Clinical Practice Procedures:
Drug administration/Intramuscular

<table>
<thead>
<tr>
<th>Policy code</th>
<th>CPP_DFA_INM_0120</th>
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<tbody>
<tr>
<td>Date</td>
<td>January, 2020</td>
</tr>
<tr>
<td>Purpose</td>
<td>To ensure a consistent procedural approach to intramuscular injection (IM) drug administration.</td>
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<tr>
<td>Scope</td>
<td>Applies to Queensland Ambulance Service (QAS) clinical staff.</td>
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<tr>
<td>Health care setting</td>
<td>Pre-hospital assessment and treatment.</td>
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<tr>
<td>Population</td>
<td>Applies to all ages unless stated otherwise.</td>
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<tr>
<td>Source of funding</td>
<td>Internal – 100%</td>
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<tr>
<td>Author</td>
<td>Clinical Quality &amp; Patient Safety Unit, QAS</td>
</tr>
<tr>
<td>Review date</td>
<td>January, 2023</td>
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An **intramuscular (IM) injection** involves inserting a needle into the tissue below the subcutaneous tissue to enable the administration of liquid medications.

### Indications
- The administration of medication via the IM route

### Contraindications
- Evidence of infection or trauma at the injection site

### Complications
- Pain
- Bleeding
- Abscess
- Cellulitis
- Tissue necrosis

### Additional information
- IM drug absorption is faster than the subcutaneous route, owing to the muscle tissue having a greater blood supply.
- An advantage of the IM route as opposed to the subcutaneous route is that the muscle can accommodate a larger volume of fluid being injected, i.e. 3–5 mL in an adult in the vastus lateralis and approximately 2 mL in a child, also in the vastus lateralis.
- For any calculated IM volumes that exceed 2 mL, the dose must be split and administered at different IM sites.
- The Vastis Lateralis site is the QAS preferred site due to being easily accessible, yet avoiding major blood vessels and nerves.
- Use different sites for subsequent injections.
- The QAS mandates that VanishPoint® syringes be used for all non-vaccine intramuscular injections.
- All parenteral medications must be prepared in an aseptic manner.

#### The QAS supplies two sizes of VanishPoint® syringes:

<table>
<thead>
<tr>
<th>Gauge</th>
<th>Needle length</th>
<th>Volume</th>
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<tbody>
<tr>
<td>25 G (0.5 mm)</td>
<td>16 mm</td>
<td>1 mL</td>
</tr>
<tr>
<td>23 G (0.6 mm)</td>
<td>25 mm</td>
<td>3 mL</td>
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</table>
**Procedure – Intramuscular**

1. Prepare the required dose of medication in an appropriate VanishPoint® syringe.
2. Identify appropriate injection site:

   **Deltoid**: identified by imaging an inverted triangle 1–3 finger depths below the acromial process with the midpoint of the lateral aspect of the upper third of the arm.

   **Vastus Lateralis**: middle third of the muscle mass between lateral Femoral Condyle of the knee and Greater Trochanter.

3. Clean the intended insertion site with an appropriate antimicrobial swab and allow to dry.
4. Spread the skin taut (except in the Vastus Lateralis which requires lifting of the muscle).
5. Pierce the skin with the needle at a 90° angle, using a quick, dart-like technique.
6. Aspirate by pulling gently back on the plunger. If blood appears, carefully remove and dispose of the syringe and prepare a new injection.
7. Hold the syringe barrel firmly and inject contents by depressing the plunger.
8. Continue to depress the plunger (whilst needle is still in the patient) to activate the VanishPoint® automatic needle retraction. The needle will automatically retract into VanishPoint® syringe, preventing exposure and rendering the syringe non-reusable.