



Pertussis Vaccination Recommendations 2010

SUMMARY: CDPH recommends that all patients indicated for immunization against tetanus, diphtheria or pertussis be immunized with:

- DTaP if age 6 weeks through 6 years; or
- Tdap if age 7 years and older.

The only reasons not to provide Tdap are documentation of a prior dose or a valid contraindication. Health care facilities and providers should institute policies to achieve these recommendations.

PRIORITY POPULATIONS: CDPH recommends that all patients without documentation of full immunization against pertussis be fully immunized at the earliest opportunity, particularly:

Women of childbearing age: CDPH recommends that all women of childbearing age be vaccinated with Tdap, preferably before pregnancy, but otherwise during or after pregnancy -- pregnancy is not a contraindication to vaccination (1, 4). The American Academy of Pediatrics (AAP) recommends that unvaccinated pregnant adolescents be given the same consideration for Tdap vaccination as non-pregnant adolescents (1). The Advisory Committee on Immunization Practices (ACIP) prefers Tdap vaccination in the immediate postpartum period (4). AAP, ACIP, and the American College of Obstetricians and Gynecologists (ACOG) recommend that, when given during pregnancy, it is preferable to administer Tdap during the second or third trimester to minimize the coincidental association of Tdap vaccination with adverse outcomes, which occur most often during the first trimester (1, 2, 4, 6).

Other close contacts of infants: CDPH recommends that birth hospitals and other immunizers provide Tdap to all close contacts of infants without documentation of Tdap vaccination, especially parents and childcare providers. Contacts should be immunized before mother and baby are discharged after birth, regardless of when the contacts received any prior doses of Td.

Health care personnel: CDPH recommends that all health care personnel, particularly those who have direct contact with infants and pregnant women, be immunized with Tdap to protect their patients and themselves. Effective September 1, 2010, the [Cal/OSHA Aerosol Transmissible Disease Standard](#) requires all hospitals, outpatient medical facilities, and other employers covered by the standard to offer Tdap immunization to their employees who may be exposed to pertussis. Employees who decline to be vaccinated must sign a declination form.

Patients with wounds: CDPH recommends that providers administer Tdap (instead of Td or TT) whenever tetanus toxoid is indicated for wound management in patients 7 years of age and older.

VACCINATION INTERVAL: When the risk of contracting pertussis is elevated, as at present, ACIP and AAP recommendations permit any interval between doses of Td and Tdap. In contrast to the grave potential risks of susceptible persons becoming infected and transmitting pertussis to vulnerable infants, the most common adverse reaction to tetanus or diphtheria vaccines is a local reaction at the injection site, which may be more likely after an increased number of prior doses (9); however, recent studies and reports suggest that doses of Tdap given after previous Td or DTaP are well tolerated at intervals as brief as 1-18 months (3, 7, 8). An undocumented history of immunization with Tdap or Td is not a valid reason to avoid or delay administration of Tdap.

CONTRAINDICATIONS: The only contraindications to immunization with Tdap, both rare, are:

- a documented history of anaphylaxis after receipt of Tdap, DTaP or their ingredients; or
- encephalopathy occurring within 7 days after immunization against pertussis that was not due to another identifiable cause (5, 6).

USE BEYOND LICENSED AGE GROUPS IS PERMITTED BY LAW:

7-9 Years: CDPH recommends administration of Tdap to children 7 through 9 years of age whenever vaccination against tetanus, diphtheria, or pertussis is indicated. Existing data suggest that the use of Tdap at these ages is safe (7, 10); in Canada, Tdap is licensed for persons 4 years of age and older.

65+ Years: CDPH recommends administration of Tdap to persons 65 years of age and older. Local and systemic events after Tdap vaccination have been reported less frequently in adults less than 65 years than in adolescents (5, 11). Published data on the safety and vaccine efficacy of Tdap in persons 65 years and older are limited. Even if the immunogenicity of Tdap is found to decline with age, any additional protection provided could help to limit transmission and protect the vulnerable.

Use of Tdap beyond licensed age groups may or may not be covered by private insurers.

RATIONALE: Pertussis (whooping cough) is highly contagious and is spread by inhalation of respiratory droplets or aerosols. A high level of community immunity is needed to reduce the incidence of pertussis, but immunity from immunization or disease wanes over time. Most children vaccinated for pertussis before kindergarten are susceptible again by early adolescence. Tdap immunization rates in adolescents and adults are currently low.

As a result, pertussis continues to circulate widely, resulting in the hospitalization and death of young infants who are too young for routine immunization with DTaP. As of July 15, 2010, there have been five reported 2010 infant deaths due to pertussis in California. Close contacts, most often mothers, are the most common known source of pertussis in infants (12). Thus, vaccinating household contacts, health care personnel, and child care workers against pertussis is recommended at least 2 weeks before their contact with young infants (5, 6). Increasing community immunity through widespread immunization will also decrease the chances that vulnerable infants will be exposed to pertussis. Immunization will also prevent debilitating cases of pertussis in older children, adolescents, and adults.

REFERENCES

1. American Academy of Pediatrics. Pertussis. In: Pickering LK, Baker CJ, Kimberlin DW, Long SS, eds. Red Book: 2009 Report of the Committee on Infectious Diseases. 28th ed. Elk Grove, IL: American Academy of Pediatrics; 2009:514. <http://aapredbook.aappublications.org/>
2. American College of Obstetricians and Gynecologists. ACOG Committee Opinion No. 438. Update on immunization and pregnancy: tetanus, diphtheria, and pertussis vaccination. Obstet Gynecol 2006;114: 398-400.
3. Beytout J, et al. Safety of Tdap-IPV given one month after Td-IPV booster in health young adults: a placebo-controlled trial. Hum Vaccines 2009; 5(5): 315-321.
4. Centers for Disease Control and Prevention, Prevention of Pertussis, Tetanus, and Diphtheria Among Pregnant and Postpartum Women and Their Infants. MMWR 2008; 57 (No.RR-4): 1-52. <http://www.cdc.gov/mmwr/PDF/rr/rr5704.pdf>
5. Centers for Disease Control and Prevention, Preventing Tetanus, Diphtheria, and Pertussis Among Adults. MMWR 2006; 55 (No.RR-17): 1-33. <http://www.cdc.gov/mmwr/PDF/rr/rr5517.pdf>
6. Centers for Disease Control and Prevention, Preventing Tetanus, Diphtheria, and Pertussis Among Adolescents. MMWR 2006; 55 (No.RR-3): 1-43. <http://www.cdc.gov/mmwr/PDF/rr/rr5503.pdf>
7. Halperin SA et al. How soon after a prior tetanus-diphtheria vaccination can one give adult formulation tetanus-diphtheria-acellular pertussis vaccine? Pediatr Infect Dis J 2006; 25:195-200.
8. Iskander J. Immunization Safety Office Surveillance Updates, ACIP Meeting, February 2007. <http://www.cdc.gov/vaccines/recs/acip/downloads/min-archive/min-feb07.pdf>
9. Plotkin SA, Orenstein WA, Offit PA. Vaccines. 5th ed. Philadelphia, PA: Saunders, 2008: 149, 823.
10. Scheifele DW et al. A modified vaccine reduces the rate of large injection site reaction to the preschool booster dose of diphtheria-tetanus-acellular pertussis vaccine. Pediatr Infect Dis J 2005; 24(12): 1059-1066.
11. Vaccines and Related Biological Products Safety (VRBPS) Committee, FDA Clinical Briefing Document of Tetanus Toxoid, Reduced Diphtheria Toxoid, and Acellular Pertussis Vaccine, Adsorbed (Tdap, ADACEL™) Aventis Pasteur, Limited. March 15, 2005. http://www.fda.gov/ohrms/dockets/ac/05/briefing/2005-4097B1_4a.pdf
12. Wendelboe AM et al. Transmission of Bordetella pertussis to young infants. Pediatr Infect Dis J 2007; 26(4):293-299.