

CDC's vaccines website for Health care providers

<http://www.cdc.gov/vaccines/hcp.htm>

Immunization Action Coalition

<http://www.immunize.org/>

American Academy of Pediatrics

<http://www.aap.org/healthtopics/immunizations>

Children's Hospital of Philadelphia(CHOP)

<http://www.chop.edu/consumer/jsp/microsite/microsite.jsp?id=75918>

FDA

<http://www.fda.gov/BiologicsBloodVaccines/default.htm>

National Library of Medicine – Medline Plus

<http://medlineplus.gov/>

National Network for Immunization Information

<http://www.nnii.org/>

Department of Health and Human Services
Centers for Disease Control and Prevention

Vaccines & Immunizations

[View past topics](#)



- [Email this page](#)
- [Printer-friendly version](#)
- [? Help](#)
- [Glossary](#)
- [* Sitemap](#)

In the Spotlight

- [... \(Jun 9\)](#)
- [... now for July 1 netconference: Update on Vaccine Administration Recommendations and Best Practices in Vaccine Administration \(Jun 7\)](#)
- [ACIP Recommendations on HPV for Cervarix and Gardasil \(Jun 2\)](#)
- [... for combination vaccine MMRV now available \(May 24\)](#)

Sign up to be notified when this page is updated



For Specific Groups

Audience specific:

- Providers**
- [Parents](#)
- [Travelers](#)
- [Program Managers](#)



Sorted for:

- [Infants & Toddlers](#)
- [Young Children](#)
- [Pre-teens & Adolescents](#)
- [College Students](#)
- [Adults](#)
- [Pregnant Women](#)

[More >>](#)

Vaccination Records



Tips for finding your [child's vaccination record](#).

Healthcare Professionals home page



[GO >>](#)

Program Managers home page



[GO >>](#)

Seasonal Flu

FLU.GOV

Know what to do about the flu.

[VISIT FLU.GOV](#)

[SHARE THIS WIDGET](#)

Vaccines & Immunizations Topics

Immunization Schedules

Child, adolescent, & catchup schedules, adult schedule, instant scheduler for children up to 6 years old, catch-up immunization scheduler tool, adolescent & adult quiz (11 yrs & up), adult immunization scheduler tool ...more

Vaccines in the United States

Vaccine shortages and delays, questions answered about vaccines, who should not be vaccinated, potential new vaccines, vaccine basics, education and training, ...more

Basic & Common Questions

Common questions, why immunize, how vaccines prevent disease, immunity types, common misconceptions, risks of not vaccinating, ...more

Statistics & Surveillance

Immunization coverage rates, school

Recommendations

Advisory Committee on Immunization Practices (ACIP), ACIP vaccination recommendations published in MMWR, Vaccine Information Statements (VIS), provisional recommendations, ...more

Vaccines & Preventable Diseases

What diseases are vaccine preventable, questions answered about specific diseases, photos of diseases, ...more

Vaccine Side Effects & Safety

Possible vaccine side effects, concerns about the safety of vaccines, vaccine safety research, vaccine safety datalink project, report a vaccine adverse reaction, ...more

Requirements & Laws

School requirements, state

2 ways to get to the Healthcare Provider Portal

www.cdc.gov/vaccines

For Healthcare Professionals / Providers

What's New!

- MMWR: [Addition of Severe Combined Immunodeficiency \(SCID\) as a Contraindication for Administration of Rotavirus Vaccine](#) (Jun 11)
- [Vaccine Price List updated](#) (Jun 9)
- [Register now for July 1 netconference on Vaccine Administration](#) (Jun 7)
- [ACIP Recommendations on Cevaxir and Gardasil](#) (Jun 2)

[More »](#)

Adult Immunization Scheduler

Catch-Up Immunization Scheduler

Provider Resources for Vaccine Conversations with Parents



Materials to help you **talk with parents about vaccines**

Clinical Resources

Immunization Schedules

Printable vaccine charts for children, catch-up; pocket-size, summary of recommendations, instant child scheduler, download adult scheduler tool, download catch-up scheduler

Detailed Vaccination Recommendations

General ACIP recommendations for vaccine-specific recs (link to MMWR); professional/pending ACIP recommendations, vaccine recommendations for emergencies

Vaccine Shortages and Recalls

Traveler Recommendations

Required and recommended vaccines needed by destination

Pink Book (Epidemiology and Prevention of VPDs)

Chapters, appendices, slide sets

Clinical FAQs

CDC experts answer FAQs; "Ask the Experts" at IAC

Vaccine Adverse Event Reporting (VAERS)

Report an adverse event after immunization, contact information, VAERS Table of Reportable Events Following Vaccination

Administrative Tools

Storage & Handling of Your Vaccine Supply

Shelf life, storage requirements, instructions for reconstitution, storage and handling toolkit, checklist, power outages, refrigerator logs, handling tips

Vaccine Administration Protocols

Contraindications; dosage, route, site; screening and checklists; reference tables; provider's role; minimal ages & intervals; vaccine ingredients; managing vaccine reactions; indications

Vaccines for Children (VFC)

Price list, contacts, FAQs, ACIP-VFC vaccine resolutions, eligibility screening, enrollment

Standing Orders

Healthcare Personnel

Vaccine recs for healthcare workers; "Ask the Experts" about healthcare workers; infection control

Reminder Systems and Strategies for Increasing Vaccination Rates

U.S. Coverage Rates & Surveillance

National Immunization Survey (NIS) at national, state, and local levels for children, teens, adults

Immunization Training

All Training and CE Offerings

FREE Continuing Education (CE), webcasts, self-study, "current issues" net-conferences, annual update on immunizations and vaccines; find training you need by type, date, location; upcoming courses.

Patient Education

Vaccine Information Statements (VIS)

NEW MMRV VIS
Printable VISs in other languages, why VISs are mandatory, what's new, are these informed consent forms?

Educating Patients

Printable flyers for various age groups, racial and ethnic groups, Spanish speakers, travelers; FAQs for parents & guardians; Parents' version of recommended immunization schedule; Resources for conversations with parents

Parents Who Question Vaccines

What risks are parents taking in their child's healthcare? Importance of childhood immunizations

Spanish Language

Vaccination specific, disease specific, campaign specific, websites, videos and PSAs

Vaccine Safety

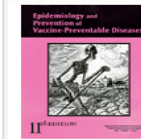
Vaccine injury table, thimerosal content in some vaccines, testing vaccines, monitoring the safety of vaccines, thimerosal and autism, multiple vaccines, HPV vaccine safety, fainting after vaccination, resources for conversations with parents

Sign up to be notified when this page is updated



[Get Email Updates](#)

That's in the Pink Book? **UPDATED FOR JUNE**



Each month we highlight a resource previously hidden within the 400+ pages of *Epidemiology and Prevention of Vaccine-Preventable Diseases*.

For June, it's **Immunization Site Map**. Photos point to location on a child's body and suggested needle length for administering separate and combination vaccines.

See page D-18 or [online](#) [1.01 MB]

Vaccine-Preventable Diseases (VPDs)

Includes clinical information, vaccine recommendations, photos, references & resources, provider education, standing orders, materials for patients for each VPD

See also [List of vaccines](#)

- [Anthrax](#)
- [Diphtheria](#)
- [Hepatitis A](#)
- [Hepatitis B](#)
- [Hib](#)
- [Human Papillomavirus \(HPV\)](#)
- [Influenza](#)
- [Japanese Encephalitis](#)
- [Measles](#)
- [Meningococcal](#)
- [Mumps](#)
- [Pertussis](#)
- [Pneumococcal](#)
- [Polio](#)
- [Rabies](#)
- [Rotavirus](#)
- [Rubella](#)
- [Shingles](#)
- [Smallpox](#)
- [Tetanus](#)
- [Typhoid Fever](#)
- [Varicella](#)
- [Yellow Fever](#)

Get The Picture: Childhood Immunizations



After talking with parents across the country, CDC put together this short video to help answer the tough questions that real moms had about childhood immunizations. Understanding the importance of vaccines is crucial for you to protect your children's health.

[CDC-TV: Childhood Immunizations »](#)

Email your questions and feedback

Send your clinical vaccine questions to NIPINFO@cdc.gov
Send your feedback about this website to NCIRDwebteam@cdc.gov

Other Health Web Sites

- [CDC and Medscape's series of commentaries](#)
- [American Academy of Pediatrics \(AAP\)](#)
- [Immunization Action Coalition \(IAC\)](#)
- [Children's Hospital of Philadelphia \(CHOP\)](#)

Clinical Resources:

• Immunization schedules

• Web-based interactive scheduler for children and adults

• ACIP recommendations

www.cdc.gov/vaccines/HCP

Clinical Resources

Immunization Schedules

Printable vaccine charts for children, adolescents, adults, & catch-up; pocket-size, summary of recommendations; instant child scheduler; download adult scheduler tool; download catch-up scheduler tool

Detailed Vaccination Recommendations

General ACIP recommendations and vaccine-specific recs (links to MMWR articles); provisional / pending ACIP recommendations; vaccine recommendations for emergency

Vaccine Shortages and Recalls

Traveler Recommendations

Required and recommended vaccines needed by destination

Pink Book (Epidemiology and Prevention of VPDs)

Chapters, appendices, slide sets

Clinical FAQs

CDC experts answer FAQs; "Ask the Experts" at IAC

Vaccine Adverse Event Reporting (VAERS)

Report an adverse event after immunization; contact information; VAERS Table of Reportable Events Following Vaccination

Vaccines Home > Publications > ACIP Recommendations

Vaccine-Related Topics

- > Immunization Schedules
- > Recommendations and Guidelines
- > Basics and Common Questions
- > Vaccination Records
- > Vaccine Safety and Adverse Events
- > For Travelers
- > For Specific Groups of People
- > Campaign Materials

Additional Resources

- > Publications
- > Vaccine Information Statements (VIS)
- > Textbooks, Manuals and Guidelines
- > Flyers and Brochures
- > Posters
- > Videos, Broadcasts, Webcasts, Podcasts

- > More Sources of Publications
- > News and Media Releases
- > Calendars and Events
- > Education and Training Programs and Tools
- > Statistics and Surveillance
- > Partners' & Related Sites
- > About NCIRD

Contact CDC

For immunization information, call the CDC

Publications:

ACIP Recommendations

Advisory Committee for Immunization Practices (ACIP)

On This Page:

- [Comprehensive](#) (Recommendations applying to multiple or all vaccines)
- [Vaccine-specific](#) (Recommendations applying to a single vaccine or disease)



Get Email Updates

- ? [Help](#)
- [Glossary / Acronyms](#)
- * [Site Map](#)

Quick Links

- > [ACIP main page](#)
- > [Vaccines & Preventable Diseases](#)

Related Pages

- > [Archived ACIP Recommendations](#)
- > [Provisional Recs](#)
- > [Other MMWRs](#)
- > [VFC ACIP Resolutions](#)
- > [Vaccine Recommendations for Emergency Situations](#)

Comprehensive Recommendations

General Recommendations on Immunization (12/1/06)

"General Recommendations on Immunization"
[.pdf version](#) [PDF-1.70MB / 56 pages]

Health-Care Workers (12/1/97)

"Immunization of Health-Care Workers"
[.pdf version](#) [PDF-998KB / 51 pages]
See also [Immunization of Health-Care Personnel](#)

ACIP Provisional Recommendations for the Use of Combination Vaccines

[PDF-19KB / 1 page] Date ACIP Approved: June 2009

Archived Comprehensive ACIP Recommendations

Vaccine-Specific Recommendations

In This Section:

- [Anthrax](#)
- [BCG](#)
- [Hepatitis A](#)
- [Hepatitis B](#)
- [Hib](#)
- [Hib and DTP](#)
- [HPV](#) **UPDATED**
- [Influenza and H1N1](#)
- [Japanese Encephalitis](#)
- [Measles, Mumps & Rubella](#)
- [MMRV](#) **NEW**
- [Meningococcal](#)
- [Pertussis](#)
- [Pneumococcal Conjugate \(PCV\)](#)
- [Pneumococcal Polysaccharide \(PPSV\)](#)
- [Polio](#)
- [Rabies](#)
- [Rotavirus](#) **UPDATED**
- [Smallpox \(Vaccinia\)](#)
- [Tdap \(adolescents\) and Tdap \(adults\)](#)
- [Tdap and Td Vaccines and Pregnancy](#)
- [Typhoid](#)
- [Varicella \(Chickenpox\)](#)
- [Yellow Fever](#)

Also available on
MMWR site
www.cdc.gov/mmwr

Subscribe for email alerts sent
as recs are added or updated

Vaccine specific
recommendations

Provisional
Recommendations

www.cdc.gov/vaccines/pubs/acip-list.htm

For Healthcare Professionals / Providers

What's New!

- MMWR: [Addition of Severe Combined Immunodeficiency \(SCID\) as a Contraindication for Administration of Rotavirus Vaccine](#) (Jun 11)
- [Vaccine Price List updated](#) (Jun 9)
- [Register now for July 1 netconference on Vaccine Administration](#) (Jun 7)

[More >>](#)

Adult Immunization Scheduler



Provider Resources for Vaccine Conversations with Parents



Materials to help you talk with parents about vaccines.

New Materials!

Provider Resources for Vaccine Conversations with Parents

Vaccine Information Statements

Award winning video for parents answering their immunization questions

Clinical Resources

Immunization Schedules

Printable vaccine charts for children, adolescents, adults, & catch-up; pocket-size, summary of recommendations, instant child scheduler, download adult scheduler tool, download catch-up scheduler tool

Detailed Vaccination Recommendations

General ACIP recommendations and vaccine-specific recs (links to MMWR articles); provisional / pending ACIP recommendations, vaccine recommendations for emergencies

Vaccine Shortages and Recalls

Recommendations

Required and recommended vaccines needed by destination

Pink Book (Epidemiology and Prevention of VPDs)

Chapters, appendices, slide sets

Clinical FAQs

CDC experts answer FAQs; "Ask the Experts" at IAC

Vaccine Adverse Event Reporting (VAERS)

Report an adverse event after immunization, contact information, VAERS Table of Reportable Events Following Vaccination

Administrative Tools

Storage & Handling of Your Vaccine Supply

Shelf life, storage requirements, instructions for reconstitution, storage and handling toolkit, checklist, power outages, refrigerator logs, handling tips

Vaccine Administration Protocols

Contraindications; dosage, route, site; screening and checklists; reference tables; provider's role; minimal ages & intervals; vaccine ingredients; managing vaccine reactions; indications

Vaccines for Children

Price list, contacts, FAQs, ACIP-VFC vaccine resolutions, eligibility screening, enrollment

Standing Orders

Healthcare Personnel

Vaccine recs for healthcare workers; "Ask the Experts" about healthcare workers; infection control

Reminder Systems and Strategies for Increasing Vaccination Rates

U.S. Coverage Rates & Surveillance

National Immunization Survey (NIS) at national, state, and local levels for children, teens, adults

Immunization Training

All Training and CE Offerings

FREE Continuing Education (CE), webcasts, self-study, "current issues" net-conferences, annual update on immunizations and vaccines; find training you need by type, date, location; upcoming courses.

Patient Education

Vaccine Information Statements (VIS)

Printable VISs, VISs in other languages, why VISs are mandatory, what's new, are these informed consent forms?

Educating Patients

Printable flyers for various age groups, racial and ethnic groups, Spanish speakers, travelers, FAQs for parents & guardians; Parents' version of recommended immunization schedule; Resources for conversations with parents

Parents Who Question Vaccines

What risks are parents taking in their child's healthcare? Importance of childhood immunizations

Spanish Language

Vaccination specific, disease specific, campaign specific, websites, videos and PSAs

Vaccine Safety

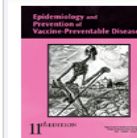
Vaccine injury table, thimerosal content in some vaccines, testing vaccines, monitoring the safety of vaccines, thimerosal and autism, multiple vaccines, HPV vaccine safety, fainting after vaccination, resources for conversations with parents

Sign up to be notified when this page is updated



[Get Email Updates](#)

That's in the Pink Book? **UPDATED FOR JUNE**



Each month we highlight a resource previously hidden within the 400+ pages of *Epidemiology and Prevention of Vaccine-Preventable Diseases*.

For June, it's Immunization Site Map. Photos point to location on a child's body and suggested needle length for administering separate and combination vaccines.

See page D-18 or [online](#) [1.01 MB]

Vaccine-Preventable Diseases (VPDs)

Includes clinical information, vaccine recommendations, photos, references & resources, provider education, standing orders, materials for patients for each VPD

See also [List of vaccines](#)

- Anthrax
- Diphtheria
- Hepatitis A
- Hepatitis B
- Hib
- Human Papillomavirus (HPV)
- Influenza
- Japanese Encephalitis
- Measles
- Meningococcal
- Pertussis
- Pneumococcal
- Polio
- Rabies
- Rotavirus
- Rubella
- Shingles
- Smallpox
- Tetanus
- Typhoid Fever
- Varicella

Get The Picture: Childhood Immunizations



After talking with parents across the country, CDC put together this short video to help answer the tough questions that real moms had about childhood immunizations. Understanding the importance of vaccines is crucial for you to protect your children's health.

[CDC-TV: Childhood Immunizations >>](#)

New Vaccine Research and Development

Email your questions and feedback

Send your clinical vaccine questions to NIPINFO@cdc.gov

Send your feedback about this website to NCIRDwebteam@cdc.gov

Other Health Web Sites

- CDC and Medscape's series of commentaries
- American Academy of Pediatrics (AAP)
- Immunization Action Coalition (IAC)
- Children's Hospital of Philadelphia (CHOP)
- National Library of Medicine - Medline Plus

www.cdc.gov/vaccines/HCP

Information for providers

Information for parents

Subscribe for email alerts as materials are added or updated

Provide feedback on the new materials

Vaccines: Spec-Grps/Provider Resources for Conversations with Parents - Windows Internet Explorer provided by ITSO

http://www.cdc.gov/vaccines/spec-grps/hcp/conversations.htm

Vaccines & Immunizations

Vaccines Home > For Specific Groups of People > Providers > Resources for Vaccine Conversations

Vaccine-Related Topics

- Immunization Schedules
- Recommendations and Guidelines
- Vaccines & Preventable Diseases
- Basic and Common Questions
- Vaccination Records
- Vaccine Safety and Adverse Events
- For Travelers
- For Specific Groups of People
 - Adults
 - American Indian / Alaska Native
 - Children (2-10 yrs old)
 - College Students and Young Adults
 - Healthcare Workers
 - Infants and Toddlers
 - International Adoptions
 - Kid-Friendly Sites
 - Parents
 - People with Specific Diseases
 - Pregnant Women

For Specific Groups of People:

Provider Resources for Vaccine Conversations with Parents

Making it to talk with parents about vaccines during the well-child visit may be challenging.

Here's some help: Materials that help you assess parents' needs, identify the role they want to play in making decisions for their child's health, and then communicate in ways that meet their needs. These resources are collectively called *Provider Resources for Vaccine Conversations with Parents*.

Information for Healthcare Providers
Strengthen communication and trust between you and parents with these resources.

Materials for Parents
Download and print educational materials for parents.

Feedback
Review the materials and give us your feedback.

Get Email Updates
Be sure to sign up to get email updates when materials are added.

Related Pages

- Materials for Vaccine Conversations with Parents
- Healthcare Providers main page
- Vaccine Safety

Provider Resources for Vaccine Conversations

Give us anonymous feedback on these materials

Tell Us

www.cdc.gov/vaccines/conversations

Information for providers

Information for Healthcare Providers

Talking with Parents about Vaccines for Infants



Suggested audience: Healthcare providers

Content: This flyer offers communication strategies for successful vaccine conversations with parents and caregivers.

Printed size: 8.5"x 11" **Orientation:** Portrait **Number of pages:** 4

B&W, office printing	Color, office printing	B&W, commercial	Color, commercial
[PDF-703KB]	[PDF-1MB]	[PDF-700KB]	[PDF-1MB]

NOTE: B&W (black & white), office printing PDF is Section 508-compatible.

! WARNING: The commercial printer files are large and might take a minute or two to download.

[TOP](#)

Information for providers AND parents

Materials for Healthcare Providers and Parents

SERIES: Vaccine Safety



Suggested audience: Healthcare providers and parents and caregivers who have questions or concerns about the MMR vaccine.

Content: Common questions about vaccine risk and effectiveness are answered in plain language in this series of fact sheets. Published scientific studies are also summarized in these materials.

Printed size: 8.5"x 11" **Orientation:** Portrait **Number of pages:** 2

Fact sheets in series: 3 total

Table shows fact sheets currently available (there will be a total of 3 in this series).

Item Name	B&W, office printing	Color, office printing	B&W, commercial	Color, commercial
Understanding MMR Vaccine Safety	[PDF-325KB]	[PDF-322KB]	[PDF-326KB]	[PDF-322KB]

NOTE: B&W (black & white), office printing PDF is Section 508-compatible.

[TOP](#)

Information for parents

Materials for Parents

SERIES: Diseases & the Vaccines that Prevent Them

Download options:

- B/W or color
- Office or commercial print files

Talking with Parents About Vaccines for Infants

- Audience: Healthcare providers
- During the Office Visit
 - Take time to listen
 - Solicit and welcome questions
 - Keep the conversation going
 - Use a mix of science and personal anecdotes
 - Acknowledge benefits and risks
 - Respect parents' authority
- After the Office Visit
 - Document parents' questions/concerns
 - Follow up a few days after the visit

Information for providers |


Talking with Parents about Vaccines for Infants

Physicians, nurses, and parents agree: times have changed. Because of questions or concerns about vaccines, well-child visits can be stressful for parents. As their infant's healthcare provider, you remain parents' most trusted source of information about vaccines, and your personal relationship uniquely qualifies you to help support parents in understanding and choosing vaccinations.

However, time for infant health evaluation at each well visit is at a premium, as you check physical, cognitive, and other milestones and advise parents on what to expect in the coming months. Therefore, making time to talk about vaccines may be stressful for you. But when an infant is due to receive vaccines, nothing is more important than making the time to assess the parents' information needs as well as the role they desire to play in making decisions for their child's health, and then following up with communication that meets their needs.

When it comes to communication, you may find that similar information—be it science or anecdote or some mix of the two—works for most parents you see. But keep a watchful eye to be sure that you are connecting with each parent to maintain trust and keep lines of communication open.



We hope that these brief reminders—and the materials that you, your staff, and parents can find on our website—will help ensure your continued success in immunizing infants and children. Success may mean that all vaccines are accepted when you recommend them, or that some vaccines are scheduled for another day. If a parent refuses to vaccinate, success may simply mean keeping the door open for future discussions about choosing vaccination.



THIS RESOURCE COVERS:

- What you may hear from parents about their vaccine safety questions and how to effectively address them when raised
- Proven communication strategies and tips for having a successful vaccine conversation with parents

Nurses and other office staff can play a key role in establishing and maintaining a practice-wide commitment to communicating effectively about vaccines and maintaining high vaccination rates, from providing parents with educational materials, to being available to answer their questions, to making sure that families who may opt for extra visits for vaccines make and keep vaccine appointments.

1

Feedback: www.cdc.gov/vaccines/tellus

Safety Series-MMR

Understanding MMR Vaccine Safety

| vaccine safety |

• CDC recommends two doses of the measles, mumps, and rubella vaccine—MMR vaccine—for children because it protects them against dangerous, even deadly, diseases.

• The MMR vaccine has a long record of safety. Serious risks of MMR vaccine are rare. All reputable scientific studies have found no relationship between MMR vaccine and autism.

• The routinely recommended age for the first MMR dose is 12 through 15 months. The routinely recommended age for the second MMR dose is 4 through 6 years.

• If there is an outbreak of one of the diseases, health authorities might recommend the vaccine be given earlier.

if either has any concerns about a child's development. One of a pediatrician's responsibilities is to monitor a child's development for any signs of problems that can be prevented or treated. Pediatricians and parents should partner to learn the signs of normal development and to act early if they suspect there may be a problem. For more information, visit www.cdc.gov/ncbddd/nation/ArtEarly/default.htm.

A second reason that some people think MMR vaccine may cause autism stems from a 1998 study in the United Kingdom. It claimed that MMR vaccine could contribute to the development of autism. This study received a great deal of media coverage. At the time of the study, MMR vaccine had been in use for only 10 years in the U.K. During that period, the diagnosis of autism increased and parents, doctors, and scientists alike wanted to know the reason why. Since 1998, 10 of the 13 authors have withdrawn their support of the study. This study was followed rapidly by many larger population studies totaling thousands of children that found that MMR vaccine is not responsible for a rise in autism. Most recently, in 2008, a study from Columbia University did not repeat the findings of the U.K. study. The 2008 study showed no connection between MMR vaccine and autism.

What's the harm in delaying the first MMR shot until my child is age two or older?

The MMR vaccine is recommended to be given during ages 12 through 15 months. If you wait to give it later, your child could get measles, mumps, and/or rubella. All of these diseases are still out there. For example, in 2008, there were 140 measles cases in the U.S., more than any year since 1996. Seventeen were children under 12 months old—too young to be vaccinated according to the routine recommendation. Another nine were in unvaccinated 12- through 15-month-olds; this is the age when the vaccine is recommended. And 72 cases were in children and teens 16 months old through 19 years old who had not received the vaccine. Seventeen people, including six children younger than 15 months old, had hospital stays for complications from measles. Following U.S. recommendations for using MMR vaccine is the best way to protect children from these diseases and avoid outbreaks.

| questions and answers |

All reputable scientific studies have found no link between MMR vaccine and autism. So, why do some people think that MMR vaccine causes autism?

There are a couple of reasons for this. Some parents of children with autism say they first noticed signs of autism a few days, weeks, or months after their child received MMR vaccine. They usually explain that their child was developing normally, and then signs of autism appeared after MMR vaccination.

Sometimes, signs of autism do not appear until around the age that the first dose of MMR is given. Some toddlers who've turned one year old—or even two or three years old—regress. That is, they lose the ability to do things that they once were able to do. If regression follows a memorable event like a trip to the doctor for vaccinations, this may seem like cause and effect.

There may be signs of autism before a child is old enough to get the first dose of MMR, at age 12 through 15 months. Parents and pediatricians should work together and meet immediately



- **Primary Audience: HCPs to assist in answering parent concerns about MMR vaccine**
- **Secondary Audience: parents who are concerned about MMR vaccine safety**
- **Includes scientific research references**

www.cdc.gov/vaccines/spec-grps/hcp/conv-materials.htm#providers

Diseases and the Vaccines that Prevent Them Series --Measles

- Audience: Parents questioning vaccine safety and/or necessity
- Helps providers answer parent questions
- Personal story of infection with a VPD
- Quotations from authoritative sources CDC, AAP, AAFP and WHO
- Lists risks and benefits of MMR vaccine
- Provides sources for more information

MEASLES

106 Degrees

If you hear "106 degrees" you probably think "that was" not a baby's temperature. But for Megan Campbell's 10-month-old son, a bout of measles caused two weeks of life-threatening fever.

"After picking our son up at day care because he had a fever," says Megan, "we went straight to our pediatrician, and she said it was just a virus. But two days later his fever went up to 104 and a rash appeared on his head."

The rash quickly crept down to his arms and chest. San Diego-based Megan and husband Chris turned to the Internet. Finding pictures of measles that looked like their son's rash, they rushed him to the local children's hospital.

"No one there had seen or tested for measles for about 17 years," says Megan. "The next day, an infectious disease specialist confirmed measles."

"We spent three days in the hospital fearing we might lose our baby boy. Even after he was released, he still had a 106-degree fever. We spent the next week waiting at all hours, bathing him in ice, and giving him fever reducers."

Thankfully, the baby recovered fully. Megan now knows that her son was exposed to measles during his 10-month check-up, when a woman brought her ill daughter into the pediatrician's waiting room. A CDC investigator found that the girl and her sibling had gotten measles overseas and brought it back to the U.S. They had not been vaccinated.

"People who choose not to vaccinate their children actually make a choice for all children," Megan explains. "At 10 months, my son was too young to get MMR vaccine. But when he was 12 months old, we got him the vaccine—even though he wasn't susceptible to measles anymore. So, he won't suffer from mumps or rubella, or spread them to anyone else."

Measles Symptoms

Measles begins with an increasing fever, then coughing, runny nose, or pink eye, and finally, rash breaks out. Rash usually starts on the head and then spreads to the rest of the body. Fever can persist, getting as high as around 105 °F, and can last for up to a week, and coughing can last about 10 days.

Measles Is Serious

According to CDC's Dr. Kathleen Callaghan, "Measles ranges from a pretty uncomfortable disease to very serious one. For example, for every 1,000 children who get measles in a developed country like the U.S., one to three of them die, despite the best treatment. Even as recently as 2000 through 2007, one out of every four persons in the U.S. who got measles had to be hospitalized." Many of these serious cases were among children.

DISEASES and the VACCINES THAT PREVENT THEM

Exposed People Who Have Not Been Vaccinated Almost Always Get Measles

Measles is one of the most contagious diseases known. It spreads by direct contact with respiratory droplets. For example, if someone who is contagious coughs or sneezes on a surface and then someone who is susceptible comes into contact with the droplets, they are very likely to get measles as a result. You can catch measles just by being in a room where a person with measles has been—even if the person is gone!

Vaccine Has Made Measles Rare in U.S., but Not Worldwide

Thanks to vaccination, the number of cases in the U.S. reached an all-time low of 57 cases in 2004. But around the world, measles still causes more than 100,000 deaths each year. There is no drug to cure measles.

"It's critical to remember the global picture for any vaccine-preventable disease," says World Health Organization pediatrician Dr. Peter Strebel. "More than ever, we live in a global society where travel is common. And even if you and your family don't travel, you can come into contact with travelers anywhere in your community from the grocery store to a sporting event."

MMR Vaccine

The measles, mumps, and rubella (MMR) vaccine is the best way to protect against getting measles. The risk of MMR causing a serious side effect is rare. Getting MMR is much safer than getting measles. The first dose of MMR vaccine is recommended at ages 12 through 15 months. A second dose is recommended at ages 4 through 6 years.



www.cdc.gov/vaccines/spec-grps/hcp/conv-materials.htm#providers

"If You Choose Not to Vaccinate Your Child, Understand the Risks and Responsibilities"

If You Choose Not to Vaccinate Your Child, Understand the Risks and Responsibilities.

Information for parents |

Last updated October 2008

If you choose to delay some vaccines or reject some vaccines entirely, there can be risks. Please follow these steps to protect your child, your family, and others.

With the decision to delay or reject vaccines comes an important responsibility that could save your child's life, or the life of someone else.

Any time that your child is ill and you:

- call 911;
- ride in an ambulance;
- visit a hospital emergency room; or
- visit your child's doctor or any clinic

you must tell the medical staff that your child has not received all the vaccines recommended for his or her age.

Keep a vaccination record easily accessible so that you can report exactly which vaccines your child has received, even when you are under stress.

Telling healthcare professionals your child's vaccination status is essential for two reasons:

- When your child is being evaluated, the doctor will need to consider the possibility that your child has a vaccine-preventable disease. Many of these diseases are now uncommon, but they still occur, and the doctor will need to consider that your child may have a vaccine-preventable disease.
- The people who help your child can take precautions, such as isolating your child, so that the disease does not spread to others. One group at high risk for contracting disease is infants who are too young to be fully vaccinated. For example, the measles vaccine is not usually recommended for babies younger than 12 months. Very young babies who get measles are likely to be seriously ill, often requiring hospitalization. Other people at high risk for contracting disease are those with weaker immune systems, such as some people with cancer and transplant recipients.

Before an outbreak of a vaccine-preventable disease occurs in your community:

- Talk to your child's doctor or nurse to be sure your child's medical record is up to date regarding vaccination status. Ask for a copy of the updated record.
- Inform your child's school, childcare facility, and other caregivers about your child's vaccination status.
- Be aware that your child can catch diseases from people who don't have any symptoms. For example, Hib meningitis can be spread from people who have the bacteria in their body but are not ill. You can't tell who is contagious.



When there is vaccine-preventable disease in your community:

- It may not be too late to get protection by getting vaccinated. Ask your child's doctor.
- If there are cases (or, in some circumstances, a single case) of a vaccine-preventable disease in your community, you may be asked to take your child out of school, childcare, or organized activities (for example, playgroups or sports).
- Your school, childcare facility, or other institution will tell you when it is safe for an unvaccinated child to return. Be prepared to keep your child home for several days up to several weeks.
- Learn about the disease and how it is spread. It may not be possible to avoid exposure. For example, measles is so contagious that hours after an infected person has left the room, an unvaccinated person can get measles just by entering that room.
- Each disease is different, and the time between when your child might have been exposed to a disease and when he or she may get sick will vary. Talk with your child's doctor or the health department to get their guidelines for determining when your child is no longer at risk of coming down with the disease.

Be aware.

- Any vaccine-preventable disease can strike at any time in the U.S. because all of these diseases still circulate either in the U.S. or elsewhere in the world.
- Sometimes vaccine-preventable diseases cause outbreaks, that is, clusters of cases in a given area.
- Some of the vaccine-preventable diseases that still circulate in the U.S. include whooping cough, chickenpox, Hib (a cause of meningitis), and influenza. These diseases, as well as the other vaccine-preventable diseases, can range from mild to severe and life-threatening. In most cases, there is no way to know beforehand if a child will get a mild or serious case.
- For some diseases, one case is enough to cause concern in a community. An example is measles, which is one of the most contagious diseases known. This disease spreads quickly among people who are not immune.

If you know your child is exposed to a vaccine-preventable disease for which he or she has not been vaccinated:

- Learn the early signs and symptoms of the disease.
- Seek immediate medical help if your child or any family members develop early signs or symptoms of the disease.

IMPORTANT: Notify the doctor's office, urgent care facility, ambulance personnel, or emergency room staff that your child has not been fully vaccinated before medical staff have contact with your child or your family members. They need to know that your child may have a vaccine-preventable disease so that they can treat your child correctly as quickly as possible. Medical staff also can take simple precautions to prevent diseases from spreading to others if they know ahead of time that their patient may have a contagious disease.

- Follow recommendations to isolate your child from others, including family members, and especially infants and people with weakened immune systems. Most vaccine-preventable diseases can be very dangerous to infants who are too young to be fully vaccinated, or children who are not vaccinated due to certain medical conditions.
- Be aware that for some vaccine-preventable diseases, there are medicines to treat infected people and medicines to keep people they come in contact with from getting the disease.
- Ask your healthcare provider about other ways to protect your family members and anyone else who may come into contact with your child.
- Your family may be contacted by the state or local health department who track infectious disease outbreaks in the community.

If you travel with your child:

- Review the CDC travelers' information website (www.cdc.gov/travel) before traveling to learn about possible disease risks and vaccines that will protect your family. Diseases that vaccines prevent remain common throughout the world, including Europe.
- Don't spread disease to others. If an unimmunized person develops a vaccine-preventable disease while traveling, to prevent transmission to others, he or she should not travel by a plane, train, or bus until a doctor determines the person is no longer contagious.

For more information on vaccines, ask your child's healthcare provider, visit www.cdc.gov/vaccines/parents, or call 800-CDC-INFO (800-232-4636)

www.cdc.gov/vaccines/spec-grps/hcp/conv-materials.htm#providers

“Get the Picture” Video

- 6-minute video for parents to view in waiting rooms or on-line
- People in the video are real moms with real concerns
- Their questions mirror those expressed during focus groups
- The pediatrician who answers their questions indicates her own children are vaccinated
- Pediatrician acknowledges their concerns





Vaccines & Immunizations

[Vaccines Home](#)

For Healthcare Professionals / Providers

What's New!

- [VIS for pneumococcal conjugate \(PCV13\) is now available](#) (Apr 16)
- [Two HPV VISs are now available, one for each vaccine](#) (Mar 30)
- CDC's [parent](#) and [provider](#) Q&As on rotavirus vaccine (Mar 29)
- [Pocket-size versions of Child Immunization Schedules](#) now available (Mar 22)

[More >>](#)



Adult Immunization Scheduler
Catch-Up Immunization Scheduler



Provider Resources for Vaccine Conversations with Parents
Materials to help you talk with parents about vaccines.

Clinical Resources

Immunization Schedules

Printable vaccine charts for children, adolescents, adults, & catch-up; pocket-size, summary of recommendations, instant child scheduler, download adult scheduler tool, download catch-up scheduler tool

Detailed Vaccination Recommendations

General ACIP recommendations and vaccine-specific recs (links to MMWR articles); provisional / pending ACIP recommendations, vaccine recommendations for emergencies

Vaccine Shortages and Recalls

Traveler

Recommendations

Required and recommended vaccines needed by destination

Pink Book (Epidemiology and Prevention of VPDs)

Chapters, appendices, slide sets

Clinical FAQs

CDC experts answer FAQs; "Ask the Experts" at IAC

Administrative Tools

Storage & Handling of Your Vaccine Supply

Shelf life, storage requirements, instructions for reconstitution, storage and handling toolkit, checklist, power outages, refrigerator logs, handling tips

Vaccine Administration Protocols

Contraindications; dosage, route, site, screening and checklists; reference tables; provider's role; minimal ages & intervals; vaccine ingredients; managing vaccine reactions; indications

Vaccines for Children (VFC)

Price list, contacts, FAQs, ACIP-VFC vaccine resolutions, eligibility screening, enrollment

Standing Orders

Healthcare Personnel

Vaccine recs for healthcare workers; "Ask the Experts" about healthcare workers; infection control

Reminder Systems and Strategies for Increasing Vaccination Rates

Immunization Training

All Training and CE Offerings

FREE Continuing Education Credits (CE), webcasts, self-study, "current issues" net-conferences, annual update on immunizations and vaccines; find training you need by type, date, location; upcoming courses.

Patient Education

Vaccine Information Statements (VIS)

PCV13 VIS
Printable VISs, VISs in other languages, why VISs are mandatory, what's new, are these informed consent forms?

Educating Patients

Printable flyers for various age groups, racial and ethnic groups, Spanish speakers, travelers; FAQs for parents & guardians; Parents Guide to Immunizations; Resources for conversations with parents

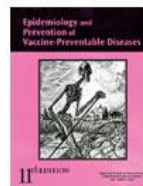
Parents Who Question Vaccines

What risks are parents taking in



Sign up to be notified when this page is updated
[Get Email Updates](#)

That's in the Pink Book?



Each month we highlight a resource previously hidden within the 400+ pages of *Epidemiology and Prevention of Vaccine-Preventable Diseases*.

For April, it's **Latex in Vaccine Packaging**. Have a patient with a latex allergy? This table indicates which vaccine in vials or syringes contain latex. Table contents were updated Feb 2010.

See page B-18 or [online](#) [15 KB]

Vaccine-Preventable Diseases (VPDs)

Includes clinical information, vaccine recommendations, photos, references & resources, provider education, standing orders, materials for patients for each VPD

Adult Immunization Scheduler

- ❑ Web tool creates instant picture of adult immunity
- ❑ Download to computer
- ❑ Answer basic questions (birth date, sex, underlying medical conditions, past vaccinations)
- ❑ Print (or save) list of vaccine doses needed to catch up to current (2010) recommendations for people age 19 years and older

Adult Immunization
Scheduler



Basic Questions from Adult Immunization Scheduler

Adult Immunization Scheduler

Adult Immunization Scheduler

Based on the 2010 Recommended Adult Immunization Schedule

[Instructions](#)

[Calendar Help](#)

Name: Birth Date: Sex:

Vaccine	Doses Administered	Dates Administered in Chronological Order (in MM/DD/YYYY format only) Approximate Dates are Acceptable	Questions
Td	<input type="text" value="2"/>	<input type="text" value="02/02/2000"/> <input type="checkbox"/> ? <input type="checkbox"/> ? - Enter date of most recent dose. If unknown, select the check box.	Do you smoke? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> ?
Tdap	<input type="text" value="1"/>	<input type="text" value="01/05/2010"/>	Have you had the chicken pox? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
HPV2/HPV4	<input type="text" value="0"/>		Have you had herpes zoster (shingles)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
VAR	<input type="text" value="1"/>	<input type="text" value="02/21/1997"/>	Were you born in the United States? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
ZOS	<input type="text" value="0"/>		Are you an Alaska Native or American Indian younger than 65? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
MMB	<input type="text" value="1"/>	<input type="text" value="02/03/1982"/>	Have you had a lab test confirming immunity to varicella? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
PPSV23	<input type="text" value="0"/>		Are you a resident of a nursing home or long-term care facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
HepA	<input type="text" value="0"/>		Do you have an immunocompromising condition or HIV? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
MCV4/MPSV4	<input type="text" value="0"/>		Do you care for a child less than 5 years old? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
HepB	<input type="text" value="0"/>		Do you work in health-care? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Additional Questions

- Do you have any of the medical conditions for which vaccination against pneumococcus is recommended? Yes No ?
- Do you fall under any of the categories for which vaccination against HepA is recommended? Yes No ?
- Do you fall under any of the categories for which vaccination against HepB is recommended? Yes No ?
- Do you fall under any of the categories for which vaccination against meningococcus is recommended? Yes No ?
- Do you fall under any of the categories for which annual vaccination against Influenza is recommended? Yes No ?
- Are you a male between the ages of 9 and 26 who would like to be vaccinated against HPV? Yes No ?

[Get Schedule](#)

[Reset](#)

CDC Immunization Training and Education Opportunities

- ❑ **Immunization Update 2010 satellite broadcast and webcast**
 - 9-11:30 am and 12-2:30 pm, August 5, 2010
- ❑ **Comprehensive 2-day course on vaccine-preventable diseases**
 - Lake Tahoe, NV, Nov 3-4, 2010
- ❑ **Adult Immunization Update 2010 DVD and web archive**
- ❑ **Details available on CDC Vaccines and Immunization website**

<http://www.cdc.gov/vaccines/ed/default.htm>

Healthcare Personnel

Need the following immunizations:

- Annual influenza
- Tdap or Td
- Hepatitis B (exposure risk)

Validate immunity status of:

- Varicella
- Measles, Mumps & Rubella (MMR)



Are YOU up to date?

CDC Vaccines and Immunization Contact Information

☐ Telephone

- 800.CDC.INFO (800-232-4636)
- for patients and parents

☐ Email

- nipinfo@cdc.gov
- for providers

☐ Website

- www.cdc.gov/vaccines

Continuing Education Credit/Contact Hours for COCA Conference Calls

Continuing Education guidelines require that the attendance of all who participate in COCA Conference Calls be properly documented. All Continuing Education credits/contact hours (CME, CNE, CEU, CECH, and ACPE) for COCA Conference Calls are issued online through the CDC Training & Continuing Education Online system <http://www2a.cdc.gov/TCEOnline/>.

Those who participate in the COCA Conference Calls and who wish to receive CE credit/contact hours and will complete the online evaluation by **Aug 31 2010** will use the course code **EC1648**. Those who wish to receive CE credits/contact hours and will complete the online evaluation between **Sep 1, 2010** and **Sep 1, 2011** will use course code **WD1648**. CE certificates can be printed immediately upon completion of your online evaluation. A cumulative transcript of all CDC/ATSDR CE's obtained through the CDC Training & Continuing Education Online System will be maintained for each user.

Thank you for joining the call - Please email us questions at coca@cdc.gov

The screenshot shows a Windows Internet Explorer browser window displaying the CDC website. The address bar shows the URL <http://emergency.cdc.gov/coca/callinfo.asp>. The page title is "CDC Clinician Outreach and Communication Activity (COCA) | Conference Calls". The main content area is titled "Emergency Preparedness and Response" and "Conference Calls". It includes a navigation menu on the left, a main text block with a description of COCA's goal and contact information, and a sidebar with utility links like "Email page", "Print page", and "Subscribe to RSS".

Emergency Preparedness and Response

Conference Calls

COCA's goal is to help you provide the best health care possible. We offer conference calls, podcasts and other tools for potential emergencies and emerging health threats. Here you will find our most recent COCA call information and archived call materials, as well as information on continuing education credit.

If there's a topic you'd like us to cover, let us know at coca@cdc.gov.

Upcoming Conference Call

Title: Promoting Health and Preventing Disease: Childhood and Adult Vaccine Updates and Recommendations [CE](#)

Date: Tuesday, July 27, 2010
Time: 1:00 PM – 2:00 PM (Eastern Time)

Overview: Disease prevention is the key to public health. Vaccines prevent disease in the people who receive them and protect those who come into contact with unvaccinated

Contact Us:

Centers for Disease Control and Prevention
1600 Clifton Rd
Atlanta, GA 30333
800-CDC-INFO
(800-232-4636)