Name of Policy: Patient Controlled Analgesia in Adult Patients

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This policy supersedes all previous issues
## Version Control

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Patient Controlled Analgesia in Adult patients

1 Introduction

The Association of Anaesthetists of Great Britain and Ireland &The Pain Society 1997 state that “The provision of effective good pain relief leads to reduction in complication and morbidity and increases what is an essential element of good quality of care and patient satisfaction”. The provision of effective acute pain relief helps reduce stay in hospital, promotes recovery and reduces the development of chronic pain syndromes. To ensure the continuous cover for acute pain management there should be provision of appropriate guidelines, protocols and policies (The Royal College of Anaesthetists & The Pain Society 2003).

Patient Controlled Analgesia (PCA) takes into account individual patient variables to pain sensitivity and pharmacological variability. The use of PCA provides the patient with control over their pain and has been shown to increase patient satisfaction when compared to conventional as required analgesia (Breivik 2008).

“The response to treatment and side effects of pain therapies should be clearly documented. The prescription of analgesics should be reviewed regularly to ensure that pain management is adequate, timely and appropriate” (Royal College of Anaesthetists 2014).

2 Policy scope

The policy is applicable to all adult patients within the identified areas.

Operational policy for the use in following specific areas only:-
- All Theatre/ Recovery areas
- Critical Care Department
- Wards 9/ 10/ 14/ 14a/ 21
- Level 1 & 2 Treatment Centre
- Maternity

3 Aim of policy

The purpose of the policy is to apply best practice to all areas identified in the policy, where there are patients who use PCA as a form of analgesia within the setting of Gateshead Health NHS Foundation Trust.

4 Duties (roles and responsibilities)

Trust Board
The Trust Board is responsible for delivering ‘best practice’ policies to ensure patient safety throughout their hospital stay.

Chief Executive
The Chief Executive is ultimately responsible for ensuring effective corporate governance within the organisation.

Medical staff
It is the responsibility of the medical staff who initiated the treatment to ensure that a verbal consent has been given by the patient, and the patient is able to appropriately use the device.

It is the responsibility of the medical staff to ensure that all documentation is correctly completed.
It is the overall responsibility of the medical staff who initiated the treatment to resolve any problems that may occur.

**Ward Managers/ Matrons**  
It is the responsibility of the ward managers to ensure that their ward staff have been appropriately trained in the use of PCA.

**Ward Nursing Staff**  
It is the responsibility of the nursing staff caring for patients with PCA to be adequately trained to care for a patient with a PCA, and to be able to correctly assess pain levels.

**Acute Pain Service**  
It is the responsibility of the Acute Pain Service (APS) for the clinical management of PCA and to deliver appropriate training/education to ensure that ward staff are trained to assess and care for a patient with PCA.  
It is the responsibility of the APS to monitor/audit all patients who use a PCA as a form of analgesia, and to act appropriately on findings.

**General Responsibilities:**  
It is the responsibility of all staff that care for the patient with a PCA to ensure that the patient is educated in the use of a PCA

5. **Definitions**

Patient Controlled Analgesia (PCA) is an analgesic technique that enables a patient to self administer a dose of an analgesic agent within pre-set limits. PCA is a maintenance therapy that requires the patient's pain to be controlled before it is commenced. Once pain control is established, the PCA then allows bolus doses of opioid to be administered by the patient as required to control their pain. This approach is more likely to maintain relatively constant blood concentration levels of the drug, thereby keeping the patient in the analgesic corridor. PCA allows for individualised dosing which acknowledges individual variability. PCA avoids the peaks and troughs in blood plasma levels associated with intramuscular (IM) injections. PCA avoids painful injections, the risk of local infection and tissue damage and the unpredictable rate of absorption associated with administering IM injections (ANZCA 2010).

6. **Patient Controlled Analgesia in Adult Patients policy**

6.1 Patient Controlled Analgesia (PCA) may be appropriate for any patient with acute pain, when they are likely to warrant repeated doses of opioids, provided that the patient is mentally and physically able to manage the technique and that ward staff are adequately trained and educated in the use of PCA.

6.2 Pre-operatively, the patient should receive a written and verbal explanation of the technique by the Anaesthetist on his/her pre-op visit. This should be documented in the patient personal notes or and in the consent box of the anaesthetic chart.

6.3 PCAs should be prescribed in the patient’s drug prescription kardex and on the standard white PCA form. This document is a legal document and should be signed and dated. Patient observations must be recorded on the standard white PCA form; these include respiratory rate, SpO₂, pain, sedation and nausea score, attempts made, total amount given and volume remaining. Observations must be recorded every 15 minutes in recovery. On discharge from the post anaesthetic care unit (PACU) staff observations must be undertaken hourly for 4 hours then 4 hourly for the duration that the patient is receiving the PCA.
Example of a PCA prescription

<table>
<thead>
<tr>
<th>Drug (Approved Name)</th>
<th>Concentration</th>
<th>Date/Sign and Print</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine Sulphate 50mgs made up to 50mls with normal saline</td>
<td>1mg per ml</td>
<td>../.../...... ..........</td>
</tr>
<tr>
<td>Other Drug</td>
<td>Amount per ml</td>
<td>../.../...... ..........</td>
</tr>
<tr>
<td>Other Amount</td>
<td>In mls of Normal saline</td>
<td></td>
</tr>
</tbody>
</table>

6.4 PCA drugs.

**Morphine is the PCA drug of choice.**

The normal prescription to be used is:-

Morphine 50mgs in 50mls sodium chloride 0.9%
Concentration 1mg/ml
Bolus -1ml
Lockout- 5 mins

6.5 In exceptional circumstances, such as allergy or intolerance, an alternative may be used. This should be discussed and supervised by a Consultant Anaesthetist. The usual alternative drug is fentanyl.

**Fentanyl**

Fentanyl 500mcgs in 50mls sodium chloride 0.9%
Concentration 10mcg/ml
Bolus – 1ml
Lockout - 5 minutes

6.6 All patients receiving PCA should be prescribed anti-emetics (regular or PRN) in accordance with the trust guideline, Management of Postoperative Nausea and Vomiting for the Adult Patient. Laxatives should also be considered.

6.7 Nurse Controlled Analgesia (NCA) may be considered in circumstances where the patient is unable to deliver their own treatment (e.g. when the patient is in severe pain, or if the patient is physically unable to manage the technique) then it is acceptable to initiate treatment with the Patient’s consent (consent given each time the button is pressed). This should be recorded on the PCA chart as ‘NCA’. Increased observation of the patient will be required to ensure effective and safe analgesia is maintained.

6.8 All patients receiving PCA should be recorded on ORMIS, the Theatre Management System. The documentation of this is the responsibility of the theatre/PACU staff and the initiating Anaesthetist.

6.9 PCA infusion must only be delivered by the appropriate trust PCA pump (Policy RM30-Policy for the Procurement, Management and Use of Medical Devices). The infusion must be given intravenously (I/V) via a peripheral line (Central line can be used if this is the only form of I/V access). The appropriate giving set, which has the designated PCA non return
valve attached, must be used. Three way taps should not be used distal to the non return valve to maintain safety. The PCA should run with an appropriate crystalloid, colloid or blood in order to keep the line patent during periods of inactivity (e.g. during sleep).

6.10 The PCA pump must only be programmed by an anaesthetist, member of the Acute Pain Service (APS), trained theatre staff (ODP) or identified staff that have undertaken and completed an extended competency based training package.

6.11 Staff who have completed extended competency based training in PCA management can deliver additional boluses of morphine via the PCA pump as prescribed by the initiating anaesthetist. The amount given should be checked by two qualified nurses and the amount should be recorded and signed, by both nurses, on the PCA chart. The pump infusion settings must be checked by two qualified nurses post bolus to ensure the settings are correct. The patient must be closely monitored following administration of a bolus dose and frequency of observations should be increased to 15 minutes in the ward environment for the following hour.

6.12 Patients should not be discharged from PACU or the Critical Care Department to the wards until their pain is controlled (Pain score of 4 or below), and they fit the discharge criteria.

6.13 Patients receiving PCA should have a minimum of 2 litres of oxygen per minute via nasal cannula/4 litres per minute via face mask for the duration of the PCA. Oxygen saturations should be maintained ≥ 94%

6.14 All ward areas listed in this protocol should carry a stock of naloxone (400 micrograms per ml). If respiratory rate <8/min or there is reduced consciousness, stop infusion, call for immediate medical assistance, give 100% O2 and prepare Naloxone. If Naloxone is administered the Acute Response Team (ART) or 1st on call Anaesthetist should be informed immediately. After administration of Naloxone the PCA observations must be performed every 15 minutes for at least the following hour and continued until the patient’s condition is stable.

6.15 PCA keys should be held on the controlled drugs key ring of the ward areas. (DP14 Controlled Drug Policy).

6.16 Syringes should be changed every 24 hours to reduce infection risk. The remaining solution should be discarded in accordance with the Controlled Drug Policy (DP 14).

6.17 When replacing the PCA syringe the giving set must also be changed and the line purged. Two qualified nurses must verify the programme against the written prescription, and a record of this check, in the form of both qualified nurses'/ODP’s signatures, must be recorded on the PCA chart and the patients drug kardex (DP14- Controlled Drugs Policy).

6.18 The PCA prescription should be checked by two qualified nurses and a record of this made on the PCA chart at the beginning of each shift change and also when patients are transferred from one clinical area to another.

6.19 Background infusions of opioid must not be used for any patient using a PCA on the wards (in specific cases a PCA may be used with a background infusion on Critical Care).

6.20 No other opioids (i.e. strong or weak opioids) should be routinely administered by any other route to patients receiving PCA. However if the patient has been taking strong opioids prior to surgery they may require specialist PCA regimes or continuation of their background analgesia which should be discussed with the Consultant Anaesthetist and APS.
6.21 No sedative drugs should be routinely administered to patients receiving PCA unless these drugs have been used long term. The APS/ART should be made aware of these patients.

6.22 Pain scores:- The patient ideally should have a pain score of below 4 whilst resting. If the pain score is above 4, contact home team to review patient and prescription. If the pain score is 7+, despite measures taken, contact APS/ART or 1st on call Anaesthetist for assistance.

6.24 PCA should continue until the patient is able to receive adequate analgesia by an alternative route (e.g. oral) and the patient has used the PCA minimally in the past 24hrs. Step down analgesia should be prescribed before the PCA is discontinued.

6.25 Patients receiving PCA must remain within the ward environment. If required to visit other areas for investigations they must be accompanied by a nurse.

6.26 If there are problems/concerns with patients on PCA on the wards please contact APS/ART or 1st on call Anaesthetist.

6.27 The APS/ART should be made aware of all patients who are receiving PCA.

7 Training

Healthcare professionals are individually accountable for their practice. As part of their continuing professional development they have a responsibility to ensure they gain the knowledge and skills required to use medical devices safely. All users of the Trusts designated PCA pump require training up to level 3 and subsequently need to demonstrate competency of use prior to using devices unsupervised (Policy RM45: Training Policy for Medical Devices).

Training can be organized by contacting the Acute Pain Clinical Nurse Specialist, Bleep 2362.

8 Equality and diversity

“The Trust is committed to ensuring that, as far as is reasonably practicable, the way we provide services to the public and the way we treat our staff reflects their individual needs and does not discriminate against individuals or groups on the grounds of any protected characteristic. This policy has been appropriately assessed (Equality Act 2010).”

9 Monitoring compliance with the policy

Monitoring compliance with this policy will be the responsibility of the Acute Pain Service. This will be undertaken by:

<table>
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<th>Monitoring and audit</th>
<th>Committee</th>
<th>Frequency</th>
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<tr>
<td>Compliance with policy document.</td>
<td>Audit of PCA prescriptions and documentation</td>
<td>Acute Pain Service</td>
<td>Medicines</td>
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<tr>
<td></td>
<td></td>
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<td>Management</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yearly</td>
</tr>
<tr>
<td>Monitoring and reviewing of Datix reports</td>
<td>Acute Pain Service</td>
<td>Medicines Management</td>
<td>Ongoing</td>
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Audit findings and feedback to staff will provide relevant information to assist in the development of recommendations required for practice development and/or change.

10 Consultation and review

Development and review of this policy involves the Acute Pain Clinical Nurse Specialist, Consultant Anaesthetists, Senior Critical Care Nursing Staff, Senior ward staff, Pharmacy Staff and ART.

11 Implementation of policy (including raising awareness)

This policy will be implemented and distributed in accordance with OP27: Policy for the development, management and authorisation of policies and procedures.

12 References


The Royal College of Anaesthetists & The Pain Society 2003. Pain Management Services- Good Practice


13 Associated documentation

Trust Policies:-
Policy No: RM30; Policy for the Procurement, Management and Use of Medical Devices

Policy No: OP27; Policy for the development, management and authorisation of policies and procedures.

Policy No: OP59; Clinical Guidelines and Protocols Policy

Policy No: RM58; Infusions Systems Policy

Policy RM45: Training Policy for Medical Devices

Policy No: DP 14 Controlled Drugs Policy

Management of Postoperative Nausea and Vomiting (PONV) Guideline
Appendix 1

**Flowchart for Problem Management**

**SEDATION**
- Stop PCA
- Administer Oxygen at 15 litres via face mask
- Contact APS/ART/1st Call Anaesthetist
- Administer basic life support
- Monitor continuously
- Ensure naloxone available for immediate administration, if required this should be administered in 50 mcg increments until respiratory rate is ≥ 12
- Due to the short duration of action of Naloxone close monitoring is required for two hours post administration

**R E S P I R A T O R Y  D E P R E S S I O N**
- Stop PCA
- Administer Oxygen at 15 litres via face mask
- Contact APS/ART/1st Call Anaesthetist
- Administer basic life support
- Monitor continuously
- Ensure naloxone available for immediate administration, if required this should be administered in 50 mcg increments until respiratory rate is ≥ 12
- Due to the short duration of action of Naloxone close monitoring is required for two hours post administration

**NAUSEA AND VOMITING**
- Follow PONV guideline
- Contact APS/1st Call Anaesthetist
- Transfer to an alternative opioid may be required
- PCA programme may need amended for individual patient
- Administer adjuvants as tolerated to reduce opioid requirement

**INEFFECTIVE ANALGESIA**
- Undertake pain assessment, consider type, site and duration of pain
- Undertake surgical assessment to exclude surgical complication or new pathology
- Examine effectiveness of PCA use, ensure patient understands the principles of PCA use.
- Exclude mechanical issues, check pump programme
- Ensure IV access patent
- Contact APS/ART/1st Call Anaesthetist for advice