

PAEDIATRIC NURSING PRACTICE MANUAL  
SECTION 2

DRUG AND INTRAVENOUS (IV) THERAPY

2.5 TECHNIQUES FOR ADMINISTRATION OF PARENTERAL MEDICATIONS

2.5.5 SUBCUTANEOUS INJECTIONS

**Aims**

To safely administer a single dose of medication via the subcutaneous route.

To minimise the child's discomfort and/or possible complications associated with the procedure.

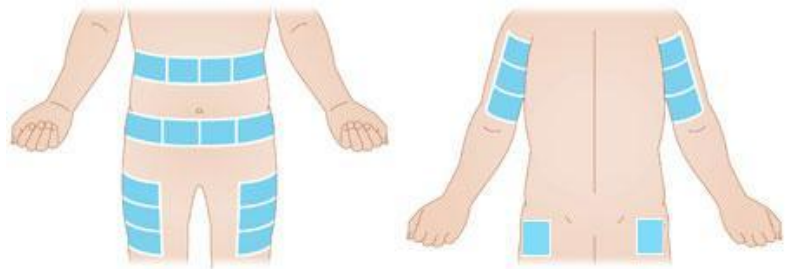
**Key Points**

1. For the administration of insulin refer to [PNPM 11.3.1](#).
2. For the administration of chemo/biotherapy agents subcutaneously also refer to [PNPM 2.8.3](#).
3. Maximum volume per subcutaneous injection 0.5mL to 2mL.<sup>1,2</sup>
4. This procedure is an aseptic non touch technique.
5. Use a safety engineered injection needle where possible to reduce the potential for needlestick injury.<sup>3</sup>
6. Rotate sites to prevent lipodystrophies (an accumulation of fat in lumps underneath the skin).<sup>1,2,4-6</sup>
7. For multiple, repeated medication doses consider the use of an indwelling subcutaneous catheter eg. Insuflon® see [PNPM 2.5.7](#). Consult with treating medical team and pharmacist for medications appropriate for injecting via an insuflon®.

**Site selection**<sup>1,2,5-7,15</sup>

Influenced by the amount of subcutaneous tissue available at site:

- Upper and outer aspects arms;  
Avoid in small children with little subcutaneous fat
- Upper and lateral aspects thigh
- Abdomen- lower abdomen is the optimal site for heparin as it has the highest thickness of subcutaneous tissue
- Buttocks



Do not use area where there is evidence of inflammation, scarring and/or abrasions/lesions

Avoid the area around the umbilicus/naval (5cm radius)

**Equipment**

Injection tray

Appropriated sized needle to administer

Appropriated sized syringe

+/- 2% chlorhexidine gluconate/70% isopropyl alcohol swab

Cotton ball

Elastoplast or injection 'pressure' pad

### Additional equipment required for drawing up medication

Ampoule	Needle	Additional Information
Glass	Filter needle or 23-25g needle. <sup>11,17</sup>	Prevents glass shards being drawn up. <sup>8-10</sup>
Rubber topped vial	vial access device or 19g needle or smaller. <sup>11</sup>	Use needle free systems in preference to needles. Smaller needles provide less chance of coring the rubber bung. <sup>11</sup>

PROCEDURE	ADDITIONAL INFORMATION
Check the medication with another designated person.	Follow <a href="#">PNPM 2.1.2</a> for Checking and Administration of Medications.
Immediately prior to use, prepare medication as per manufacturer's instruction.	Use aseptic non touch technique.
For vials with bungs; remove cap carefully to maintain asepsis.	
Once reconstituted and the dose has been drawn up, discard the vial.	Do not retain for later doses.
Expel air and/or excess medication from the syringe.	
Change the needle. <sup>7</sup>	Residual medication on the needle can result in localised skin irritation.
Attach appropriate sized needle. <sup>6</sup>	Length of needle is dependent on the angle of injection and the amount of subcutaneous tissue a child has. <sup>5,7</sup>
<b>Administration</b> Provided the skin is visibly clean, there is no need to wipe it with a chlorhexidine/alcohol swab. <sup>1, 3, 6, 8, 10, 12, 13</sup>	If an alcohol swab is used the skin must be allowed to dry.
Seek assistance to hold the child as required.	More than one person may be required. Refer to <a href="#">PNPM 1.11</a> Clinical Holding.
Utilise age appropriate distraction techniques/ comfort measures.	
Use thumb and forefinger to lift the subcutaneous tissue from the underlying muscle. <sup>1</sup>	Prevents inadvertent injection into the muscle. <sup>4</sup>

PROCEDURE	ADDITIONAL INFORMATION
Insert the needle: at 90° if needle 4, 5 or 6mm <sup>16</sup> at 45° if needle 8mm or longer <sup>16</sup> at 45° if minimal subcutaneous layer <sup>16</sup>	Angle depends on the amount subcutaneous tissue and needle length. <sup>1, 4, 5, 13</sup>
Inject the medication slowly.	Inject heparin over 30 seconds <sup>13</sup> and then wait 10 seconds before removing the needle. <sup>7, 14</sup>
Remove needle and apply gentle pressure.	Apply pressure for few minutes after administering heparin.
Document details of the subcutaneous administration, including the location given. <sup>4, 6</sup>	

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Date Issued: January 1974  
 Date Revised: January 2013 Interim amendment April 2014  
 Review Date: January 2016  
 Authorised by: Paediatric Nursing Practice Committee  
 Review Team: CNM, 9A

Subcutaneous Injections  
 Techniques for Administration of Parenteral Medications  
 Paediatric Nursing Practice Manual (PNPM)  
 Princess Margaret Hospital  
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All protocols should be read in conjunction with the disclaimer in the preface of this manual

Subcutaneous Injections

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