NEURAXIAL (intrathecal and/or epidural) OPIOID ANALGESIA

This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.

1. AIM
This document details the management of patients receiving intrathecal or epidural morphine or other opioids for the management of pain, enabling the patient to receive optimum pain relief safely and effectively.

2. BACKGROUND
Morphine given via the central neuraxial (spinal or epidural) route has a long duration of action and can provide excellent analgesia for up to 24 hours (or 48hrs for epidural depodur), with potential for delayed complications through drug migration to the CSF. The side effect of most concern is delayed respiratory depression. Other opioids given via this route may provide analgesia for a much shorter duration.

3. RESPONSIBILITIES
Medical Staff
Registered Nurses
Midwives

4. PROCEDURE
4.1. Patient Education
The patient should be educated by the prescribing clinician regarding:

- anticipated duration of action and
- the potential side effects
- to request analgesia, antiemetics or antipruritic therapy should breakthrough pain or side effects occur.

4.2. Prescribing
The prescriber must:

- Follow guidelines for prescribing schedule 8 drugs
- Document the opioid, route and dose administered on the hospital approved Anaesthetic chart
- Write ‘Intrathecal Morphine Bolus’ across the approved PCA, or neuraxial analgesia and medication chart in large, highlighted letters
- Prescribe anti-emetics for nausea and treatment for pruritis on the relevant medication chart

4.3. Precautions
The following factors may increase the risk of respiratory depression:

- History of sleep apnoea
- Co-existing diseases, obesity, diabetes
- > 65 yrs and opioid naive
- Current opioid or sedative medications
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4.4. Administration

Intrathecal morphine
- Category A = Caesarean Section post op pain relief suggested dose 100-125mcg
- Category B = Non Caesarean section post op pain relief suggested maximum dose 200mcg

Table 1.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Single dose only</th>
<th>Average dose range in adults</th>
<th>Route of administration</th>
<th>Anticipated duration of action</th>
<th>Observation period post dose in hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td></td>
<td>2-3mg</td>
<td>Epidural</td>
<td>8-12 hours</td>
<td>24</td>
</tr>
<tr>
<td>Pethidine</td>
<td></td>
<td>25-50mg</td>
<td>Epidural</td>
<td>2.5 hours</td>
<td>1-4</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>10-30 micrograms</td>
<td>Intrathecal</td>
<td></td>
<td>60 mins</td>
<td>2</td>
</tr>
<tr>
<td>Morphine (100-200 micrograms)</td>
<td>Intrathecal</td>
<td>Up to 24 hours</td>
<td></td>
<td>24 hours</td>
<td></td>
</tr>
<tr>
<td>Depodur (sustained release Morphine)</td>
<td>7.5mg-10mg</td>
<td>Epidural</td>
<td></td>
<td>48 hours</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

4.5. Patient Management Post –procedure
- Intravenous access must be maintained for potential side effect management post neuraxial opioids.

Table 2.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Maintain patent cannula post dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine Intrathecal</td>
<td>24 hours</td>
</tr>
<tr>
<td>Morphine Epidural</td>
<td></td>
</tr>
<tr>
<td>Fentanyl epidural</td>
<td>8 hours</td>
</tr>
<tr>
<td>Pethidine epidural</td>
<td>8 hours</td>
</tr>
<tr>
<td>Depodur</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

- Ensure analgesic plan in place in anticipation for when the analgesia wears off. This may include continuing with parenteral opiate if the patient is NBM.
- DO NOT administer CNS depressants or parenteral opioid to the patient after intrathecal morphine without the consent of the Anaesthetist or Pain Service.
- Postoperative oral analgesia or PCA must only be ordered and charted by the Anaesthetist or Pain Service until the period of anticipated duration of action is passed. (See 4.4 Table 1.)
- Naloxone, vasopressors must be available in the ward or unit.
Important drug interactions

All other opioids and sedative agents including antihistamine.

Administration instructions

Morphine and other spinal opioids are administered by anaesthetist perioperatively in combination with Local anaesthetics.

Epidural opioids may be administered by appropriately trained nursing and midwifery staff.

Follow routine observation post insertion and administration of local anaesthetic with regards return to function of motor nerves and blood pressure.

Follow routine observations for post removal of epidural.

Post Opiate dosage

Pethidine and Fentanyl.

Monitor respiratory rate Oxygen saturation, sedation score at least hourly post single dose until duration of action expires.

Intrathecal Morphine (ref 3,4)

Hourly for first 12 hours post op then at least second hourly for the remaining 24 hours - If additional opioid given hourly for 4 hours post each dose.

Epidural morphine (ref,3,4)

Hourly for first 12 hours post op then at least 2nd hourly for the remaining 24 hours - If additional opioid given, hourly for 4 hours post each dose or if on PCA second hourly for duration PCA required.

Depodur (ref 3,4,5)

Hourly for first 12 hours post op then at least 2nd hourly for the remaining 48 hours - If additional opioid given, hourly for 4 hours post each additional dose or if on PCA second hourly for duration PCA required.

Administer no CNS depressants or parenteral opioid to the patient after intrathecal morphine without the consent of the Anaesthetist or Pain Service.

Naloxone, plus preferred sympathomimetic agent (ie Ephedrine or Metaraminol) must be available in the ward or unit.
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4.6 Management of Adverse Effects and Complications

<table>
<thead>
<tr>
<th>Side Effect</th>
<th>Management</th>
</tr>
</thead>
</table>
| NAUSEA AND VOMITING          | If routine anti-emetics ie, Prochlorperazine, Metoclopramide, Ondansetron, Granisetron, are ineffective consider  
                               ➢ low dose naloxone (0.5 microg/kg q 2 hrs prn).  
                               ➢ 100 micrograms naloxone every 15-30 minutes x 3 contact Acute Pain Service (APS) if treatment is ineffective.                                                                                                                      |
| DIZZINESS OR HYPOTENSION     | • If systolic BP less than 90mmHg or under preset limits, call Pace tier 1 give fluid challenge if ordered.  
                               • Seek surgical & APS review.  
                               • Note: nausea may also be due to hypovolemia & hypotension.                                                                                                                                                          |
| PRURITUS                     | Low dose naloxone recommended:  
                               • 100 micrograms s/c or IV every 15-30 minutes.  
                               or  
                               • 0.5 micrograms/kg IV, or 1microg/kg S/C 2 hourly.  
                               Antihistamines may be effective but will increase the risk of respiratory depression due to sedative effect, therefore not first line management.                                                                                         |
| URINARY RETENTION            | • Contact surgical team                                                                                                                                                                                                                                                    |
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<table>
<thead>
<tr>
<th>Complication</th>
<th>Management</th>
</tr>
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<tbody>
<tr>
<td><strong>RESPIRATORY DEPRESSION</strong></td>
<td>Respiratory rate &lt; 8, or sedation score =/&gt; 2 or difficult to rouse; give O₂ at 6-8 L/minute via Hudson mask.</td>
</tr>
<tr>
<td>peak 6-12 hrs post dose intrathecal morphine</td>
<td>▪ Initiate Pace tier 1, where appropriate calls and contact APS.</td>
</tr>
<tr>
<td>increased risk with additional upload</td>
<td>▪ Respiratory rate &lt; 5.</td>
</tr>
<tr>
<td></td>
<td>▪ Pace tier 2/code blue, Coma position, Oxygen and suction available.</td>
</tr>
<tr>
<td></td>
<td>▪ Give naloxone as ordered (suggest 100-200microg IV every 2-3 mins) until respiratory rate &gt; 8 has been achieved. Repeated doses will be required due to naloxone short duration alternatively consider a naloxone infusion, 50-100microg/hour) Contact Anaesthetic registrar / APS urgently.</td>
</tr>
</tbody>
</table>

**Increased Sedation**

If drowsy but rousable administer oxygen via nasal prongs at 2 litres per minute, check infusion rate if on PCA, check respiratory rate more frequently and if concerned contact Acute Pain Team or Anaesthetic registrar.

If difficult to rouse, initiate PACE, cease all additional opioids including PCA, administer oxygen via Hudson mask at 6 litres per minute and contact the APS or Anaesthetic Registrar/Anaesthetist.

**ALTERED SENSATION MUSCLE WEAKNESS**

Urgent medical review.

**TEMPERATURE ABOVE 38 DEGREES**

Medical review for possible infection.

**SEVERE HEADACHE**

Call APRS if possible dural tap. Consider increase intake of fluids, lie the patient flat.

**Inadequate Analgesia**

The patient must be assessed for adequate analgesia.

Morphine given intrathecally may take between 1 and 6 hours to reach its full analgesic effect.

Inadequate analgesia is that where pain impedes patient movement, coughing or deep breathing, and sleep or that which causes distress to the patient. Causes of pain such as post-surgical complications must be excluded.

**BREAKTHROUGH OPIOIDS**

Ordered on the PRN section of the medication chart e.g.

- IV/ORAL Tramadol 100mg 6/24.
- S/C morphine 5mg 4/24 PRN
- Oral oxycodone 5-10mg 4/24

Call APS if breakthrough dose does not provide adequate analgesia.
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4.7 DOCUMENTATION
Patient Health Care Record.

4.8 AUDIT (state the frequency and type of audit required to ensure adherence with this procedure. If none, please state “Not required”).

4.9 REFERENCES
1. NSW Health Policy PD2007_077, Medication Handling in New South Wales Public Hospitals.

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision No.</th>
<th>Author and Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/9/09</td>
<td>1</td>
<td>Sally Wilson in consultation with SESIAHS Senior Pain Management Nursing and Medical Staff</td>
</tr>
</tbody>
</table>

REVISION & APPROVAL HISTORY
Approved Quality & Patient Safety Committee 18/8/11
Endorsed Therapeutic & Drug Utilisation Committee 14/6/11