

# Medication Administration – Intramuscular Injection

There are many reasons infants and children may require an intramuscular injection, including routine vaccinations and intramuscular antibiotics. Paediatric intramuscular injections must be administered into muscles large enough to accommodate the medication and avoid major nerves or blood vessels (Please see table provided).

<p><b>1</b> GATHER EQUIPMENT</p> <p>Gather equipment pictured below</p>  <p>DRESSING ALCOHOL WIPE NEEDLE &amp; SYRINGE</p>	<p><b>2</b> PREPARE</p> <p>Carry out mandatory medication safety checks. Explain procedure and gain verbal consent.</p> 	<p><b>3</b></p> <p>Attend to hand hygiene and don PPE as required.</p> 	<p><b>4</b> PROCEDURE</p> <p>Position the infant/child to access the appropriate muscle site (See Table below).</p> 
<p><b>5</b></p> <p>Clean the skin with an alcohol wipe. Wait for the skin to dry.</p> 	<p><b>6</b></p> <p>Pierce the skin at an angle of 90 degrees to the skin. Use a quick darting action and inject the medication quickly to reduce pain.</p> 	<p><b>7</b></p> <p>Remove syringe and needle intact and discard into a sharp's container.</p> 	<p><b>8</b></p> <p>Apply dressing to injection site.</p> 

## Guidelines for Maximal Amounts of Solutions to be Injected into Muscle Tissue:

Muscle Group		Birth to 18 months	18 months to 3yrs	3 - 6 years	6 - 15 years	> 15 years
	Vastus Lateralis	0.5 mL	1 mL	1.5 mL	1.5 mL	2-2.5 mL
	Deltoid	Not Recommended	0.5ml Not Recommended unless Vastus Lateralis sites are unavailable	0.5 mL	0.5 mL	1 mL

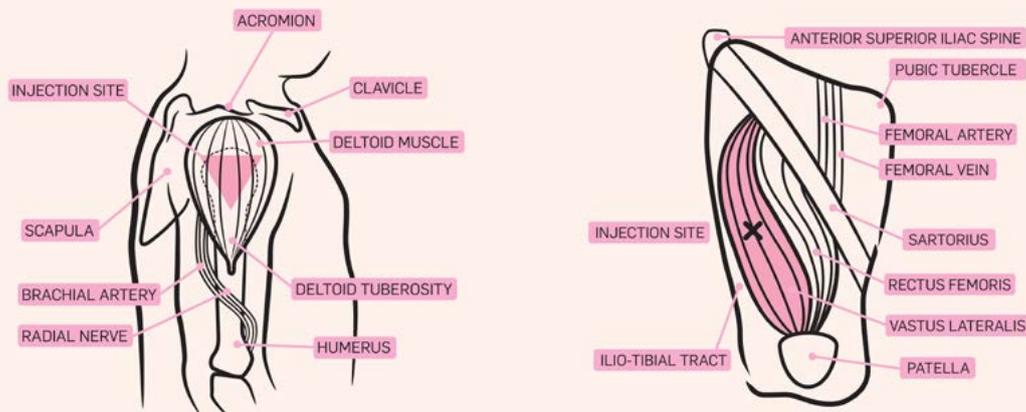


For information on anatomical markers used to identify the Vastus Lateralis and Deltoid injection sites:

[Australian Immunisation Handbook: Vastus Lateralis Injection Site on the Anterolateral Thigh](#)

[Australian Immunisation Handbook: Deltoid Injection Site](#)

NOTE: A 23 to 25 gauge needle is recommended for infants and children.



## Some Key Points

- A separate needle should be used for drawing up and administration.
- The use of filter needles with glass vials is recommended.
- Lidocaine (lignocaine) may be used as the diluent for some medications if compatible. It must be ordered by the medical officer.
- Aspiration upon needle insertion, to check presence of blood for intramuscular injections, is not recommended.
- The online version of the RCH Paediatric Injectable Guideline provides directions for the preparation of intramuscular medication. The hard copy does not.

## Tips in Children

- Topical anaesthetics can be used in advance to minimize procedural discomfort.
- If permitted, use sucrose in infants, to minimise procedural discomfort. A medical order is required, and parental consent is required prior to use. Please note at selected sites sucrose may be classified as a nurse initiated medication. Check your local policy or procedure for more information.
- You may need to split your dosage into 2 intramuscular injections, if the solution amount is greater than that recommended for the age/muscle.



### ALERT

Always check for allergies prior to medication administration.

Seek prompt senior nursing/medical advice for any child suffering any adverse effects suggestive of anaphylaxis. These include but are not limited to: facial swelling, vomiting and rash.

## For further information:

Information on Intramuscular Medication Preparation:

[RCH: Paediatric Injectable Guidelines 2019 \(QH only\)](#)

Checking your paediatric medication dosage is correct:

[Australian Medicines Handbook: Children's Dosing Companion \(QH only\)](#)

Information on Medication Administration:

[CHQ Procedure: Medication Administration \(QH only\)](#)

Video:

[Paediatric Intramuscular Injection](#)



## References:

This Queensland Paediatric Emergency Nursing Skill Sheet was developed by the Emergency Care of Children working group (funded by the Queensland Emergency Department Strategic Advisory Panel) with the help of the following resources:

Children's Health Queensland Hospital and Health Service. (2018, January 9). Medication Administration. [https://qheps.health.qld.gov.au/\\_data/assets/pdf\\_file/0037/1807795/proc\\_01039new.pdf](https://qheps.health.qld.gov.au/_data/assets/pdf_file/0037/1807795/proc_01039new.pdf)

Bowden, V. & Greenberg, C. (2008). Pediatric Nursing Procedures. (2nd ed.) USA: Lippincot

Conrad, C, et al. Medication Room Madness. (2010). Calming the Chaos. Journal of Nursing Care Quality. 25(2): p. 137-144.

Hockenberry, M. & Wilson, D. (2014). Wong's Nursing Care of Infants and Children. (10th ed.) St Louis: Mosby

The Australian Immunisation Handbook. 9th Edition. 2008

### Nursing Skill Sheet Legal Disclaimer

The information contained in the Queensland Paediatric Emergency Care nursing skill sheets are intended for use by nursing staff for information purposes only. The information has been prepared using a multidisciplinary approach with reference to the best information and evidence available at the time of preparation. No assurance is given that the information is entirely complete, current, or accurate in every respect. The nursing skill sheets are not a substitute for clinical judgement, knowledge and expertise, or medical advice. Variation from the nursing skill sheets, taking into account individual circumstances may be appropriate. This does not address all elements of standard practice and accepts that individual clinicians are responsible for the following:

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- Supporting consumer rights and informed decision making in partnership with healthcare practitioners including the right to decline intervention or ongoing management.
- Advising consumers of their choices in an environment that is culturally appropriate and which enables comfortable and confidential discussion. This includes the use of interpreter services where necessary.
- Ensuring informed consent is obtained prior to delivering care.
- Meeting all legislative requirements and professional standards.
- Applying standard precautions, and additional precautions as necessary, when delivering care.
- Documenting all care in accordance with mandatory and local requirements.

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