

How to Administer Intramuscular and Subcutaneous Vaccine Injections

Administration by the Intramuscular (IM) Route

Administer these vaccines via IM route

- Diphtheria-tetanus-pertussis (DTaP, Tdap)
- Diphtheria-tetanus (DT, Td)
- *Haemophilus influenzae* type b (Hib)
- Hepatitis A (HepA)
- Hepatitis B (HepB)
- Human papillomavirus (HPV)
- Inactivated influenza (IIV)
- Meningococcal serogroup B (MenB)
- Quadrivalent meningococcal conjugate (MenACWY [MCV4])
- Pneumococcal conjugate (PCV13)

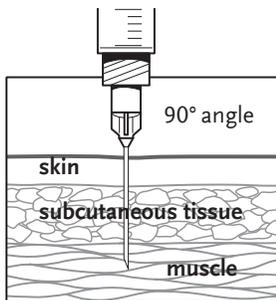
Administer inactivated polio (IPV) and pneumococcal polysaccharide (PPSV23) vaccines either IM or Subcut.

PATIENT AGE	INJECTION SITE	NEEDLE SIZE
Newborn (0–28 days)	Anterolateral thigh muscle	5/8"* (22–25 gauge)
Infant (1–12 months)	Anterolateral thigh muscle	1"* (22–25 gauge)
Toddler (1–2 years)	Anterolateral thigh muscle	1–1¼" (22–25 gauge)
	Alternate site: Deltoid muscle of arm if muscle mass is adequate	5/8–1"* (22–25 gauge)
Children (3–18 years)	Deltoid muscle (upper arm)	5/8–1"* (22–25 gauge)
	Alternate site: Anterolateral thigh muscle	1–1¼" (22–25 gauge)
Adults 19 years and older	Deltoid muscle (upper arm)	1–1½"*† (22–25 gauge)
	Alternate site: Anterolateral thigh muscle	1–1½" (22–25 gauge)

* A 5/8" needle usually is adequate for neonates (first 28 days of life), preterm infants, and children ages 1 through 18 years if the skin is stretched flat between the thumb and forefinger and the needle is inserted at a 90° angle to the skin.

† A 1½" needle may be used in patients weighing less than 130 lbs (<60 kg) for IM injection in the deltoid muscle only if the skin is stretched tight, the sub-

cutaneous tissue is not bunched, and the injection is made at a 90° angle; a 1" needle is sufficient in patients weighing 130–152 lbs (60–70 kg); a 1–1½" needle is recommended in women weighing 153–200 lbs (70–90 kg) and men weighing 153–260 lbs (70–118 kg); a 1½" needle is recommended in women weighing more than 200 lbs (91 kg) or men weighing more than 260 lbs (118 kg).



Needle insertion

Use a needle long enough to reach deep into the muscle.

Insert needle at a 90° angle to the skin with a quick thrust.

(Before administering an injection of vaccine, it is not necessary to aspirate, i.e., to pull back on the syringe plunger after needle insertion.¶)

Multiple injections given in the same extremity should be separated by a minimum of 1", if possible.

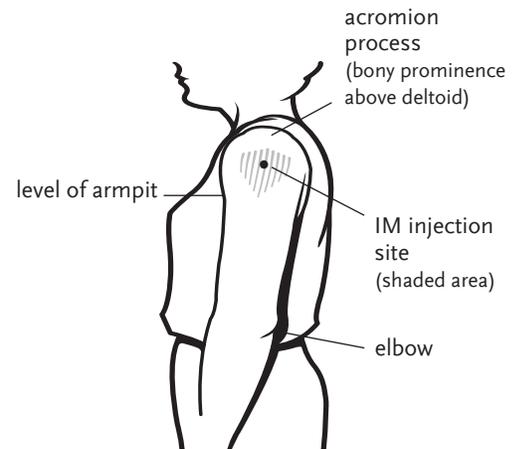
¶ CDC. "ACIP General Recommendations on Immunization" at www.immunize.org/acip

Intramuscular (IM) injection site for infants and toddlers



Insert needle at a 90° angle into the anterolateral thigh muscle.

Intramuscular (IM) injection site for children and adults



Give in the central and thickest portion of the deltoid muscle – above the level of the armpit and approximately 2–3 fingerbreadths (~2") below the acromion process. See the diagram. To avoid causing an injury, do not inject too high (near the acromion process) or too low.

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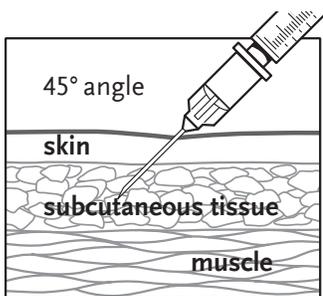
Administration by the Subcutaneous (Subcut) Route

Administer these vaccines via Subcut route

- Measles, mumps, and rubella (MMR)
- Meningococcal polysaccharide (MPSV4)
- Varicella (VAR)
- Zoster (shingles [ZOS])

Administer inactivated polio (IPV) and pneumococcal polysaccharide (PPSV23) vaccines either IM or Subcut.

PATIENT AGE	INJECTION SITE	NEEDLE SIZE
Birth to 12 months	Fatty tissue overlying the anterolateral thigh muscle	5/8" (23–25 gauge)
12 months and older	Fatty tissue overlying the anterolateral thigh muscle or fatty tissue over triceps	5/8" (23–25 gauge)



Needle insertion

Pinch up on subcutaneous tissue to prevent injection into muscle.

Insert needle at 45° angle to the skin.

(Before administering an injection of vaccine, it is not necessary to aspirate, i.e., to pull back on the syringe plunger after needle insertion.*)

Multiple injections given in the same extremity should be separated by a minimum of 1".

* CDC. "ACIP General Recommendations on Immunization" at www.immunize.org/acip

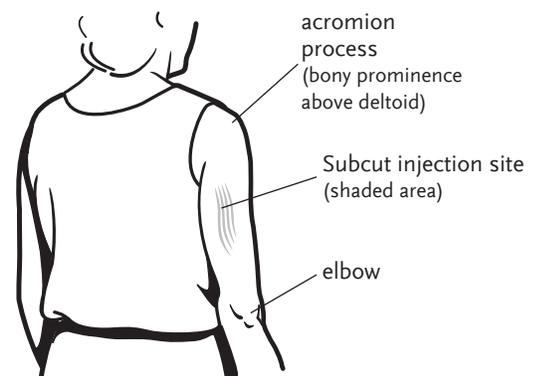
Subcutaneous (Subcut) injection site for infants



Subcut injection site (shaded area)

Insert needle at a 45° angle into fatty tissue of the anterolateral thigh. Make sure you pinch up on subcutaneous tissue to prevent injection into the muscle.

Subcutaneous (Subcut) injection site for children (after the 1st birthday) and adults



Insert needle at a 45° angle into the fatty tissue overlying the triceps muscle. Make sure you pinch up on the subcutaneous tissue to prevent injection into the muscle.