OREGON PUBLIC HEALTH DIVISION, DHS
IMMUNIZATION PROGRAM

Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis adsorbed (Tdap) Vaccine
And
Tetanus and Diphtheria Toxoid (Td) Vaccine

Revisions as of 6/08

- The orders for Td and Tdap are now combined.
- Decavac™ will be added to Licensed Td vaccines in Sect. II.
- If ≥6 doses of a diphtheria and tetanus containing vaccine are given before 7 years of age, a booster dose (preferably Tdap) is due 5 years after the 6th or last dose (Td vaccine schedule table).
- Tdap during pregnancy or in the immediate postpartum period (following a recent Td) is an individual provider decision weighing benefits and risks. This recommendation is part of a new table entitled: Vaccinating high-risk populations with Tdap to protect infants. (Sect. V, p.6).

I. ORDER

1. Screen for contraindications
2. Provide the current Vaccine Information Statement (VIS), answering any questions.
3. Obtain a signed Vaccine Administration Record (VAR)
4. Give 0.5 ml of any tetanus, diphtheria, or pertussis -containing vaccine **intramuscularly** (IM).
   a. The deltoid muscle of the upper arm should generally be used.
   b. May be given simultaneously with all routine childhood and adult vaccines according to age and immunization status of recipient.

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Signature Health Officer or Medical Provider Date

II. LICENSED VACCINES

A. LICENSED COMBINATION Td VACCINE

Product Name	Vaccine Components	Acceptable Age Range	Thimerosal
Decavac™ (sanofi pasteur)	Tetanus & diphtheria toxoids	≥7 years	Trace <0.3 µg/0.5 ml
Td (sanofi pasteur)	Tetanus & diphtheria toxoids	≥7 years	Trace <0.3 µg/0.5 ml

B. LICENSED COMBINATION Tdap VACCINE[1]

Product Name	Vaccine Components	Acceptable Age Range	Thimerosal
Boostrix®[2] (GSK)	tetanus toxoid, diphtheria toxoid, acellular pertussis	10–18 years	No
Adacel™[2] (sanofi pasteur)	tetanus toxoid, diphtheria toxoid, acellular pertussis	11–64 years	No

[1]Tdap products are interchangeable as long as age requirements are met for each vaccine. Note that neither vaccine is licensed for use in children <10 years of age.
[2]Licensed only for a single dose at this time.

III. RECOMMENDATIONS FOR USE

A. Persons ≥7 years old without documentation of a childhood DTaP schedule should receive a series of 3 doses of an adult Td-containing vaccine. If the person is ≥10 years old, one (and only one) of these 3 doses can be Tdap.

B. Adolescents 11–18 years of age should receive a single dose of Tdap instead of Td for the booster immunization against tetanus, diphtheria and pertussis if they have completed the recommended childhood DTP or DTaP vaccination series ≥5 years ago and have not yet received Td.

C. Adolescents 11–18 years of age who received a prior Td booster are encouraged to receive a single dose of Tdap to provide protection against pertussis if they have completed the recommended childhood DTP or DTaP vaccination series. A 5-year minimum interval between the Td and Tdap is encouraged. However, intervals shorter than 5 years between Td and Tdap can be used.[1]

D. Administer Tdap (or Td) and MCV4 (Menactra™) during the same adolescent visit if both vaccines are indicated and available. If simultaneous administration is not feasible these vaccines can be administered at any time before or after each other.

E. Adults 19–64 years of age should receive a single dose of Tdap if they have not received a Td booster within the past 10 years.[2]

F. Adults who have or will have close contact with infants <12 months of age (e.g., parents, childcare providers, healthcare providers) should receive a single dose of Tdap.[1,3]

G. Healthcare personnel who have direct patient contact should receive a single dose of Tdap as soon as feasible. An interval as short as 2 years from the last Td dose is recommended for the Tdap dose.[1,3]

H. Post–partum women (including those who are breastfeeding) who have not previously received a dose of Tdap should receive Tdap vaccine before hospital discharge.[1]

I. A Td booster, rather than Tdap, is generally recommended during pregnancy if ≥10 years have elapsed since a previous Td.[4]

[1] The safety of intervals as short as 2 years between administration of Td and Tdap is supported by a Canadian study of children and adolescents. However, intervals shorter than 2 years may be used at the discretion of the health care provider. The dose of Tdap replaces the next scheduled Td booster.

[2] Tdap vaccine would replace the currently recommended tetanus-diphtheria vaccine that is used as the adult booster vaccine.

[3] Ideally, the vaccine should be given ≥1 month before close contact with infants.

[4] ACIP suggests that providers can defer Td if sufficient tetanus protection is likely, and then vaccinate with Tdap post-partum. If Td is given during pregnancy, Tdap is still recommended by ACIP in the post-partum period, before hospital discharge.

IV. SCHEDULES FOR TETANUS, DIPHTHERIA, AND PERTUSSIS-CONTAINING VACCINES

A. ROUTINE ADULT Td VACCINE SCHEDULE Dose: 0.5 ml IM

Dose[1,2]	Minimum age	Recommended age	Minimum interval
1	7 years	≥7 years	not applicable
2	7 years	≥7 years	≥4 weeks after dose #1
3[3,4]	7 years	≥7 years	≥6 months after dose #2
Booster Doses[5.6,7]	10 years	Every 10 years	≥5 years from last dose of a tetanus and diphtheria-containing vaccine

[1]For unvaccinated persons ≥7 years of age (including persons who cannot document prior vaccinations), the primary series is three doses.

[2]For retrospective checking, doses that violate the minimum interval or age by 4 or fewer days do not need to be repeated. Doses administered 5 days or earlier than the minimum interval or age should be repeated, as age-appropriate.

[3] Persons ≥7 years of age who have not completed the DTP/DT/DTaP series should have previous doses counted and should complete the series using Td or Tdap.

[4] If the 3rd dose of a tetanus and diphtheria-containing vaccine (includes previous doses of DTaP, DTP or DT) is administered on or after the 7th birthday and the first dose was given ≥1 year of age, a 4th dose is not required. There is a 6 month interval between dose 2 and dose 3. If the first dose was given <1 year of age a total of 4 doses are needed for the initial series. The minimum interval between dose 3 and 4 is 6 months.

[5] The first booster dose may be given at 11–18 years of age if at least 5 years have elapsed since the last dose of DTP, DTaP, or DT. If Tdap was part of the initial series, the next booster dose is not due for 10 years.

[6] If a dose is given at a time sooner than the minimum interval or age for a recommended booster, as part of wound management, the next booster should not be given for 10 years.

[7]If ≥6 doses of a diphtheria or tetanus containing vaccine is given before 7 years of age, a booster is due 5 years after the 6th or last dose.

B. ROUTINE Tdap VACCINE SCHEDULE Dose 0.5 ml IM[1]			
Group	**Minimum age**	**Dose[2]**	**Recommended Age**
Teens	10 years for Boostrix®	1	11–18 years of age[3]
	11 years for Adacel™	1	
Adults[4,5,6]	19 years for Adacel™	1	19–64 years of age

[1] A 5-year interval between Td and Tdap is encouraged to reduce the chance of a local reaction.

[2] A single dose of either BOOSTRIX® or ADACEL™ may be administered to adolescents who have completed the childhood DTP or DTaP vaccination series. Adolescents who have never been vaccinated against tetanus, diphtheria or pertussis should receive a series of 3 vaccinations. The preferred schedule is a single Tdap dose, followed by a dose of Td ≥4 weeks after the Tdap dose and a second dose of Td ≥6 months after the Td dose. However, Tdap may substitute for any one (and only one) of the 3 Td doses in the series.

[3] Adolescents 11–18 years of age should receive a single dose of Tdap instead of Td if they have completed the recommended childhood DTP or DTaP vaccination series ≥5 years ago, and have not yet received a Td booster. If a Tdap dose is given sooner as part of wound management, the next Td booster should not be given for 10 years.

[4] Adacel™ is the only Tdap vaccine currently licensed for adults ≥19 years of age.

[5] A single Tdap dose should replace the currently recommended Td vaccine that is used as the adult booster vaccine. 10 years later, when another tetanus and diphtheria booster is needed, go back to receiving Td again.

[6] Tdap should be administered with other vaccines that are indicated during the same visit when feasible.

V. VACCINATING HIGH-RISK POPULATIONS WITH Tdap TO PROTECT INFANTS

Potential high-risk pertussis carriers	Recommended interval from last Td[1]	Minimum interval from last Td[2]
Pregnant women[3,4]	≥2 years	Discretion of HCP
Health care workers working with infants <12 months[5]	≥2 years	Discretion of HCP
Caring for or living with infants <12 months[5]	≥2 years	Discretion of HCP

[1]Two years is the routinely recommended interval between Td and Tdap for potential high-risk pertussis carriers (supported by Canadian study).
[2]An interval as short as 2 years since the most recent Td is suggested; shorter intervals can be used at the discretion of the health care provider (HCP). ACIP does not define an absolute minimum interval between Td and Tdap.
[3]ACIP recommends that pregnant women who were not vaccinated previously with Tdap, receive Tdap in the postpartum period before hospital discharge.
[4]While Td is the recommended diphtheria-tetanus containing booster during pregnancy, Tdap is not contraindicated. HCP's should weigh the theoretical risk and benefits before choosing to administer Tdap to pregnant women. When Tdap is administered during pregnancy, the 2nd or 3rd trimester is preferred.
[5]Health care personnel, adolescents or adults who anticipate having close contact with an infant <12 months of age (parents, grandparents, siblings, child-care providers) should receive Tdap at least 2 weeks before having close contact with an infant.

References:

1. CDC. Prevention of Pertussis, Tetanus, and Diphtheria among pregnant and post partum women and their infants. MMWR 2008; 57, Available at: http://www.cdc.gov/mmwr/PDF/rr/rr57e0514.pdf

2. CDC. Preventing tetanus, diphtheria, and pertussis among adults: use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine (Tdap): recommendations of ACIP and Recommendations of ACIP supported by the Healthcare Infection Control Practices Advisory Committee (HICPAC), for use of Tdap among health-care personnel. MMWR 2006; 55 (RR-17). Available at: http://www.cdc.gov/mmwr/PDF/rr/rr5517.pdf .

3. CDC. Preventing tetanus, diphtheria, and pertussis among adolescents: use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine. MMWR 2006; 55 (RR-3). Available at: http://www.cdc.gov/mmwr/PDF/rr/rr5503.pdf.

VI. Tdap and Td CONTRAINDICATIONS	**VII. Tdap PRECAUTIONS**
A. Severe allergic reaction to any vaccine component of Td or Tdap vaccine or following a prior dose.[1] B. Encephalopathy (e.g. coma, prolonged seizures) within 7 days of administration of a pertussis-containing vaccine that is not attributable to another identifiable cause is a contraindication to Tdap.[2]	A. History of an Arthus-type reaction following a previous dose of a tetanus toxoid–containing vaccine.[3] B. Unstable neurological condition, uncontrolled epilepsy, or progressive encephalopathy.[4] C. Severe latex allergy. (the Boostrix®, pre-filled needleless syringes contain latex). D. History of Guillain-Barré syndrome within 6 weeks after a previous dose of tetanus toxoid-containing vaccine. E. Moderate or severe acute illness.

[1] Because of the importance of tetanus vaccination, individuals with this history should be referred to an allergist to determine whether they can be desensitized to tetanus toxoid**.**

[2] Td vaccine should be administered for the remaining doses in the vaccination schedule to ensure protection against diphtheria and tetanus.

[3] If previous Arthus reaction was likely, consider deferring Tdap or Td vaccination until at least 10 years have elapsed.

[4] Td may be used if decision made to withhold a pertussis-containing vaccine.

VIII. SIDE EFFECTS AND ADVERSE EVENTS

	Tdap	**Td**
Local Reactions pain, redness, swelling	Pain: 66% Redness: 25% Swelling: 21%	Common but self-limiting
Severe Local Reactions Arthus-like extensive painful swelling from shoulder to elbow[1]	Occasional	Occasional
Systemic Reactions fever headache, fatigue, gastrointestinal symptoms	Temp ≥100.4ºF: 1.4% Occasional	Temp ≥100.4ºF: 1.1% Occasional
Severe Systemic Reactions Guillain-Barré syndrome brachial neuritis	 rare rare	 rare rare

[1]Generally begins 2–8 hrs after injection; most often in adults; particularly in those who have received frequent doses of diphtheria or tetanus toxoid.

X. OTHER CONSIDERATIONS

A. **History of pertussis**: Adolescents or adults with a history of pertussis disease generally should receive Tdap according to the routine recommendations. However, if the illness was <5 years ago and the diagnosis was culture confirmed, it is reasonable to wait 3–5 years before administration of Tdap, unless tetanus and diphtheria toxoids are needed.

B. **Incomplete or unknown vaccination history**: Adults who have never received tetanus and diphtheria toxoid-containing vaccine should receive a series of three vaccinations. The preferred schedule is a single dose of Tdap, followed by Td ≥4 weeks later, and a 2nd dose of Td 6–12 months later. Tdap should be used for one and only one dose in the series. The other two doses should be Td.

C. Tetanus disease does not confer immunity because of the very small amount of toxin required to produce illness. Persons recovering from tetanus disease should begin or complete active immunization with tetanus toxoid (Td) during convalescence.

D. **Considerations for use of Tdap in pregnant women**: Pregnancy and breastfeeding are not contraindications to vaccination with Tdap. Health care providers should weigh the theoretical risks and benefits before choosing to administer Tdap vaccine to pregnant women.[1] When Tdap is administered during pregnancy, the 2nd or 3rd trimester is preferred.

E. **Children 7–9 years old** who never received any pediatric DTaP/DT or Td doses should generally receive 3 doses of Td. However, if the child is ≥10 years of age when due for dose #2 or #3, a Tdap should be substituted for one and only one dose of this 3-dose series.

F. **Inadvertent administration of Tdap or Pediatric DTaP:** Guidance on the best approach to vaccination following misadministration of Tdap to infants or DTaP to adolescents can be found at: www.cdc.gov/mmwr/pdf/rr/rr5503.pdf. p. 27.

G. For someone with a history of fainting with injections, a 15-minute observational period is recommended after immunization.

[1]CDC. Prevention of pertussis, tetanus, and diphtheria among pregnant and postpartum women and their infants: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2008; 57 (RR-4). Available at: www.cdc.gov/mmwr/PDF/rr/rr5704.pdf.

X. TETANUS WOUND MANAGEMENT AMONG PERSONS 7– 64 YRS[1]

Tetanus Vaccination History	Clean, minor wound Administer:		All other wounds[2] Administer:	
	Tdap or Td[3]	**TIG**	**Tdap or Td[3]**	**TIG**
Unknown or <3 doses	Yes	No	Yes	Yes
≥3 doses	No[4]	No	No[5]	No

[1] See DTaP standing order for wound management of persons <7 years of age.
[2] Such as, but not limited to, wounds contaminated with dirt, feces, soil, and saliva; puncture wounds; avulsions; and wounds resulting from missiles, crushing, burns or frostbite.
[3] Tdap is preferred over Td for persons ≥10 years if they have not previously received Tdap. Td is preferred over TT for adolescents and adults who received Tdap or if Tdap is not available; however, TT is acceptable. Children 7-10 years old should receive Td.
[4] **Yes, if >10 years since the last tetanus toxoid vaccine dose**
[5] **Yes, if >5 years since the last tetanus toxoid vaccine dose**

TIG=tetanus immune globulin.
TT=tetanus toxoid

XI. ADVERSE EVENT REPORTING

Adverse events following immunization should be reported by public providers to the Immunization Program, Health Services, using a Vaccine Adverse Events Reporting System (VAERS) form, according to state guidelines. Private providers report all adverse events directly to VAERS. VAERS phone number: 800-822-7967, and the website address is www.vaers.org.

XII. Events Reportable to VAERS

Vaccine	Illness, disability, injury or condition covered	Time period for the onset of a significant reaction following vaccine administration
Vaccines containing tetanus toxoids	Anaphylaxis or anaphylactic shock	4 hours
	Brachial Neuritis	2–28 days
	Any acute complication or sequela (including death)	Not applicable

XIII. REFERENCES

1. Tetanus and Pertussis. In*: Epidemiology and Prevention of Vaccine Preventable Diseases.* ("Pink Book"). Atkinson W, Hamborsky J, Wolfe S, eds. 10th ed. Washington DC: Public Health Foundation, 2008. 71–100. Available at: www.cdc.gov/vaccines/pubs/pinkbook/downloads/tetanus.pdf and www.cdc.gov/vaccines/Pubs/pinkbook/downloads/pert.pdf
2. CDC. Preventing tetanus, diphtheria, and pertussis among adolescents: Use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine; MMWR 2006; 55 (RR-3). Available at: www.cdc.gov/mmwr/PDF/rr/rr5503.pdf.
3. CDC. Preventing tetanus, diphtheria, and pertussis among adults: use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine. MMWR 2006; 55 (RR-17). Available at: www.cdc.gov/mmwr/PDF/rr/rr5517.pdf.
4. CDC. Prevention of pertussis, tetanus, and diphtheria among pregnant and post partum women and their infants. MMWR 2008; 57 Available at: www.cdc.gov/mmwr/PDF/rr/rr57e0514.pdf
5. CDC. Ask the experts: diphtheria, tetanus, pertussis. April 2008. Available at: www.immunize.org/askexperts/experts_diph.asp
6. Adacel™ package insert. Available at: www.fda.gov/cber/label/tdapave061005LB.pdf.
7. Boostrix® package insert. Available at: www.fda.gov/cber/label/tdapgla050305LB.pdf.
8. Decavac™ package insert. Available at: www.crunchyparenting.com/vax/DECAVAC.pdf.

For more information or to clarify any part of the above order, consult with your health officer, or contact the Oregon State Public Health Division Immunization Program at 971-673-0300.

To download this order visit our website at
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