Protocol for patient controlled analgesia (PCA) with morphine in obstetrics (CG567)

Approval

<table>
<thead>
<tr>
<th>Approval Group</th>
<th>Job Title, Chair of Committee</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternity &amp; Children’s Services Clinical Governance Committee</td>
<td>Chair, Maternity Clinical Governance Committee</td>
<td>5th April 2019</td>
</tr>
</tbody>
</table>

Change History

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Author, job title</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>Oct 2013</td>
<td>Dr G Jackson (Consultant Anaesthetist), A Gibb (Pain Nurse Consultant)</td>
<td>Reviewed</td>
</tr>
<tr>
<td>4.1</td>
<td>Nov 2015</td>
<td>Dr G Jackson (Consultant Anaesthetist)</td>
<td>Reviewed – no changes</td>
</tr>
<tr>
<td>5.0</td>
<td>Dec 2016</td>
<td>Dr G Jackson (Consultant Anaesthetist),</td>
<td>Reviewed – new appendix added pg 6-7 detailing new pump in use</td>
</tr>
<tr>
<td>6.0</td>
<td>Mar 2019</td>
<td>Dr L Williams (Consultant Anaesthetist)</td>
<td>Reviewed – minor changes pg 3 &amp; 4 to reference use of EPR for prescribing</td>
</tr>
</tbody>
</table>

To be read in conjunction with
- **RBFT protocol for patient controlled analgesia (CG293)**
**Patient selection**

During labour:
- Women who have had an Intra-uterine death or a mid-trimester termination

Postnatal:
- Pain not relieved by oral analgesia

**Patient exclusion**

- Patients unable to understand the concept of PCA
- Patients <50kg; discuss with anaesthetist or pain team and consider reducing dose
- Patients with renal impairment (EGFR < 40) – Fentanyl PCA recommended, discuss with anaesthetist or pain team for advice
- Inability to provide 1:1 midwife care

**Additional resources**

Please also refer to RBH trust guidance on the use of morphine patient controlled analgesia:
- [RBH Trust protocol for patient controlled analgesia (CG293)](#)

**Patient Education**

Before commencing PCA, the patient must be familiar with:
- The concept of PCA – if in pain then press the button
- The safety mechanisms
- Only the patient may press the button

**Administration**

A Doctor or Pain Nurse with Independent Prescribing Competence must prescribe PCA

A Registered nurse, midwife or Doctor who is assessed as competent may set up PCA with a second Registered nurse/midwife

Pre administration checks must include:
- Selection criteria is appropriate
- Ensure patient does not fall within exclusion criteria
- Ensure patient understands
**Prescription**

See page 4 below

**Loading dose**

In order to reach a therapeutic level it might be necessary to give intravenous morphine. This should be administered by the duty anaesthetist. 10 mg morphine should be diluted to 10 ml with 0.9% NaCl and administered in 2 mg aliquots over 15 minutes titrated to effect.

**Naloxone**

Naloxone 200 - 400mcg I/V if respiratory rate < 8/min. This should be prescribed on EPR prior to the PCA being commenced. The prescription can be found on the PCA Patient Controlled Analgesia (Maternity) PowerPlan

**PCA Pump and Handset**

BodyGuard ColourVision 575™ PCA Infusion Pump – ask porters for a PCA pump with handset from the equipment library

See appendices 1a & 1b for guidance on use of pump

**Competencies**

Intravenous certificate holders with PCA Competencies can set up PCA. N.B this does not include changing the program.

Intravenous certificate holders can change the syringe.

**Infusion Lines**

A dedicated cannula should be used for the PCA

Use an extension line with anti-syphon and anti-reflux valve.

NB: A bioconnector or a three-way tap must not be used with PCA.

**Monitoring**

Record Pain Scores on MOWS chart or High Dependency Chart or Partogram

1:1 midwife care is essential when using and baseline observations of vital signs, respiratory rate, sedation score, pain score, amount of opioid to be taken every 1 hour for the duration of labour.
Evaluate effectiveness every shift, within first hour, by a registered Midwife. Consider side effects e.g. nausea & vomiting, itching, constipation.

**General Advice- Side effects/ safety**

If any doubt regarding patient side effects or safety – press STOP button and request assistance from the midwife co-ordinator or the Labour Ward Anaesthetist on Bleep 142.

Acute Pain Team Bleep 159

---

**PCA PRESCRIPTION FOR ADULT > 50kg**

See PCA Patient Controlled Analgesia (Maternity) PowerPlan

**MORPHINE:**

Morphine 100mg made up to 50 ml with normal saline. This is available in the Labour Ward Controlled Drugs Cupboard

Drug concentration 2mg per ml.

1mg bolus over 2 minutes.

3 minute lockout.

Intravenous route.

**Naloxone IS mandatory with PCA:**

Naloxone 200 - 400mcg I/V if respiratory rate < 8/min

**Antiemetic prescription is also mandatory with PCA:**

Cyclizine 50 mg 8 hourly orally or intramuscular

If ineffective consider:

Prochlorperazine (Stemetil) 12.5 mg 8 hourly intramuscular

Ondansetron 4 mg 8 hourly intravenous

Dexamethasone 4 mg intravenous may be useful but discuss with obstetricians first. (do not use in diabetics)

**References:**

1. [RBFT Trust wide policy on Analgesia (Patient controlled) CG293](under Policy Hub/Anaesthetics/Acute Pain)
BodyGuard ColourVision 575™ PCA Infusion Pump

PCA syringe giving set colour BLUE

The plunger of the syringe DOES NOT MOVE. Air replaces the fluid and air will be observed in the barrel of the syringe.

The rate of infusion will show as 0ml/hr UNLESS there is a background infusion in which case, the rate will be displayed.

Specific Guide

- Insert syringe and line into the device then lock the box
- Power on - press on hold the ON/OFF button.
- Level one code - enter level one code.
- Menu - press START/OK to resume or STOP/NO for menu (new patient).
- Prime - enter level one code PRIME during priming, air bubbles will be observed entering the syringe. This is normal for this device.
- Select protocol - enter level one code.
- New patient? If YES, press START, OK.
- Select protocol – confirm to start the infusion and lock the keypad.

Other than priming the BodyGuard ColourVision 575™ and syringe changes the instructions for use follows the standard BodyGuard user guides, which have been supplied to the clinical areas.

Note

- Blue giving set for PCA administration only.
- The prime volume is set at 5ml.
- Each subsequent syringe change will be required at 45ml infused.
Appendix 1b - Protocol for patient controlled analgesia with morphine in obstetrics (CG567)

April 2019

Start a new infusion

Prepare bag and set as per local policy

To power on, press and hold down the ON/OFF key until a beep is heard and screen displays

Next screen displays pump settings

Rate Change During Delivery (Rate Titration)

Remember to de-activate and activate keypad lock if necessary

1. With the infusion in progress, enter the new rate using the numerical keypad, press START/OK
2. Enter relevant code, press START/OK
3. Check the rate change is complete on the Infusion running screen

Changing Bolus Dose and/or Lock out time

Remember to de-activate and activate keypad lock if necessary

1. Press PRIME/BOULUS
2. Select either "Change Bolus Dose" or "Change Lockout Time", press START/OK
3. Enter values required, press START/OK
4. Enter relevant code, press START/OK
5. Check change complete on protocol running screen

Clinician Bolus (Designated Users Only)

Remember to de-activate and activate keypad lock if necessary

1. Press STOP/NO
2. Press BOUS
3. Enter Clinician Bolus access code, press START/OK
4. Follow on-screen prompt to enter the Bolus dose required, press START/OK to commence delivery
   - Press STOP at any time to stop delivery
   - On completion of Bolus delivery, the infusion running screen displays

Bag Change

Ensure set is clamped/disconnected from patient’s access device.

If end infusion alarm activates:

- Keypad lock is automatically removed
- Press STOP/NO to confirm end of infusion and mute alarm
- Follow screen prompts to return to main menu, complete bag change, re-commence protocol and activate keypad lock

If changing bag prior to end infusion alarm:

- Press INFO to record VTBI and VI
- De-activate keypad lock
- Press STOP/NO to stop the infusion
- Follow screen prompts to return to main menu, complete bag change, re-connect/unclamp set, resume protocol, and activate keypad lock

Note: When a protocol is resumed and the protocol summary displays, the new VTBI and the total of all volume infused to date out of previous bag(s) will display.