

## Intrathecal Diamorphine and Morphine - Full Clinical Guideline

Ref No: CG-PM/2020/012

### Purpose

Intrathecal diamorphine and morphine work on spinal opioid receptors. Given at the same time as a spinal anaesthetic, this method of analgesia has been highlighted to produce a clinically significant reduction in post-operative pain and analgesic consumption. At the time of publication **diamorphine** is the preferred choice in Derby. This guideline supports the use of both drugs.

### Aim and Scope

The following guidelines outline the safe and effective use of Intrathecal **Diamorphine and Morphine**. This procedure is to be carried out by Consultant Anaesthetists, experienced Specialist Registrars and Non Consultant Career Grades.

*Note: This guideline does **not** automatically apply to the administration of intrathecal diamorphine directly by the spinal surgeons intra-operatively. Monitoring and discharge of those patients should be as per the surgical post-op instructions.*

### Definitions Used

**Intrathecal** into the cerebrospinal fluid

**Pruritis** itching

**EWS** Early Warning Score

### Implementation

**DIAMORPHINE** The drug to be used is pre-mixed by pharmacy and provided in a syringe containing 500mcg in 0.5ml.

Dose is 0.2 to 1 milligrammes. For larger procedures, 2 syringes will be needed. Duration of analgesia is variable and not predictable. Range is 4-18 hours.

**MORPHINE** The drug to be used is **preservative free** morphine 1mg/1ml A filter needle must be used when drawing up. Dose is 0.1 to 0.2 milligrammes. Duration of analgesia is variable and not predictable. The range is 4-18 hours after the spinal morphine has been administered.

Intrathecal Opioids must be documented in the anaesthetic record and receiving recovery staff alerted.

Wards should be notified in advance so that required observations can be maintained. At QHB a post op instruction sheet for spinal diamorphine must be completed and handed to recovery staff.

**This method of analgesia is only available in areas where nursing staff have been appropriately trained.**

#### **Indications**

- Patients having spinal anaesthesia and expected to require systemic opioid analgesia for 24 hours post operatively.

#### **Advantages**

- Immediate therapeutic levels of drug (providing rapid onset of action)
- Rapid onset with prolonged duration of action with a single dose
- Low total dose of Opioid
- Avoidance of problems associated with epidural catheters

#### **Disadvantages**

- Variable duration of action
- Risk of delayed respiratory depression
- Increased incidence of pruritis, nausea and vomiting
- Increased incidence of urinary retention
- NB incidence of the above is higher with morphine than diamorphine due to the lower lipid solubility.

#### **Contraindications**

- Known allergy to Morphine/Diamorphine
- Local or systemic infection
- Coagulopathies
- Patient refusal
- History of severe nausea with Morphine/Diamorphine

### **Minimum Standard of Care for Patients Following Intrathecal Diamorphine/Morphine**

**Observations (this is the minimum standard, currently QHB runs a slightly more frequent observation schedule than that listed below):**

- Every 15 minutes for first hour
- **HOURLY** for next **4** hours
- **TWO HOURLY** for next **8** hrs
- **FOUR HOURLY** until 24 hours post intrathecal dose
  
- Oxygen to be administered post –operatively if prescribed
- IV access to be maintained for first 24 hours

Recordings of the following must be taken and recorded on EWS:

- Pain score
- Sedation score
- Respiratory rate
- Oxygen saturations
- Blood Pressure
- Nausea and vomiting score

**A SINGLE DOSE OF INTRATHECAL DIAMORPHINE OR MORPHINE CAN HAVE A VARIABLE DURATION OF EFFECT. OBSERVATIONS MUST BE DOCUMENTED METICULOUSLY, AND CONTINUED FOR 24 HOURS, IN ORDER TO DETECT DELAYED RESPIRATORY DEPRESSION**

### **Management of Breakthrough Pain following Intrathecal Diamorphine/ Morphine**

Analgesia for breakthrough pain should be titrated according to the pain score, using the Analgesic Stepladder, and be appropriate to the surgical procedure. This could be PCA or the subcutaneous opioid regime. (See relevant guidelines).

Follow the ‘minimum standards of care’ observations **for all patients** (see page 2) and: -

- If Patient Controlled Analgesia (PCA) is prescribed for continued postoperative pain management, the PCA observational guidelines **must** be commenced when the patient initiates the PCA. (see guidelines).
- Observations to be recorded on the EWS.

## **Management of Complications**

### **1. Poor Pain Relief During First 4 Hours**

- Assess and document pain severity / location
- Administer prescribed non-opioid analgesics –using Analgesic Stepladder
- Exclude other reasons e.g. full bladder
- Consider giving further opioid and recommence observation schedule
- Contact Acute Pain Team (during office hours) / on call anaesthetist (out of hours) for review / further advice if necessary

### **2. Sedation / Delayed Respiratory Depression**

- Record sedation and respiratory rate as protocol dictates
- If sedation score is 2 **OR** respiratory rate is below 8, ensure oxygen is administered and call On Call Anaesthetist for immediate help **A B C**.
- Inform medical staff that patient has had Intrathecal Opioids
- Administer Naloxone Intravenously in 100 microgramme increments if condition does not improve

### **3. Nausea and Vomiting**

- Administer antiemetics as per Post Operative Nausea and Vomiting Guidelines

### **4. Urinary Retention**

- Catheterise patient

### **5. Post Dural Puncture Headache**

This is a potential complication of any spinal anaesthetic with or without Intrathecal morphine

- If the patient complains of experiencing severe pain in neck and back of the head – lie the patient flat
- Refer to the Acute Pain Team (office hours) or on call anaesthetist (out of hours) for advice on treatment.

### **6. Pruritis**

- Treat with Naloxone 50 microgrammes IV / IM  
or
- Ondansetron 4mg IM/IV
- Antihistamines are ineffective for pruritis induced by opioids given via this route and should not be given as the sedation effect may add to that of the opioid.

## **References**

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