# How to Administer IM (Intramuscular) Injections

Vaccines given IM (intramuscular) route: DTaP, DT, Hib, hepA, hepB, HPV, IIV, MCV, PCV, rabies, Td, Tdap and RZV (Shingrix).

Administer IPV and PPSV vaccines either via IM or SQ (subcutaneous) route.

<table>
<thead>
<tr>
<th>Patient’s age</th>
<th>Site (see illustrations)</th>
<th>Needle size*</th>
</tr>
</thead>
</table>
| Newborn/infant (Birth - 1 year) | • Anterolateral thigh | • 1” needle  
• 5/8” in premies or newborns (0-28 days old) if muscle mass inadequate¹  
• 23-25 gauge needle |
| Toddler (1-3 years) | • Anterolateral thigh preferred  
• Deltoid when adequate mass developed | • 1” – 1¼” needle for thigh  
• 5/8” – 1” needle for deltoid  
• 23-25 gauge needle |
| Children (3-11 years) | • Deltoid  
• Anterolateral thigh | • 5/8” – 1” needle for deltoid  
• 1” – 1¼” needle for thigh  
• 23-25 gauge needle |
| Adolescents/adults² (11 years and older) | • Deltoid preferred  
• Anterolateral thigh may be used if necessary | • 1” – 1¼” needle²  
• 23-25 gauge needle |

¹ A ½” needle may be used only if the skin is stretched tight, the subcutaneous tissue is not bunched, and injection is made at a 90° angle.

² A ½” needle is sufficient in adults weighing less than 130 lbs (60 kg).

A 1” needle is sufficient in adults weighing 130–152 lbs (60–70 kg).

A 1–1½” needle is recommended in women weighing 152–200 lbs (70–90 kg) and men weighing 152–260 lbs (70–118 kg).

A 1½” needle is recommended in women weighing more than 200 lbs (90 kg) or men weighing more than 260 lbs (118 kg).

### Needle insertion

- Use a needle long enough to reach deep into the muscle.
- Identify the thickest part of the deltoid muscle by having the person raise their arm to define the muscle. Once defined, have patient relax arm and proceed.
- Insert needle at a 90° angle to the skin with a quick thrust.
- Retain pressure on skin around injection site with thumb and index finger while needle is inserted.
- Aspiration is not necessary.
- Multiple injections given in the same extremity should be separated as far as possible (preferably at least 1” apart).

**Sources:** Red Book 2018, American Academy of Pediatrics & CDC, General Best Practices for Immunization, accessed 2018
How to Administer SQ (Subcutaneous) Injections

Vaccines given SQ (subcutaneous) route: MMR, MMRV, VAR, and ZVL (Zostavax).

Administer IPV and PPSV vaccines either via IM (intramuscular) or SQ route.

<table>
<thead>
<tr>
<th>Patient’s age</th>
<th>Site (see illustrations)</th>
<th>Needle size*</th>
</tr>
</thead>
</table>
| Infants (Birth - 1 year) | • Fatty area of the thigh | • 5/8” needle  
                                • 23-25 gauge |
| Toddlers (1-3 years) | • Fatty area of the thigh or outer aspect of upper arm | • 5/8” needle  
                                • 23-25 gauge |
| Children (3 -11 years) | • Fatty area of the thigh or outer aspect of upper arm | • 5/8” needle  
                                • 23-25 gauge |
| Adolescents/adults (11 years and older) | • Outer aspect of upper arm | • 5/8” needle  
                                • 23-25 gauge |

**Needle insertion**

- Insert needle at a 45° angle to the skin.
- Pinch up on SQ tissue to prevent injecting into muscle.
- Aspiration before injection is not required.
- Multiple injections given in the same extremity should be separated as far as possible (preferably at least 1” apart).