Leeds Teaching Hospitals NHS Trust
(Children’s Pain Service April 2003)

Intra-nasal diamorphine

!!Read this first!!

All patients receive 0.2mls

The concentration of that 0.2 mls changes.
The smaller the child the greater the amount of diluent used to achieve the required concentration

Not to be given to children under 10kg body weight unless prescribed and administered by a senior doctor

Technique

Explain the procedure to the child and family. Tilt the child’s head back, put a couple of drops at a time down each nostril, and ask the child to sniff hard. This procedure continues until 0.2mls have been administrated. The child will probably sneeze. 0.2 mls equal approximately 8-10 drops

The table below lists the volume of diluent (sterile water) that is used to dilute the contents of a 5mg ampoule of diamorphine. Discard all but 0.2mls following controlled drugs procedure. This is dependent on the weight of the child.

<table>
<thead>
<tr>
<th>Weight (Kg)</th>
<th>Volume of diluent (water) mls added to 5mg ampoule</th>
<th>Resultant dose in 0.2mls</th>
<th>Resultant dose in 0.2mls (micrograms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>1.00</td>
<td>1.00 mg</td>
<td>1000</td>
</tr>
<tr>
<td>11</td>
<td>0.90</td>
<td>1.11 mg</td>
<td>1110</td>
</tr>
<tr>
<td>12</td>
<td>0.85</td>
<td>1.18 mg</td>
<td>1180</td>
</tr>
<tr>
<td>14</td>
<td>0.70</td>
<td>1.43 mg</td>
<td>1430</td>
</tr>
<tr>
<td>16</td>
<td>0.60</td>
<td>1.67 mg</td>
<td>1670</td>
</tr>
<tr>
<td>18</td>
<td>0.55</td>
<td>1.82 mg</td>
<td>1820</td>
</tr>
<tr>
<td>20</td>
<td>0.50</td>
<td>2.00 mg</td>
<td>2000</td>
</tr>
<tr>
<td>25</td>
<td>0.40</td>
<td>2.50 mg</td>
<td>2500</td>
</tr>
<tr>
<td>30</td>
<td>0.35</td>
<td>2.86 mg</td>
<td>2860</td>
</tr>
<tr>
<td>35</td>
<td>0.30</td>
<td>3.33 mg</td>
<td>3330</td>
</tr>
<tr>
<td>40</td>
<td>0.25</td>
<td>4.00 mg</td>
<td>4000</td>
</tr>
<tr>
<td>50</td>
<td>0.20</td>
<td>5.0 mg</td>
<td>5000</td>
</tr>
</tbody>
</table>

This is the weight of the Child
This is the volume to use to dilute diamorphine 5mg ampoule
This is the resulting dose in 0.2mls

N.B. 1 mg = 1000 micrograms Maximum dose = 5.0mg
Remember:
Use common sense. Weigh the child in Kg. If not possible, refer to weight calculation tables. Children vary in their response to opiates. The onset time of diamorphine via the intranasal route is approximately the same as if given by the IV route.
Make sure staff are aware of administration when handing over care- they may assume no analgesia has been given if they don’t see a cannula!
Intra-nasal diamorphine

INDICATIONS:
- Clinically suspected limb fractures
- Painful and distressing burns
- Significant finger tip injuries

CONTRAINDICATIONS:
- Child less than 10kg weight. (Only to be administered by a senior doctor)
- Concomitant use of other opiates or Midazolam

PROTOCOL:
1. Weigh the child in Kg (if not appropriate use weight estimation charts)
2. Prescribe diamorphine via intra-nasal route. Dose = 100 micrograms/kg
3. Use chart to determine the volume of diluent.
   Using a 1ml syringe add said volume to 5mg Diamorphine ampoule.
4. Discard all but 0.2mls of the resultant solution (following controlled drugs procedure).
5. Gently tip child’s head and using a 1ml syringe put a couple of drops into each nostril until all 0.2mls have been given.
6. Ask the child to sniff. The child may sneeze.

NB:
ALL CHILDREN RECEIVE 0.2MLS.
THE SMALLER THE CHILD, THE GREATER THE AMOUNT OF DILUENT USED.

IMPORTANT CONSIDERATIONS:
1. Absorption can be as fast as the IV route
2. Parents/Carers should be given an opiate/sedation advice sheet

References:
Alexander-Williams JM, Rowbotham DJ. Novel routes of opioid administration. *British Journal of Anaesthesia* 1998; 81: 3 - 7

Review Date: April 2004