Needle Selection Guidelines
Needle Use

Intramuscular Injections
90° angle

Subcutaneous Injections
45° to 90° angle

Intradermal Injections
10° to 15° angle

Epidermis
Dermis
Subcutaneous Tissue
Muscle

Intramuscular injection angle 90°
Recommended injection sites for intramuscular injections:
● Adults - deltoid muscle of arm, vastus lateralis muscle of thigh.
● Children 18 months (walking) to 18 years - deltoid muscle of arm, vastus lateralis muscle of thigh, or ventrogluteal site.
● Infants less than 18 months - vastus lateralis thigh muscle.

Subcutaneous injection angle 45° to 90°
Recommended injection sites for subcutaneous injections:
● Adults to Infants - anterolateral thigh, upper outer tricep area, upper buttocks, or abdomen (avoid 2” radius around umbilicus).

Intradermal injection angle 10° to 15°
Recommended injection sites for intradermal injections:
● Adults to Infants - anterior aspect of forearm, upper chest, upper back, or back of upper arm.

Source: Becton Dickinson

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