Clinical Practice Policy: Intramuscular and Subcutaneous Injections in Neonates and Infants

Effective Date: TBD

1. Purpose
To recommend best practices for intramuscular and subcutaneous injections in the neonatal intensive care unit (NICU) and Well Baby Nurseries. Please note, these are recommended guidelines and are not intended to take the place of individualized patient care. The specific medication, the size of the baby and the weight of the baby should be considered.

2. Intramuscular and Subcutaneous Injection Parameters

<table>
<thead>
<tr>
<th>Age</th>
<th>Needle Type</th>
<th>Injection Site</th>
<th>Injection Angle</th>
<th>Maximum Volume per Injection</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preterm (&lt;37 weeks GA) (up to 2 months PNA and/or very small infants)</td>
<td>5/8 inch (16 mm); 22-25 gauge</td>
<td>Vastus lateralis/ anterolateral thigh</td>
<td>90°</td>
<td>0.5 mL</td>
<td>-Aspiration for blood return is not necessary. -Rapid injection is preferred.</td>
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<tr>
<td>Term (≥37 weeks GA)</td>
<td>5/8 inch (16 mm) - 1 inch (25 mm); 22-25 gauge</td>
<td>Fatty tissue over anterolateral thigh</td>
<td>45°</td>
<td>1 mL</td>
<td></td>
</tr>
</tbody>
</table>

Subcutaneous

| Birth to 12 months | 5/8 inch; 23-25 gauge | Fatty tissue over anterolateral thigh | 45° | 0.2 mL | -Rotate injection sites by minimum of 1”. -Aspiration is not necessary. -Pinch up SC tissue to prevent injection into muscle. |

-Please note: If the dose volume exceeds the maximum recommended volume per injection, the dose will be delivered in multiple syringes.
-Please see the ‘BWH NICU IVP, SC, IM, IN & Miscellaneous Dilution Guideline,’ located on the NICU DAG page, for a list of IM and SC medications on the NICU formulary.

3. Recommendations:
- Combined analgesic interventions are recommended to reduce pain:
o Preferred: Breastfeeding (involves holding, skin-to-skin contact, sweet-tasting milk, and act of sucking.)
o Sucrose.
o Skin-to-skin holding combined with sucrose.

- Being held, if possible, and if the landmark can safely be identified for the injection in this position, may decrease distress as compared to lying in supine position during injection.

4. References


