

Intramuscular Injection

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Purpose

To ensure safe administration of prescribed medication using the intramuscular route

Scope

Nurses/Midwives and Students of Nursing and Midwifery as per the Students responsibilities with Fluid and Medication Management policy scope/Medical practitioners

Definitions

Intramuscular Injection (IM, IMI): The administration of a prescribed medication using a needle and syringe into the muscle layer lying beneath the subcutaneous layer of the skin.

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Associated documents

- Informed Consent
- Nursing and Midwifery Policies and Procedures Manual
- CDHB Infection Prevention & Control Standard Precautions Policy

Statements

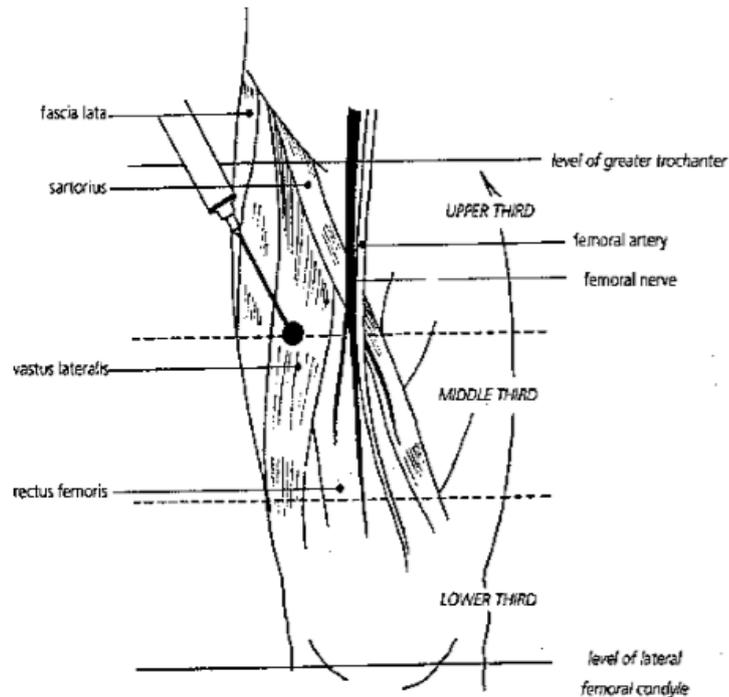
- Ensure patient is informed and their consent obtained.
- Perform hand hygiene as per The 5 Moments for Hand Hygiene
- Use chlorhexidine and alcohol swabs prior to injection and wait till this dries before injecting.
- For patients under the Intellectual Disability Compulsory Care and Rehabilitation Act and the Mental Health Act, consent will be obtained where possible and family whanau may be contacted for support.
- Establish whether the consumer has a staff gender preference and determine the most appropriate location for administering the medication.
- Use the manufacturer's instructions for site. If clearly one site on instructions, inform and discuss with the consumer.
- Discuss the preferred injection site with the consumer (where appropriate).
- With anti-psychotic medications the amount that can be administered in the deltoid site is subject to viscosity and following the manufactures and prescribers instructions
- With the administration of Paliperidone Palmitate IM in the Deltoid region no more than 1.5mLs can be administered and with Risperdal Consta™ IM no greater than 2 mLs can be administered
- When using the Dorsogluteal and Ventrogluteal site for injection take care to correctly identify anatomy. See diagrams below.

Child administration

- For children under 3 years or who have been walking for less than a year - use the Vastus Lateralis Muscle located on the anteriolateral aspect of the thigh. Never use the gluteal muscles (which develop from repeated walking) as the injection site for a child under 3 years or for a child who has been walking for less than a year.
- Ensure that you draw up the injection out of sight, if possible to avoid anxiety.
- Position the child with the help of caregiver.
- Provide constant reassurance to the child and the caregiver.

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Figure 3: Injection site for children



Please Note: Utilise infection prevention and control procedures to prevent needle-stick injury and contamination

Appropriate needle sizes (guide)

- Use safety engineered needles and syringes where possible
- Blunt 18 gauge for drawing up medication or vial access cannula
- Adult 22 gauge x 38mm for administering medication
- Adult 22 gauge x 50mm (for obese consumers)
- Adult (emaciated) and Children 23 gauge x 25mm for administering medication

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Lippincott procedures and references (continue for figure diagrams not covered in Lippincott)

The Z track technique is the preferred method for administering many IM injections because it prevents leakage or tracking of the medication into the subcutaneous tissue which can cause patient discomfort and may permanently stain some tissue.

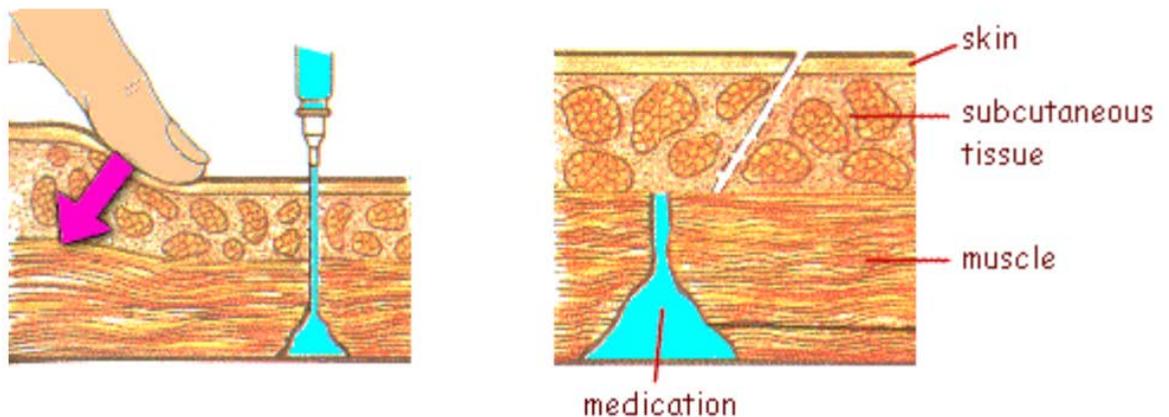
[Z track injection procedure](#)

[Adult Intramuscular injection procedure](#)

[Paediatric Intramuscular injection procedure](#)

Check that the injection site is not oozing medication or bleeding
Report any adverse reactions as per CDHB Adverse Reactions Identification and Documentation Policy

Figure 2: Z Track Technique



Vastus Lateralis injection site information and figures

Information

The advantages of these sites include ease of access, but their main disadvantage is they can cause considerable discomfort.

This muscle is situated on the anterior lateral aspect of the thigh. The middle third of the muscle is the suggested site.

The muscle is usually thick and well developed in adults and children.

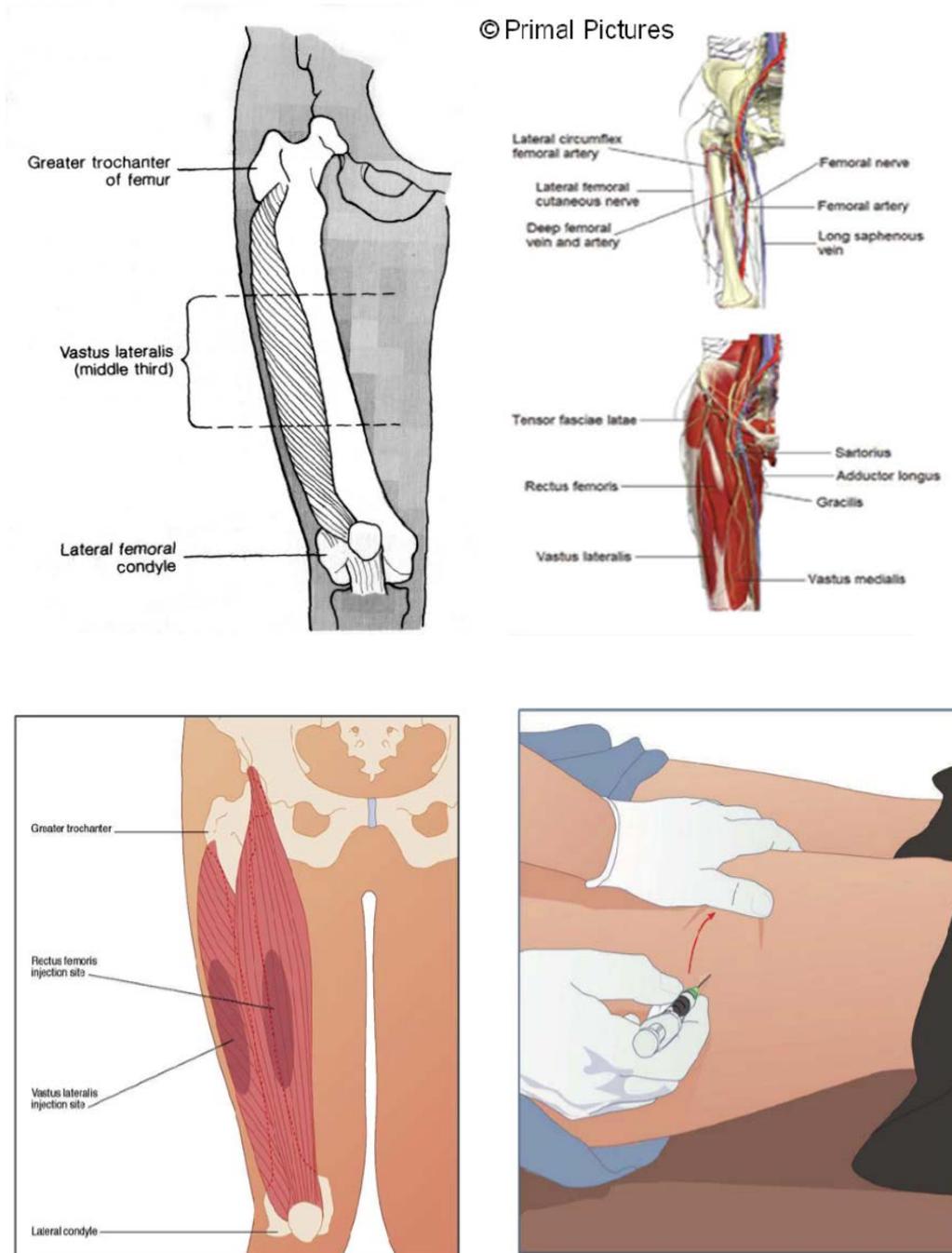
There are no major blood vessels or large nerves in the area.

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The consumer can assume a back lying or sitting position.

Divide the area between the greater trochanter of the femur and the lateral femoral condyle into thirds and select the middle third to establish the suggested site.

Figure 6: The vastus lateralis site for an intramuscular injection



Dorsogluteal injection site information and figures

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Information

The dorsogluteal site, colloquially called the ‘upper outer quadrant’, targets the gluteus maximus muscle. When this site is used, there is a risk that the medicine will not reach the target muscle, but instead will be injected into sub-cutaneous fat. As a result delayed uptake of the medicine may occur. The 22 gauge x 2” needle should be chosen if this is a risk.

The dorsogluteal site is in the thick muscles of the buttocks. The injection site must be chosen carefully to avoid striking the sciatic nerve, major blood vessels, or bone. The gluteus medius muscle can absorb 1 to 5 mL of medication.

To administer an injection into this site:

- the consumer should be lying in a prone position with the toes pointing medially or
- the consumer assumes a side-lying position, with the upper leg flexed at the thigh and the knee and placed in front of the lower leg.

Both these positions promote relaxation of the gluteal muscles, which reduces the pain of injection.

Note: This site is not generally used for children under the age of 3 years because the muscles are not yet sufficiently developed.

Note: **If there is variance from the recommended position, this must be recorded in the clinical notes or record together with the rationale for this clinical decision. This should only occur where consumers in community settings have a long term preference for this site and do not wish to change site and/or may prefer to stand. In this case, standard procedures and principles apply e.g. taking weight off the foot on the injection side to reduce muscle tension and to ensure the consumer does not fall.**

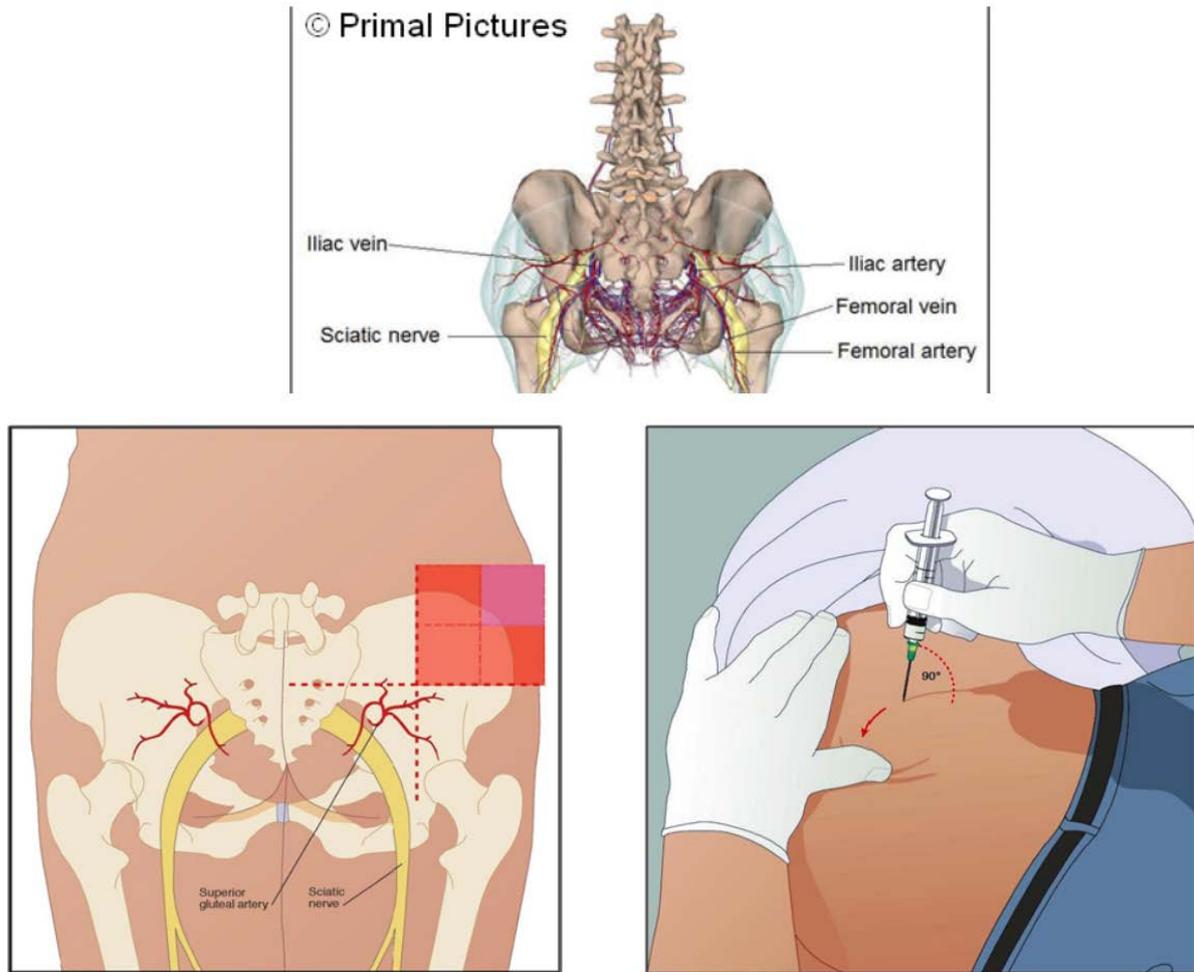
Method for establishing the dorsogluteal site for injection

- Divide the buttock into imaginary quadrants. The vertical extends from the crest of the ileum to the gluteal fold. The horizontal line extends from the medial fold to the lateral aspect of the buttock (see figure 4).
- Locate the upper outer aspect of the upper outer quadrant.
- Palpate the crest of the ileum so that the site is high enough.

Note: visual calculations alone can result in an injection that is too low and injures the consumer.

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Figure 5: Establishing the dorsogluteal site for an intramuscular injection



Deltoid injection site information and figures

Information

Injections into the mid deltoid muscle produce a quick uptake of the medicine.

The deltoid site is on the lateral aspect of the upper arm.

Sitting or lying positions can be assumed for injections into the deltoid muscle.

Note: This site is not often used for intramuscular injections because it is a relatively small muscle and very close to the radial nerve and brachial artery.

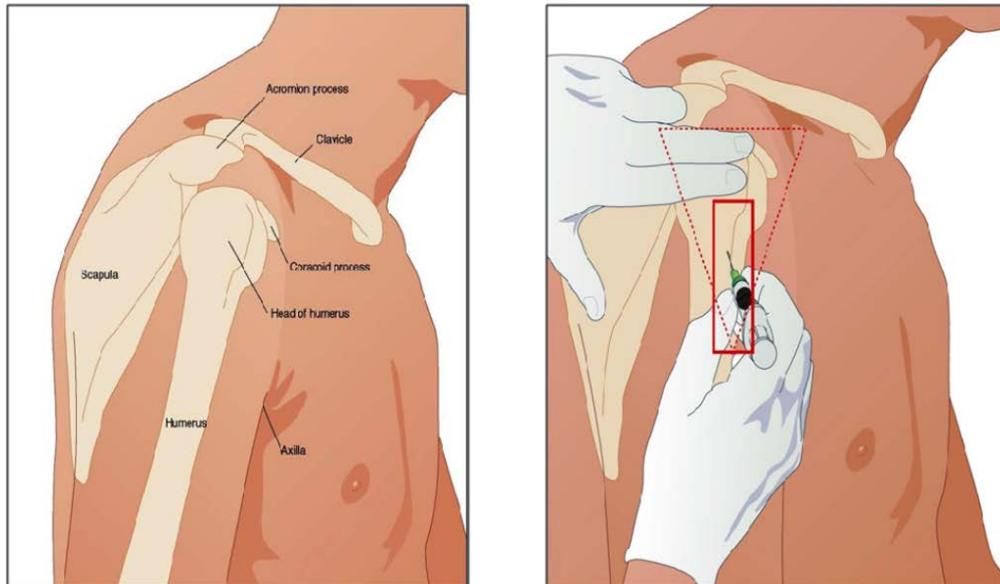
This site may not be used for an injection greater than 1.0 mL. An exception to this is risperdal consta for an injection no greater than 2 mL.

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Palpate the lower edge of the acromial process and the midpoint, in line with the axilla, of the lateral aspect of the arm.

A triangle within these boundaries approximates the location of the deltoid muscle, about 5cm below the acromial process.

Figure 7: The deltoid muscle of the upper arm for intramuscular injections for adults



Further References

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