**ACUTE PAIN SERVICE- Derby and QHB sites**

# Patient Controlled Analgesia (PCA) - Full Clinical Guideline - Derby and QHB Sites

Ref No: CG-PM/2011/013

## Purpose

The use of PCA within the field of Acute Pain Management gives the patient a sense of autonomy which may decrease anxiety and which may in turn influence the individual's perception and management of pain.

PCA will only be offered to patients in areas where registered practitioners have received the appropriate training and achieved the required competency.

## Aim and Scope

PCA can be used successfully for patients who are predicted to require frequent doses of opioid analgesia for the treatment of Acute Pain such as: -

- Major surgery
- Trauma
- Other acute pain conditions, e.g. Pancreatitis

## Definitions

**Registered Practitioner :** A nurse whose name appears on the Nursing & Midwifery Council register and holds a current Personal Identification Number.
An Allied Health Professional registered with the Health and Care Profession Council and has completed a drugs assessment.

## Implementation

Training of registered practitioners is of paramount importance. Each practitioner will be assessed as per the approved Trust Competency for PCA.

- Wherever possible prior to commencement of treatment the patient will receive verbal information from registered practitioners and/or anaesthetic staff. Instruction of both the technique and the operation of the demand button will be given. Printed Information leaflets are available in surgical pre-clerking clinics and on surgical wards.

**ONLY THE PATIENT MUST OPERATE THE BUTTON**

- PCA syringes(RDH) / cassette(QHB) are ordered via pharmacy and stored in the Controlled Drug cupboard.

- The PCA should be prescribed on the appropriate electronic prescribing system. At RDH only, the paper PCA prescription chart should also be completed.
- PCA settings should be checked against prescription at set-up, handover from recovery to ward staff, and shift changeover. This check must be appropriately documented.
- Carry out observations and record on NEWS / Patientrack.

**Non-Routine Prescription**

If any prescription other than routine Morphine (1mg bolus / 5 min lockout) is necessary, for instance, young muscular patients, or those receiving chronic opioid treatment preoperatively - (see "Guidelines for the Acute Pain Management of Adults Receiving Opioids Prior to Admission for Surgery")

- It must be discussed and agreed with a consultant anaesthetist as there is an increased risk of complications / side effects
- In exceptional circumstances a patient with an increased bolus and/or altered lockout time may be nursed in a ward area – this **MUST** be agreed with the Acute Pain Team
- The Acute Pain Team or the on call anaesthetist out of hours must be informed
- An increased frequency of observations may be necessary
- A background opioid infusion via a PCA pump **will** require intensive patient monitoring by appropriate levels of trained practitioners in an appropriate area i.e. ICU / HDU / SDU.
- The need for the increased prescription must be reviewed at least once daily by the Acute Pain Team or the on call anaesthetist
- The prescription should be changed to routine as soon as the patients pain allows

**Fentanyl and Pethidine PCA**

In certain circumstances (e.g. intolerance to Morphine) a Fentanyl or Pethidine PCA may be required.

The standard Fentanyl PCA protocol is a 10mcg bolus with a 5 minute lockout. This can be increased to a 20mcg bolus or (rarely) a 30mcg bolus at the discretion of the prescribing anaesthetist (e.g. significant pain in opioid tolerant patients).

Fentanyl PCA use should be limited to the following situations:

- A history of a poor analgesic response to suitable doses of morphine
- Previous significant adverse side effects from morphine (e.g. intractable itching or nausea)
- Significant renal impairment with a risk of morphine accumulation
- Opioid tolerant patients (e.g. chronic pain or recreational drug use) – although a morphine PCA with a tailored programme or appropriately dosed subcutaneous morphine should usually be tried first.

At time of writing of this guideline Fentanyl PCAs may only be prescribed for SDU or HDU patients at RDH. At QHB these patients can be managed on normal wards with outreach / pain team oversight.

**Derby Site:**

**Fentanyl 10mcg/ml, 500mcg in 50ml** syringes (please see Fentanyl monograph Reference no.:CG-ICU/2019/020 for more information.)

**Pethidine** syringes of **10mg/ml, 500mg in 50ml** syringes should be ordered from pharmacy.

Dependant upon pharmacy workload these may not be rapidly available out of hours and an alternative analgesic plan should be implemented by the anaesthetic team in the interim.

**QHB Site:**

**Fentanyl 10mcg/ml in 250 ml cassette** should be ordered from pharmacy

**<u>Minimum</u> standard of care for all patients using PCA**

**Observations:**

- **HOURLY** for the first **4** hours,
- **TWO HOURLY** for the next **8** hours
- **FOUR HOURLY** thereafter until discontinuation.

Recordings of the following must be taken and documented on NEWS:

- Blood Pressure
- Pulse
- Respiratory rate
- Sedation score
- **Pain score**
- Oxygen Saturation
- Nausea & vomiting score
- Total PCA dose (mgs) in the fluid column

**Treatment of poor pain relief:**

- Assess type, severity and location of pain
- Check cannula and infusion line are patent
- Check drains and catheter
- Assess for non-surgical cause
- Reposition patient
- Give adjuvant analgesia i.e. Paracetamol & NSAID if not contraindicated
- Contact Acute Pain Nurse (during office hours) / on call anaesthetist for review (out of hours).

**Loading / Nurse Led Bolus doses. (Recovery, SDU, HDU / ICU only)**

For inadequate pain relief after 5mg of *self*-administered opioid, give clinician bolus dose(s) as prescribed, and commence 5-minute observations of:

- Blood pressure
- Pulse
- Respiratory rate
- Sedation
- **PAIN** - Reassess after 15 minutes, if pain unrelieved administer further loading dose and recommence observations for further 15 minutes
- If pain remains unrelieved after 2 clinician boluses seek further advice from Acute Pain Team or on call anaesthetist

**Discontinue PCA when:**

- There is infrequent use of the button and patient reporting pain mild/moderate pain on coughing/dynamic movement
- Opioid consumption is less than 1mg / hour for previous 24hour period
- The patient is able to tolerate moderate strength oral analgesia
- Adverse side effects
- Patient request.

NB If patient is not using button due to nausea, then provide anti emetic and reassess before discontinuing.

**PLEASE USE CLINICAL JUDGEMENT**

**After discontinuing PCA:**

- Ensure follow on analgesia is prescribed as appropriate (ref: Pain Management guideline CG-PM/2020/002)
- Dispose of any remaining opioid as per medicines code
- Clean pump and hand set as instructed in Trust Infection Control Manual
- Return pump to origin
- Continue to administer oral analgesia as required
- Assess and reassess pain score and record on NEWS / Patientrack
- Maintain observations, 4hourly, for subsequent 12 hours.

## References

Ballantyne JC; Carr DB; Chalmers TC; Dear KB; Angelillo IF; Mosteller
**Effect of postoperative analgesia on surgical outcome.**
British Journal of Anaesthesia: **87** (1): pp62 – 72
Macintyre PE (2001)
**Safety and efficacy of patient-controlled analgesia.**
British Journal of Anaesthesia: **87** (1): pp36 – 46
McHale J; Tingle J & Peyser J (1998)
**Law and Nursing**. First Edition. P30
Butterworth Heinnemann: Oxford
Welchew E (1995)
**Patient Controlled Analgesia**
BMJ Publishing Group: London
NMC (2004) **The Code of Professional Conduct. Ref: Standards 07.04**
NMC: London
Derby Hospitals NHS Foundation Trust
**Infection Control Manual**
Derby Hospitals NHS Foundation Trust
**Scope of Professional Practice**

## Appendix

Adult Intravenous PCA Chart

## Documentation Controls

| | |
|---|---|
| Development of Guideline: | Acute Pain Team |
| Consultation with: | |
| Approved By: | Anaesthetics and Acute Pain Teams – July 2022<br>Pharmacy – July 2022<br><br>Surgical Division –Jan 2023 |
| Review Date: | August 2025 |
| Key Contact: | Acute Pain Nurse Specialists |