

# The VacScene

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## The VacScene

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The VacScene is a publication of Public Health – Seattle & King County written for health professionals. Content is consistent with the most current recommendations from the Centers for Disease Control and Prevention (CDC) and the Advisory Committee on Immunization Practices (ACIP).

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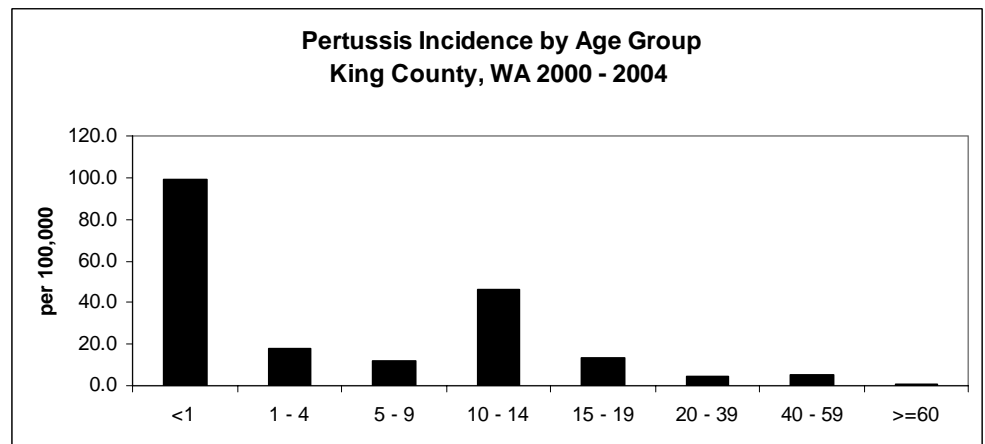


## Tdap Vaccine to Prevent Pertussis in Adolescents

In order to reduce the burden of pertussis disease in adolescents, the Advisory Committee on Immunization Practice (ACIP) made recommendations on use of Tdap vaccine published in March in the Morbidity and Mortality Weekly Report:

[http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5503a1.htm?s\\_cid=rr5503a1\\_e](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5503a1.htm?s_cid=rr5503a1_e)

Despite high pertussis vaccination coverage levels in children, pertussis infection is endemic in the United States. A primary reason for the ongoing circulation of *Bordetella pertussis* is that neither natural infection nor pertussis vaccination confer long-term immunity.



While we see the highest incidence of cases in infants under the age of one in King County, adolescents and adults make up the greatest proportion of total pertussis cases. The disease is highly contagious, with attack rates as high as 90% among household contacts. In King County, two-thirds of cases in children less than one year of age can be linked to a symptomatic adolescent or adult household contact. Children under one year of age are at highest risk for severe disease and subsequent hospitalization.

Groups at highest risk for *transmitting* pertussis disease to vulnerable populations:

- Household members of, and other persons who live or work with, infants or pregnant women.
- Health care workers with face-to-face patient contact, because of the potential transmission to patients at risk for severe disease
- Pregnant women (particularly in the last three weeks for pregnancy), because of the potential for transmission to the newborn, to health care workers, and to other pregnant women in obstetrical offices and prenatal classes

**While the ACIP Statement focuses on preventing pertussis in adolescents, adults through 64 years of age who are health care workers or who meet any of the above high risk criteria or who simply wish to reduce their risk of pertussis are also encouraged to receive Tdap vaccine.** ACIP provisional recommendations for the use of Tdap vaccine for adults can be found at [http://www.cdc.gov/nip/vaccine/tdap/tdap\\_adult\\_rec.pdf](http://www.cdc.gov/nip/vaccine/tdap/tdap_adult_rec.pdf)

## Summary of Tdap Recommendations for Adolescents

(Available at: [www.cdc.gov/mmwr/PDF/rr/rr5503.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr5503.pdf))

### Adolescents who completed a primary series of DTaP

- ◆ 11-12 yr olds should receive one dose of Tdap instead of Td
- ◆ 13-18 yr olds who missed the booster dose of Td should receive one dose of Tdap instead of Td
- ◆ 11-18 yr olds who received a Td booster are encouraged to receive one dose of Tdap

### Adolescents without a history of DTP/DTaP or Td vaccination

**Administer** single Tdap dose, followed by a dose of Td  $\geq 4$  weeks later, and a second Td 6-12 months after the 2nd Td. Tdap can be substituted for any **one** of the three doses in the series.

### Adolescents with history of DT or Td vaccination only

Adolescents who were not vaccinated against pertussis, but completed the tetanus and diphtheria series (with DT or Td) generally should receive Tdap if they do not have a contraindication to the pertussis components.

### Interval between Td and Tdap

A five year interval is encouraged, however the safety of a two-year interval between Td and Tdap is supported by a Canadian study among children and adolescents and is permitted by the ACIP.

### Simultaneous Administration

- ◆ Tdap (or Td) and meningococcal conjugate vaccine (MCV4) (which both contain diphtheria toxoid) can be given during the same visit if both vaccines are indicated.
- ◆ If Tdap is not given at the same visit as MCV4, results of a pre-licensure trial suggest the safe sequential administration of Tdap first followed by MCV4 one month later:  
(<http://www.cdc.gov/mmwr/PDF/rr/rr55e223.pdf>)
- ◆ Tdap should be administered with other vaccines that are indicated during the same visit when feasible.

### History of Pertussis

Adolescents who have a history of pertussis **should** receive Tdap according to the routine recommendations.

### Use of Td when Tdap is unavailable

- ◆ Td can be deferred temporarily when the last pediatric DTP/DTaP/DT or Td was administered  $< 10$  years earlier and the adolescent is likely to return for follow-up. (Vaccine providers should maintain a system to recall adolescents when Tdap/Td vaccination is deferred.)
- ◆ When Tdap is indicated but not available, vaccine providers should administer Td if the last pediatric DTP/DTaP/DT or Td dose was  $\geq 10$  years earlier, to provide protection against tetanus and diphtheria.

### Wound Management

Adolescents who require a tetanus toxoid-containing vaccine as part of wound management should receive a **single dose of Tdap** instead of Td (if they have not previously received Tdap).

### Pregnancy

- ◆ Pregnant women who received the last tetanus toxoid-containing vaccine  $< 10$  years earlier should receive Tdap after delivery.
- ◆ Pregnant women who received the last tetanus toxoid-containing vaccine  $\geq 10$  years earlier should receive Td during pregnancy in preference to Tdap.
- ◆ Pregnant women who have not received the primary 3-dose vaccination series for tetanus should begin the Td series during pregnancy, preferably during the second or third trimester when feasible.
- ◆ *New mothers* who have never received a dose of Tdap should get a dose as soon as possible after delivery.

**Comparison of Vaccines Containing Diphtheria, Tetanus and Pertussis Antigens**

Vaccine + Components	Brand Names	Age Range of Licensure	Number of Doses in Series
<b>DTaP</b> (diphtheria, tetanus and acellular pertussis)	Infanrix Daptacel Tripedia	6 weeks - 6 years (up to 7 <sup>th</sup> birthday)	5 doses recommended
<b>DT, pediatric</b> (diphtheria, tetanus)	Generic pediatric DT	6 weeks - 6 years (up to 7 <sup>th</sup> birthday)	5 doses recommended when pertussis-containing vaccine is contraindicated
<b>Td, adult</b> (tetanus, diphtheria*) Note: Td has $\leq 1/3$ diphtheria antigen than DT	Generic Td Decavac	7 years - adulthood	<ul style="list-style-type: none"> <li>◆ 3 doses in primary series if have not already received DT, DTP or DTaP</li> <li>◆ Booster every 10 years (for tetanus wound prophylaxis, booster is needed within 5 years)</li> </ul>
<b>Tdap</b> (tetanus, diphtheria and acellular pertussis)	Boostrix (Supplied by VFC program in WA State)	<b>10 - 18 years</b>	Replaces Td for <u>single dose only</u> .
	Adacel	<b>11 - 64 years</b>	Replaces Td for <u>single dose only</u> .

## New Thimerosal Information for Parents

The Vaccine Education Center – The Children’s Hospital of Philadelphia has developed educational materials for parents who have questions about the safety of thimerosal and vaccines ([www.chop.edu/consumer/jsp/division/generic.jsp?id=75751](http://www.chop.edu/consumer/jsp/division/generic.jsp?id=75751)).

The Vaccine Education Center was launched in October 2000, and has worked to dispel common misconceptions and misinformation surrounding childhood vaccines by providing accurate and up-to-date information to parents and healthcare professionals.

### Summary of Hepatitis B Vaccination Recommendations for Infants, Children and Adolescents

**All pregnant women should be tested routinely for hepatitis B surface antigen (HBsAg).**

#### Vaccination of Infants

##### At Birth:

- ◆ Infants born to mothers who are HBsAg positive should receive hepatitis B vaccine and hepatitis B immune globulin (HBIG)  $\leq 12$  hours of birth.
- ◆ Infants born to mothers whose HBsAg status is unknown should receive hepatitis B vaccine  $\leq 12$  hours of birth. The mother should have blood drawn as soon as possible to determine her HBsAg status; if she is HBsAg positive, the infant should receive HBIG as soon as possible (no later than age one week).
- ◆ Full-term infants who are medically stable and weigh  $\geq 2000$ g born to HBsAg-negative mothers should receive hepatitis B vaccine before discharge.
- ◆ Preterm infants weighing  $< 2000$  g born to HBsAg negative mothers should receive the first dose of vaccine at one month after birth or at hospital discharge.

##### After the Birth Dose:

- ◆ All infants should complete the hepatitis B vaccine series with either single-antigen vaccine or combination vaccine, according to a recommended vaccination schedule
- ◆ Infants born to HBsAg positive mothers should be tested for HBsAg and antibody to HBsAg after completion of the hepatitis B vaccine series at age nine to 18 months.

#### Vaccination of Children and Adolescents

All unvaccinated children and adolescents aged  $< 19$  years should receive the hepatitis B vaccine series.

## King County VFC News -Vaccines for Children Program-

### New Prevnar Packaging

Wyeth Pharmaceuticals are now supplying VFC Programs in the US with pneumococcal conjugate (Prevnar) vaccine in boxes of 10 pre-filled syringes (only the packaging has changed). As more vaccine manufacturers switch to pre-filled syringes, the “dorm style” refrigerators may be too small to store vaccine supplies. Contact Public Health at 206-296-4774 for refrigerator purchase information.

### New Vaccines, New Forms

All Seattle-King County health care providers enrolled in the VFC Program should have received a packet containing new report forms, order forms, and information on the new vaccines, meningococcal conjugate (MCV-4) and the tetanus-diphtheria-pertussis booster for teens (Tdap). Please discard old forms and use only the new ones. Forms are also available at: <http://www.metrokc.gov/health/immunization/vfc.htm>

### Vaccine Supply

We have recently seen delays in receiving product from manufacturers. Please be assured that vaccines missing from recent shipments are noted as back-orders and will be shipped as soon as possible. As always, let us know if your office has run out of something completely, and we will prioritize your shipment.

- **Because we are still gauging the demand for the new vaccines, Tdap and MCV-4, orders may be initially reduced to assure that we can provide doses to all requesting health care providers. Be sure to follow the restricted guidelines for use of MCV-4 until further notice (use only for freshmen entering college living in dormitories, persons with high risk medical conditions, and travelers).**
- Merck is taking up to four weeks to ship varicella vaccine orders; plan accordingly when placing orders. Remember to visit the VFC Program’s Web page for updates on supply and usage guidelines: <http://www.metrokc.gov/health/immunization/vfc.htm>.

### Varicella Vaccine

Varicella vaccine is stored in the freezer and has special ordering, handling, and storage instructions. Health care providers who wish to offer varicella vaccine can contact the VFC Program at (206) 296-4774 for more information, and should refer to the varicella handling instructions in the VFC Provider Manual. Please note: smaller, dorm-style units with freezers inside the refrigerator cannot be used for varicella vaccine storage.

### Vaccine Storage Tip

A number of recent vaccine storage problems have resulted from clinic staff changing the temperature control in the refrigerator and failing to monitor the effect closely. PLEASE! Use extreme caution when changing temperature settings and check the temperature change frequently (about every half hour). Never make adjustments at closing time, but always early in the day, to

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leave plenty of time for monitoring

Return Services Requested

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## Highlights

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### Updates to ACIP Hepatitis B Prevention Strategies

A recently published ACIP report (available at: [www.cdc.gov/mmwr/preview/mmwrhtml/rr5416a2.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5416a2.htm)) includes recommendations to improve vaccine coverage of children and adolescents who were not previously vaccinated. One of many suggested strategies includes implementation of immunization record reviews for **children and adolescents aged <19 years who were born in countries in which HBV endemicity is high or intermediate.** (Refer to the list below of hepatitis B endemic countries.)

#### Geographic Areas with Intermediate and High Hepatitis B Virus Endemicity

**Africa:** All countries  
**South Asia:** All countries except Sri Lanka  
**Western Pacific:** All countries and territories except Australia and New Zealand  
**Middle East:** All countries except Cyprus  
**Eastern Europe:** All countries except Hungary  
**Newly Independent States of the former Soviet Union:** All countries  
**Western Europe:** Greece, Italy, Malta, Portugal and Spain  
**North America:** Alaska Natives and indigenous populations of Northern Canada and Greenland  
**Central America:** Belize, Guatemala, Honduras and Panama  
**South America:** Argentina, Bolivia, Brazil, Ecuador, Guyana, Suriname, Venezuela, Amazonian areas of Colombia and Peru  
**Caribbean:** Antigua and Barbuda, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, Puerto Rico, St. Kitts and Nevis, St. Lucia, St. Vincent and Grenadines, Trinidad and Tobago, and Turks and Caicos

### Serologic Testing Prior to Hepatitis B Vaccination

The decision to screen potential vaccine recipients for prior hepatitis B infection depends on the cost of vaccination, the cost of testing for susceptibility, and the expected prevalence of immune persons in the population being screened. Screening is usually not cost-effective for groups with a low expected prevalence of HBV serologic markers, such as health professional in their training years. Serologic testing is not recommended before routine vaccination of infants and children.

**Mark your calendars!**  
**Immunization Update 2006**  
**August 10, 2006**  
**8:30am – 11:30am**  
**Seattle, WA**

This live satellite CDC broadcast will provide up-to-date information on the rapidly changing field of immunization. Anticipated topics include influenza vaccine, pertussis vaccine for adolescents and adults, revised recommendations for hepatitis A vaccination of children and the new vaccines for rotavirus and herpes zoster. Information about human papilloma virus (HPV) vaccine may also be provided.

Call Maybelle Tamura, Public Health – Seattle & King County, 206-296-5252 to register. Space is limited.

The program will also be available for viewing via live (and archived) webcast:  
<http://www.phppo.cdc.gov/PHTN/immup-2006/default.asp>