OREGON HEALTH AUTHORITY
IMMUNIZATION PROGRAM
RECOMMENDED SITES FOR SIMULTANEOUS VACCINE ADMINISTRATION

07-05-2017:

- Update to age changes with certain vaccines
- Update to References

I. OREGON IMMUNIZATION MODEL STANDING ORDER:
Vaccinators should be familiar with the anatomy of the area into which they are injecting vaccine. An individual decision on needle size and site of injection must be made for each person on the basis of age, body mass, volume of vaccine dose and the injection technique of vaccine administrator.

Subcutaneous (SC) injections\(^1\) for immunizations are usually administered with a 23–25 gauge, \(\frac{3}{4}\) inch needle at a 45 degree angle into the fatty tissue of the thigh of infants aged <12 months and in the upper-outer triceps area of persons aged ≥12 months. SC injections can be administered into the upper-outer triceps area of an infant, if necessary.

Intramuscular (IM) injections\(^1\) for immunizations are administered with a 22–25 gauge, \(\frac{3}{4}\) to 1½ inch needle at a 90-degree angle into the vastus lateralis muscle of infants ≤36 months. IM injections for children and adults may be administered into the vastus lateralis or deltoid depending on the age and muscle mass of each vaccinée. The needle should be long enough to reach the muscle tissue below the dermis and subcutaneous tissue. See age and weight chart in section III B and C, page 6–7. The dorsal gluteal buttock site should never be used as a vaccination site for active immunization.

Intradermal injection\(^1\) (e.g., IIV [Fluzone\(^2\)]) is administered by inserting the needle perpendicular to skin, in the region of the deltoid. Exception: Tuberculin Skin Testing is given on the volar surface of the forearm at a 5°–15° angle. See section V. page 10. Oral route\(^1\) Infant immunization is administered by slowly
squirting the liquid down one side of the inside of the cheek between cheek and gum toward the back of the infant’s mouth (e.g., Rotavirus [Rotarix®3 or Rotateq®4]) Adult immunization is administered by capsule (e.g., Typhoid [Vivotif®5a] or Cholera [Vaxchora™5b]).

**Intranasal route**1 immunization (e.g., LAIV [FluMist®6]) is administered with the tip of the nasal sprayer inserted slightly into the naris. After half of the contents (0.1 ml) are sprayed into one nostril; then remove dose-divider clip and repeat procedure in the other nostril. Not recommended for the 2017-2018 flu season.

______________________________
Signature                      Health Officer or Medical Provider                      Date
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Signature                      Health Officer or Medical Provider                      Date
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This order expires July 31, 2018
## II. RECOMMENDED SITES FOR SIMULTANEOUS VACCINE ADMINISTRATION

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Dose</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diphtheria, Tetanus, Pertussis</strong> (DTaP, DT, Tdap, Td)</td>
<td>0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td><strong>Haemophilus influenza type b</strong> (Hib)</td>
<td>0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td><strong>Hepatitis A</strong> (HepA)</td>
<td>≤18 yrs: 0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td></td>
<td>≥19 yrs: 1.0mL</td>
<td>IM</td>
</tr>
<tr>
<td><strong>Hepatitis B</strong> (HepB)*</td>
<td>≤19 yrs: 0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td>Persons 11–15 years may be given Recombivax HB (Merck) 1.0mL adult formulation on a 2–dose schedule</td>
<td>≥20 yrs: 1.0mL</td>
<td></td>
</tr>
<tr>
<td><strong>Human Papillomavirus</strong> (HPV)</td>
<td>0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td><strong>Influenza, live attenuated</strong> (LAIV) not recommended for 2017-2018 season</td>
<td>0.2mL (0.1mL in each nostril)</td>
<td>Intranasal spray</td>
</tr>
<tr>
<td><strong>Influenza, inactivated</strong> (IIV); recombinant (RIV), and cell culture (CCIV) for ages &gt;18 years</td>
<td>6–35 mos; 0.25mL</td>
<td>IM</td>
</tr>
<tr>
<td></td>
<td>≥3 yrs: 0.5mL</td>
<td></td>
</tr>
<tr>
<td><strong>Influenza (IIV) Intradermal</strong>, for ages 18–64 years§</td>
<td>0.1mL</td>
<td>ID</td>
</tr>
<tr>
<td><strong>Japanese Encephalitis</strong>, for &gt;2 months</td>
<td>2 mos to &lt;3 years; 0.25mL</td>
<td>IM</td>
</tr>
<tr>
<td></td>
<td>≥3 years of age: 0.5mL</td>
<td>IM</td>
</tr>
</tbody>
</table>
II. RECOMMENDED SITES FOR SIMULTANEOUS VACCINE ADMINISTRATION

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Dose</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measles, Mumps, Rubella (MMR and MMRV)</td>
<td>0.5mL</td>
<td>Subcut</td>
</tr>
<tr>
<td>Measles, Mumps, Rubella (MMR and MMRV)</td>
<td>0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td>Meningococcal conjugate (MCV4 [MenACWY])</td>
<td>0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td>Meningococcal conjugate (MCV4 [MenACWY])</td>
<td>0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td>Meningococcal conjugate (MCV4 [MenACWY])</td>
<td>0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td>Meningococcal conjugate (MCV4 [MenACWY])</td>
<td>0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td>Meningococcal polysaccharide (MPSV)</td>
<td>0.5mL</td>
<td>Subcut</td>
</tr>
<tr>
<td>Pneumococcal conjugate (PCV)</td>
<td>0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td>Pneumococcal polysaccharide (PPSV)</td>
<td>0.5mL</td>
<td>IM or Subcut</td>
</tr>
<tr>
<td>Polio, inactivated (IPV)</td>
<td>0.5mL</td>
<td>IM or Subcut</td>
</tr>
<tr>
<td>Rabies*</td>
<td>0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td>Rotavirus</td>
<td>1.0mL</td>
<td>Oral</td>
</tr>
<tr>
<td>Typhoid</td>
<td>2.0mL</td>
<td>Oral</td>
</tr>
<tr>
<td>Typhoid</td>
<td>0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td>Varicella (Var)</td>
<td>0.5mL</td>
<td>Subcut</td>
</tr>
<tr>
<td>Yellow Fever</td>
<td>≥9 mos; 0.5mL</td>
<td>Subcut</td>
</tr>
<tr>
<td>Cholera</td>
<td>18–64 years of age</td>
<td>Powder/Water</td>
</tr>
<tr>
<td>Zoster (Zos) ACIP recommended for ≥60 years</td>
<td>0.65mL</td>
<td>Subcut</td>
</tr>
<tr>
<td>Zoster (Zos) FDA approved for ≥50 years of age (insurance may not pay)</td>
<td>0.65mL</td>
<td>Subcut</td>
</tr>
</tbody>
</table>

**Combination Vaccines**

<table>
<thead>
<tr>
<th>Combination Vaccines</th>
<th>Dose</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTaP-HepB-IPV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Pediarix)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTaP-IPV/Hib</td>
<td>0.5mL</td>
<td>IM</td>
</tr>
<tr>
<td>(Pentacel)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTaP-IPV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Kinrix; Quadracel)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaccine</td>
<td>Route</td>
<td>Dose</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Hib-MenCY (MenHibrix)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMRV (ProQuad)</td>
<td>≤12 yrs: 0.5mL</td>
<td>Subcut</td>
</tr>
<tr>
<td>HepA-HepB (Twinrix)*</td>
<td>≥18 yrs: 1.0mL</td>
<td>IM</td>
</tr>
</tbody>
</table>

*In general, the injection of vaccine should occur at a site that would allow for administration with little likelihood of local neural, vascular or other tissue injury. The buttock should not be used as a vaccination site for active immunization. Injection into the buttock of the Hepatitis B and Rabies vaccines are not valid and must be repeated. An individual decision must be made for each patient for IM administration based on the volume of the material to be administered and, the size of the muscle into which it is to be injected.*

◊In patients with bleeding disorders, the risk of bleeding after an IM injection can be minimized by vaccine administration immediately after receipt of replacement factor, use of a 23 gauge (or smaller) needle, and immediate application of direct pressure to the immunization site for at least 2 minutes by the clock.

§Intradermal injection. Hand and Finger placement on microinjector are crucial. If the pressure on the plunger forces the dose into the subcutaneous tissue the dose is invalid and needs to be repeated.
III. A. INJECTION SITE AND NEEDLE SIZE

Subcutaneous (Subcut) injection

Use a 23–25 gauge needle. Choose the injection site that is appropriate to the person’s age and body mass.

<table>
<thead>
<tr>
<th>Age</th>
<th>Needle Length</th>
<th>Injection Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants 1–12 months</td>
<td>½”</td>
<td>Fatty tissue over anterolateral thigh muscle</td>
</tr>
<tr>
<td>Children 12 mos or older, adolescents, and adults</td>
<td>⅝”</td>
<td>Fatty tissue over anterolateral thigh muscle or fatty tissue over triceps</td>
</tr>
</tbody>
</table>

III. B. INJECTION SITE AND NEEDLE SIZE

Intramuscular (IM) Injection

Use a 22–25 gauge needle. Choose the injection site and needle length that is appropriate to the person’s age and body mass.

<table>
<thead>
<tr>
<th>Age: Birth through 18 years</th>
<th>Needle Length</th>
<th>Injection Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborns (1st 28 days)</td>
<td>⅝”</td>
<td>Anterolateral thigh muscle</td>
</tr>
<tr>
<td>Infants (1–12 months)</td>
<td>1”</td>
<td>Anterolateral thigh muscle</td>
</tr>
<tr>
<td>Toddlers (1–2 years)</td>
<td>1–1¼”</td>
<td>Anterolateral thigh muscle or Deltoid muscle of arm</td>
</tr>
<tr>
<td></td>
<td>⅝–1”</td>
<td></td>
</tr>
<tr>
<td>Children and Teens (3–18 years)</td>
<td>⅝–1”</td>
<td>Anterolateral thigh muscle or Deltoid muscle of arm</td>
</tr>
<tr>
<td></td>
<td>1–1¼”</td>
<td></td>
</tr>
</tbody>
</table>
### III. C. INJECTION SITE AND NEEDLE SIZE

<table>
<thead>
<tr>
<th>Age: Adults 19 years or older</th>
<th>Needle Length</th>
<th>Injection Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female or Male &lt;130 lbs</td>
<td>( \frac{5}{8} )–1”*</td>
<td>Deltoid muscle of arm</td>
</tr>
<tr>
<td>Female or Male 130–152 lbs</td>
<td>1”</td>
<td></td>
</tr>
<tr>
<td>Female 153–200 lbs</td>
<td>1–1( \frac{1}{2} )”</td>
<td></td>
</tr>
<tr>
<td>Male 130–260 lbs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female 200+ lbs</td>
<td>1( \frac{1}{2} )”</td>
<td></td>
</tr>
<tr>
<td>Male 260+ lbs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*A \( \frac{5}{8} \)” needle may be used for patients weighing less than 130 lbs (<60 kg) for IM injection in the deltoid muscle only if the skin is stretched tight, the subcutaneous tissue is not bunched, and the injection is made at a 90–degree angle.*
IV. ADMINISTRATION TECHNIQUES FOR IM, SUBCUT, ID AND INTRANASAL

Adapted from the Immunization Action Coalition, St. Paul, Minnesota.¹

Available at: http://www.immunize.org/catg.d/p3085.pdf
V. INTRADERMAL INJECTION FOR TUBERCULIN SKIN TEST (TST) *0

<table>
<thead>
<tr>
<th>Age</th>
<th>Dose</th>
<th>Needle Gauge</th>
<th>Needle Length</th>
<th>Bevel Length</th>
<th>Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.1mL</td>
<td>27</td>
<td>½ inch</td>
<td>Short</td>
<td>Volar surface of the Left forearm (if available) at least 2 inches from the elbow</td>
</tr>
</tbody>
</table>

* All vaccines, including MMR, can be given on the same day as a TST, but if MMR has been given and one or more days have elapsed, in most situations a wait of 4 weeks is recommended before giving a routine TST. 8

◊ The PPD Mantoux screening test for TB should be given within 20 minutes of drawing it up. If more than 20 minutes have elapsed, discard the syringe in the appropriate container and draw up a new dose. More than a brief exposure to room temperature or light can make the skin test antigens less effective.9

VI. ADVERSE EVENTS REPORTING

Public providers are to complete the Vaccine Adverse Events Reporting System (VAERS) report online at https://vaers.hhs.gov/reportevent.html

1. Save a copy of the report number for your records
2. Send copies of the report and VAERS ID number to the Oregon Immunization Program Vaccine Safety Coordinator via confidential email at ORVAERS.Reports@state.or.us or fax (971-673-0278).

Private providers are to report events directly to VAERS and can read about options on how to do so at http://vaers.hhs.gov/index.

To request this material in an alternative format (e.g., Braille) or to clarify any part of the above order, contact the Oregon Health Authority Immunization Program at 971.673.0300 and 711 for TTY. For other questions, consult with the vaccine recipient’s primary health care provider or a consulting physician.

Electronic copy of this standing order is available at: http://1.usa.gov/OregonStandingOrders
REFERENCES


