

Principles of injection technique

Considerations for needle and gauge selection*

Intramuscular (IM)**		Location of injection***	Needle length***	Needle gauge***	Needle angle
Paediatric	< 12 months (infants)	Vastus lateralis muscle (< 0.5mL vol.)	22mm – 25mm	25 – 27 G	90°
	12 months to 18 years (toddlers and older children)	Deltoid muscle, ventrogluteal site, dorsogluteal site (not recommended for < 3 years), vastus lateralis muscle	22mm – 30mm	22 – 25 G	90°
Adult	> 18 years	Deltoid muscle, ventrogluteal site (may be best site for cachectic adults), dorsogluteal site (avoid in obese adults), vastus lateralis muscle	25mm – 40mm (up to 76mm for large adults)	19 – 25 G	90°

** Prior to administering an IM injection, refer to your procedure manual to determine the injection site utilising body landmarks.

Subcutaneous (SubQ)		Location of injection***	Needle length***	Needle gauge***	Needle angle
Paediatric to adult	< 12 months (infants)	Anterolateral thigh, upper outer tricep area, upper buttocks, abdomen (avoid 50mm radius around umbilicus)	Insulin delivery: 4mm – 13mm Other injections: 13mm – 16mm	Insulin delivery: 29 – 32 G Other injections: 26 – 31 G	45° – 90°
	12 months to 18 years (toddlers and older children)				
	> 18 years				

Intradermal (ID)		Location of injection***	Needle length***	Needle gauge***	Needle angle
Paediatric to adult	< 12 months (infants)	Anterolateral aspect of forearm, upper chest, upper back, back of upper arm	10mm – 19mm	26 – 28 G	10° – 15°
	12 months to 18 years (toddlers and older children)				
	> 18 years				

*Adapted from *Fundamentals of Nursing Human Health and Function*, Craven R, Hirnle C, Henshaw CM, 8th ed. Wolters Kluwer, 2017

*** Dependent on age, physical condition and medical requirements.

This information is being provided for convenience only and is not intended to replace clinical decision making. Each clinician is solely responsible for determining the correct needle for each patient.



ISO hub color standards for safety-engineered needles: ISO 6009:2016

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