

YOU CALL THE SHOTS



Vaccine Administration: Needle Gauge and Length

Vaccines must reach the desired tissue to provide an optimal immune response and reduce the likelihood of injection-site reactions. Needle selection should be based on the:

- Route
- Age
- Sex and weight for adults
(19 years and older)
- Injection site

The following table outlines recommended needle gauges and lengths. In addition, clinical judgment should be used when selecting needles to administer injectable vaccines.

Route	Age	Needle gauge and length	Injection site
Subcutaneous injection	All ages	23–25-gauge 5/8 inch (16 mm)	Thigh for infants younger than 12 months of age ¹ ; upper outer triceps area for people 12 months of age and older
Intramuscular injection	Neonate, 28 days and younger	22–25-gauge 5/8 inch (16 mm ²)	Vastus lateralis muscle of anterolateral thigh
	Infants, 1–11 months (up to first birthday)	22–25-gauge 1 inch (25 mm)	Vastus lateralis muscle of anterolateral thigh
	Toddlers, 1–2 years	22–25-gauge 1–1.25 inches (25–32 mm)	Vastus lateralis muscle of anterolateral thigh ³
		22–25-gauge 5/8 ² –1 inch (16–25 mm)	Deltoid muscle of arm
	Children, 3–10 years	22–25-gauge 5/8 ² –1 inch (16–25 mm)	Deltoid muscle of arm ³
		22–25-gauge 1–1.25 inches (25–32 mm)	Vastus lateralis muscle of anterolateral thigh
	Children, 11–18 years	22–25-gauge 5/8 ² –1 inch (16–25 mm)	Deltoid muscle of arm ^{3,5}
	Adults, 19 years and older	22–25-gauge 1 inch (25 mm ⁴) 1 inch (25 mm) 1–1.5 inches (25–38 mm) 1–1.5 inches (25–38 mm) 1.5 inches (38 mm) 1.5 inches (38 mm)	Deltoid muscle of arm ^{3,5}

¹ May be administered into the upper outer triceps area if necessary

² If the skin is stretched tightly and subcutaneous tissues are not bunched

³ Preferred site

⁴ Some experts recommend a 5/8-inch needle for men and women weighing less than 60 kg, if used, skin must be stretched tightly and subcutaneous tissues must not be bunched.

⁵ The vastus lateralis muscle in the anterolateral thigh can also be used. Most adolescents and adults will require a 1- to 1.5-inch (25–38 mm) needle to ensure intramuscular administration.

Reference: General Best Practices for Immunization:

<https://www.cdc.gov/vaccines/hcp/imz-best-practices/vaccine-administration.html>

