Patient Controlled Analgesia - Full Clinical Guideline - Burton only

Ref. No.: 230/version 3

CONTENTS

1. Introduction

1.1 Patient Controlled Analgesia (PCA) refers to a method of pain relief that allows a patient to self-administer small doses of analgesia, from a programmable pump. Macintyre et al (2007). This technique is most commonly used following major surgery. However PCA can be effective for non surgical pain for patients who require higher doses of opioids. PCA is administered intravenously via peripheral cannulae, midline or central venous catheter. Morphine is the most common opioid for PCA, however other opioids may be used if patients are intolerant or allergic to morphine. It should always be remembered that PCA is one of a variety of methods of administering analgesia.

2. Scope of Policy

2.1 The Policy aims to set a standard for the safe administration of analgesia via PCA.

2.2 This Policy is applicable to all Health Care Professionals working in Burton Hospitals NHS Foundation Trust who prescribe, set up, administer PCA to patients, and monitor patients while PCA is in progress.

2.3 This Policy only relates to patients over the age of 18 years. Should a PCA be considered for patients under the age of 18, advice should be sought from the anaesthetics team.

2.4 Prior to commencing PCA, patients with co-morbidities, in which morphine would need to be used with caution, should be assessed by a senior clinician and suitability for PCA documented in the patient notes. For example, renal impairment, obstructive sleep apnoea, psychological disorders.

3. Purpose

This Policy is written to conform to National Patient Safety Agency (2006) Patient Safety Alert (12) Ensuring Safer Practice with high dose ampoules of Diamorphine and Morphine, also Patient Safety Alert (20) Promoting Safer use of Injectable Medicines (2007a). It is intended to assist both medical and nursing staff to provide safe and effective PCA therapy and to ensure patients receive continuity of analgesia.

Duties and Responsibilities

3.1 Outreach/Acute Pain Team

- To train staff on the theory and practical based knowledge of PCA to enable employees to monitor patients appropriately.
- To competency assess cascade trainers in the theory and practice of set up and administration of PCA.
- To offer support and guidance to trained staff monitoring patients receiving PCA.
- To audit the usage of PCA annually and present findings to appropriate meetings (see policy compliance and effectiveness).
- To update the PCA policy every three years, or more frequently to include any new legislation or change in practice.

3.2 Senior Sister/Theatre Manager

- To ensure that all ward, theatre and recovery staff that monitor patients receiving PCA are competently trained.
- To ensure that the total amount of medication, via PCA while in theatre/recovery, is documented on the recovery section of the anaesthetic chart prior to transfer to the ward.
- To ensure that all PCA observations are documented on the National Early Warning Score (NEWS) Appendix 1.
- To ensure that appropriate stock levels of controlled drugs for PCA are available on the ward/theatre.
- To ensure that the PCA key is kept separate to the ward/main theatre keys and with the controlled drugs key.

3.3 Employees

- All employees involved in any aspect of PCA in adult clinical practice are responsible for knowing where this Policy is held, how to access it and ensuring they adhere to it.
- Only employees who have demonstrated competence in setting up PCA will set up PCA and connect the PCA to patients.
- Healthcare professionals are individually accountable for their practice; as part of their continuing professional development they have a responsibility to ensure they gain knowledge and skills required to use medical devices safely in line with the Trust's Medical Device Training Policy (2016)

- .All clinical employees that set up and administer PCA must have demonstrated competence in IV Therapy.
- It is the employee's responsibility to ensure that the patient has a patent IV access prior to PCA connection (refer to IV Therapy Policy).
- All patients should be given a copy of the 'Patient Controlled Analgesia – Information for Patients and Carers' leaflet (Appendix 2). This is available on the Trust website, under Patient Information.
    - Pre assessment nurses and anaesthetists will discuss use of PCA prior to surgery and the leaflet must be provided at this time for all appropriate elective patients.
    - For emergency cases the above information must be provided at the earliest opportunity post operatively by ward staff.
- Competent clinical employees administrating PCA are to ensure that the PCA Protocol is followed (Appendix 3).
- Clinical employees must document the PCA usage and all observations onto the NEWS
- **On no account must anyone press the delivery button of the PCA for the patient.**

4. Training

4.1 Training records will be stored on the ESR database.

4.2 Training will be provided and arranged by the Critical Care Outreach/Acute Pain team.

4.3 Only Nurses, Midwives, Doctors and Allied Health Professionals who have completed PCA training and competencies in setting up and programming the pump, may set up, programme and connect the PCA to the patient.

4.4 All staff who achieve competency to set up, administer or monitor patients receiving PCA must access updates to their competencies 3 yearly, booking via the Medical Equipment Library.

5. PCA Prescription (refer to Medicines Management Policy)

5.1 Each PCA **MUST** be prescribed on either electronic prescribing (EP) or written prescription. **All Staff MUST** ensure that the PCA is prescribed prior to set up and connection to the patient.

5.2 Each PCA order set includes the prescription for the analgesia and pump settings for PCA. 200 micrograms Naloxone IV as required and supplemental oxygen MUST accompany the PCA prescription (Please refer to Oxygen Policy).

5.3 When controlled drugs are used for PCA it must be documented in the CD register that the drug will be administered via PCA E.g. morphine, 100mg PCA.

5.4 The professionals that sign the Controlled Drugs register and set up the PCA pump, **MUST** also connect the PCA giving set to the patient, for the patient to administer the analgesia. The same professional must sign EP or written prescription chart to document the above process.

5.5 This **MUST** be the same 2 professionals for the entire process of set up, pump programming and connection of a PCA - Department of Health (2013).

5.6 The PCA will be administered via a CADD Solis Ambulatory infusion pump.

5.7 Pump settings must only be changed when there has been a revision to the prescription on EP/written prescription chart. Changes to the pump are only to be made by a professional who has demonstrated competence in the set up and administration of PCA. Any changes to the pump settings must be checked by another professional who has demonstrated competence in IV Therapy.

5.8 The professional setting up a PCA must check the service due date on the pump during set up. It is the responsibility of the person programming the pump to ensure equipment is within the service date.

5.9 Any faulty PCA pump should be returned to the Medical Equipment Library with a completed Medical Defect Report Form. A replacement pump will be available in the library.

6. Policy Compliance/Effectiveness

Minimum policy requirements to be monitored	Process for monitoring e.g. audit	Responsible individual/ Committee/ Group	Frequency	Responsible individual/ Committee/ Group for review of results	Responsible individual/ Committee/ Group for development of the action plan	Responsible individual/ Committee/ Group for monitoring of the action plan
All PCAs must be prescribed and administration documented	Audit by Outreach/Acute Pain team to include: • That all PCAs are prescribed either on EP or a critical care prescription chart • That all PCAs administered are signed for on the EP or critical care prescription • That the same professionals who sign the controlled drugs register complete the entire process of set up and administration of PCA	Lead nurse Outreach/ Acute Pain team	Annual	Anaesthetic departmental meeting, Head of Pharmacy, Professional Forum	Anaesthetic departmental meeting, Head of Pharmacy, Drugs and Therapeutics Group	Anaesthetic departmental meeting, Head of Pharmacy, Drugs and Therapeutics Group, Clinical Audit and Effectiveness Group
All patients receiving PCAs must be monitored correctly	Audit by Outreach/Acute Pain team to include the monitoring of patient while PCA in progress – • Observation frequency • Documentation of number of tries a patient makes • Documentation of the amount of drug the patient has received • Pre made infusion labels are used with all pre made PCA infusion cassettes • Drug additive labels are used with all ward made PCA infusion cassettes • Part used cassettes are documented on the Record of destruction of part used infusions containing Controlled Drugs on discontinuation of PCA	Lead nurse Outreach/ Acute Pain team	Annual	Nursing Midwifery & AHP Strategy Group Professional Forum	Nursing Midwifery & AHP Strategy Group	Quality and Safety Group Clinical Audit and Effectiveness Group
Safety incidents related to PCA	Monitoring and analysis of incidents relating to PCA	Business Unit	Monthly	Business Unit	Business Unit	Business Unit

7. Documentation Controls

Development of Guideline:	Dr James Holbrook
Consultation with:	Matrons Professional Forum Anaesthetic Department Medical Devices Group Drugs & Therapeutics
Approved By:	Surgical Division - February 2021
Review Date:	October 2023
Key Contact:	Lead Nurse Acute Pain Acute Pain Consultant

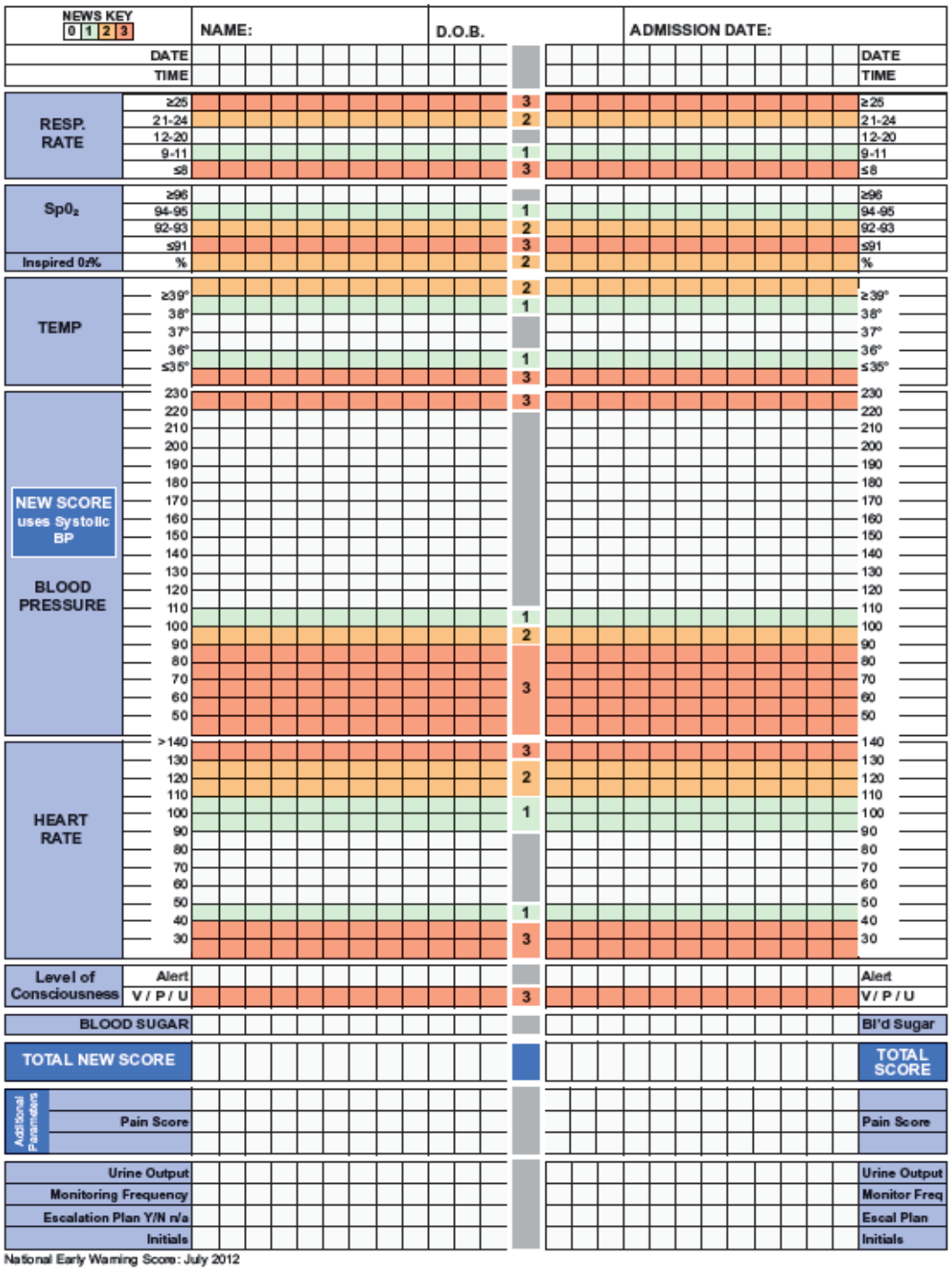
Linked Trust Policies:

IV Therapy Policy
Administration and Disposal of Controlled Drugs
Medicines Management Policy
Records Management Policy
Minimum Observation Standard
Oxygen therapy – Acute Adult
Medical Device Policy
Medical Device Training Policy

8. References

- Burton Hospitals NHS Foundation Trust Policy Aseptic Non Touch Technique (ANTT) Policy, March 2015
- Burton Hospitals NHS Foundation Trust Policy Framework, Version 5, September 2014
- Department of Health (2013) *Safer Management of Controlled Drugs: a guide to good practice in secondary care*, www.dh.gov.uk
- Macintyre, P.E. and Schug, S.A. (2007) *Acute Pain Management: A Practical Guide.* Elsevier Saunders, Edinburgh.
- NHS Litigation Authority - Template Document for the Development and Management of Procedural Documents, Version 5, January 2016
- NHS Litigation Authority Risk Management Standards 2015

Appendix 1
National Early Warning Score
(NEWS)



National Early Warning Score: July 2012

Clinical Response to NEWS Triggers

NEWS SCORE	FREQUENCY OF MONITORING	CLINICAL RESPONSE
0	Minimum 12 hourly	• Continue routine NEWS monitoring with every set of observations
Aggregate 1-3	Minimum 4 hourly	• Inform trained nurse who must assess the patient; • Trained nurse to decide if increased frequency of monitoring and / or escalation of clinical care is required;
Aggregate 4 or more or 3 in one parameter	Increased frequency to a minimum of 1 hourly	• Trained nurse to immediately inform the medical team caring for the patient; • Urgent assessment by medical / surgical / critical care outreach team with core competencies to assess acutely ill patients; • Clinical care in an environment with monitoring facilities;
Aggregate 6 or more	Continuous monitoring of vital signs	• Trained nurse to urgently inform the medical team caring for the patient – this should be at least at Specialist Registrar level; • Emergency assessment by a clinical team with core competencies in the assessment of critically ill patients. This team will have critical care competencies and a practitioner/s with advanced airway skills and resuscitation skills; • Consider transfer of Clinical care to a level 2 or 3 care facility, i.e. higher dependency or ITU;

NHS
Training for Innovation

Appendix 2

Burton Hospitals NHS
NHS Foundation Trust

Patient Information

from Queen's Hospital - www.burtonhospitals.nhs.uk telephone: 01283 566333

Surgery Division

Critical Care Department

Patient Controlled Analgesia (PCA)
Information for Patients and Carers

What is a PCA pump?

This is a pump which you control with a small hand held button to give yourself a strong painkiller (usually morphine) via a drip which is attached to your cannula (a small tube which goes into a vein, usually in your arm). It acts very quickly and maybe used alone or alongside other pain killers. You control the administration of the pain killer. When you press the button, a small set dose of pain killer is given. The pump is able to do this in a pre-set time interval – usually 5 minutes. If the button is not pressed regularly, no pain relieving medication will be delivered.

How safe is the PCA pump?

The pump is designed with many safety features. Your doctor will prescribe the pump to release a small set dose of the drug so that when the button is pressed a small dose of pain killer will be delivered into the vein. If the PCA is for morphine the dose will usually be 1mg. The pump has a “lockout period” usually of 5 minutes where it will not give you another dose of the drug however much the button is pressed in that time period. It will then be ready to give another dose should it be required.

How often should I press the button?

You can press the button as often as you like but the pump will only give the drug when the “lock out” time has passed eg. After 5 minutes. You should press the button when you start to feel your pain coming back or if you are about to do an activity that may worsen pain eg. move about.

What if I am still in pain?

Your pain will be assessed regularly by your nurse by asking you if it is mild, moderate or severe. You will probably be prescribed other medications that work well together with your PCA such as paracetamol, codeine, ibuprofen or tramadol. Please tell your doctor or nurse if you have any side effects or allergies to these. You may also be prescribed laxatives to keep bowels regular.

If the pain gets very bad despite the PCA and above medications being given, you may be given a larger “bolus” dose of the same drug as in your PCA by a doctor or nurse to get you comfortable again. You should then be able to carry on using the PCA as before.

How long can I keep the PCA?

You will keep it as long it is required, but you will find that as you get better you will need to use it less and less. The doctors and nurses will decide with you when best to remove it. You may need to continue taking paracetamol or ibuprofen for a few more days.

What other forms of pain killers can I choose?

You may not wish to have a PCA pump in which case your pain can be managed by larger injections of a drug such as morphine into your skin or muscle every 3-4 hours which will be given by a nurse. However you may have periods of time when you have to wait for the medicine to be given when you are in pain. The larger dose of painkiller may also make you sleepy or feel sick though medications are available to help with this.

Advantages and disadvantages of PCA pump:

Advantages: you are in control of your pain and are able to get pain relief from the PCA when you need it. This usually means you will be less sleepy and take less of the strong drug than if it is given in bigger doses every three to four hours.

Disadvantages: the effect of the PCA may wear off when you are asleep as you will not be pressing the button as much. This is why it is important to keep taking the other regular analgesia as mentioned above alongside the PCA. If the pain gets really bad an extra dose of the drug or “bolus” may need to be given as above and will be given by a doctor or nurse.

Who will decide if I need a PCA?

This is normally decided on between you and your anaesthetist before your operation or occasionally on the ward by the Acute Pain Team.
Please ask your nurse if you have any further questions about the PCA.

Appendix 3

PCA Protocol

1. Monitoring

Action	Rationale
All patients for the duration of the PCA must have the following:	
• Oxygen, 2 litres per minute as prescribed, as a minimum, by nasal cannulae unless otherwise directed by a doctor, oxygen prescription, Outreach/Acute Pain team	• To ensure that the patient maintains their oxygen saturation throughout the use of the PCA
• Acute Pain scoring will be recorded as a PCA is commenced on the NEWS, (Appendix 1) with each set of observations as identified: Hourly for the first 4 hours 2 hourly for the next 8 hours 4 hourly until PCA is discontinued	• To monitor for signs of respiratory depression • To evaluate the effect of the PCA
• A full set of observations must be recorded at the frequency stated above and as per Minimum Observation standard (2014) while a patient is receiving a PCA	• To comply with policy standard, to ensure patient safety
• If the patient has an acute pain score of 2 or more, ensure additional analgesia as per steps 1 and 2 of the Adult Acute Pain Score and Analgesic Flowchart (Appendix 4) has been administered then re-monitor: Hourly for the first 4 hours 2 hourly for the next 8 hours 4 hourly until the patient no longer requires PCA If pain score remains 2, contact the Outreach/Acute Pain team, or the on call anaesthetist for review and further advice.	• To ensure that the patient receives optimal analgesia • To ensure that pain is assessed and analgesia is administered to minimise pain • For specialist advice
• With each set of observations, the number of tries and the amount of analgesia administered via PCA must be documented on the NEWS	• To ensure the patient understands how to operate PCA. To assess if the patients analgesic needs are met. To ensure the patient is receiving the appropriate dose of analgesia. To monitor IV site for signs of phlebitis.

The above is intended as a guide only, clinical need may require frequency to be increased, clinical judgment should be used at all times.

Opiates can be administered by an alternative route, but consultation with the Outreach/Acute Pain team or anaesthetist should be made while the patient is receiving PCA.

Pre Made Cassettes

- Pharmacy will provide the pre-made Morphine 100mg in 100mls 0.9% normal saline cassettes for PCA usage.

- Before administration a blue Morphine pre mix drug label (Appendix 5) must be completed and placed on the cassette for the PCA by the practitioner who has set up the PCA.

  The blue label identifies the following

  - Patient's name
  - Amount of drug
  - Solution to which the drug has already been added
  - Concentration
  - Date and time
  - Prepared by
  - Checked by
  - Batch number

- The registered practitioner who signs for administration in the controlled drugs register MUST set up the infusion, PCA pump, and MUST connect the PCA to the patient, and sign for administration on EP/written prescription.

- The PCA must be connected to a needle free device. The connection port must be cleansed with a 2% Cholorhexidine wipe and allowed to dry for 30 seconds, prior to connection, Aseptic No Touch Technique Policy (ANTT) 2015.

- PCA cassettes must be changed every 72 hours.

- Giving sets for PCA are stocked in the Medical Equipment Library and Critical Care and will be cross charged to the clinical area where the PCA is in use.

- Giving sets should be changed with each cassette, or every 72 hours. Sets should be labelled, indicating the date and time line change is due.

- Giving sets must never be disconnected and then re-connected to the patient, (ANTT policy 2015)

Ward Mixed Cassettes

- On occasions the Pharmacy may not be able to provide the pre made Morphine cassettes due to stock shortage. In this situation the ward nurses, should contact the Critical Care Outreach/Acute Pain team /CSP team who will make up the cassette for the PCA.
- Some patients may require alternative drugs to Morphine PCA. Such patients should always be referred to Outreach/Acute Pain team or anaesthetics.
- All PCA cassettes made in the ward areas must have a white additive label attached to the cassette during set up (Appendix 6). The white label identifies the following information:
    - Patient name
    - Ward
    - Amount of drug
    - Batch number of drug
    - Prepared by
    - Checked by
    - Date and time prepared
    - Date and time of expiry
    - Route of administration
    - Diluent
- PCA cassettes made on the ward by the Critical Care Outreach/Acute Pain Team must be changed every 24 hours.

Discontinuation of the PCA

- Patients should be prescribed and taking oral analgesia regularly, for approximately 24 hours prior to discontinuing PCA.
- Where possible the PCA should be discontinued during the day to avoid any pain problems at night.

Safe Disposal of Medicines (refer to Medicines Management Policy 2014)

- Any PCA cassette that needs to be disposed of must be done so by two registered practitioners.
- The PCA cassette must be disposed of into a medical sharps bin for pharmaceutical waste and witnessed by two registered practitioners.
- The two registered practitioners must document and sign the volume of drug wasted on the record of Destruction of part used infusions containing controlled drugs, in the Controlled Drug register (Appendix 7).

Decontamination of the pumpOnce PCA has been discontinued, the pump MUST be cleaned with the Sani- cloth detergent, multi-surface wipes.

Once decontaminated, the pump should be returned to the Medical Equipment Library.

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Appendix 4

Adult Acute Pain Score and Analgesic Flowchart

0 Pain Free → Maintain frequency of observations

1 MILD

Consider patient weight and adjust dose accordingly

NSAID precautions to be considered.

Paracetamol 1g QDS oral/IV/NG
+/-
Ibuprofen 400mg TDS oral
Or
Evaluate post analgesia

2 MODERATE

Consider laxatives for patients scoring 2 or more.

In addition to the above:
Codeine Phosphate 30-60mg QDS oral
+/-
Tramadol 50-100mgs QDS oral/IV
+/-
Oramorph 10-20mgs oral
If pain score remains 2 post analgesia, FY1 to review.

3 SEVERE

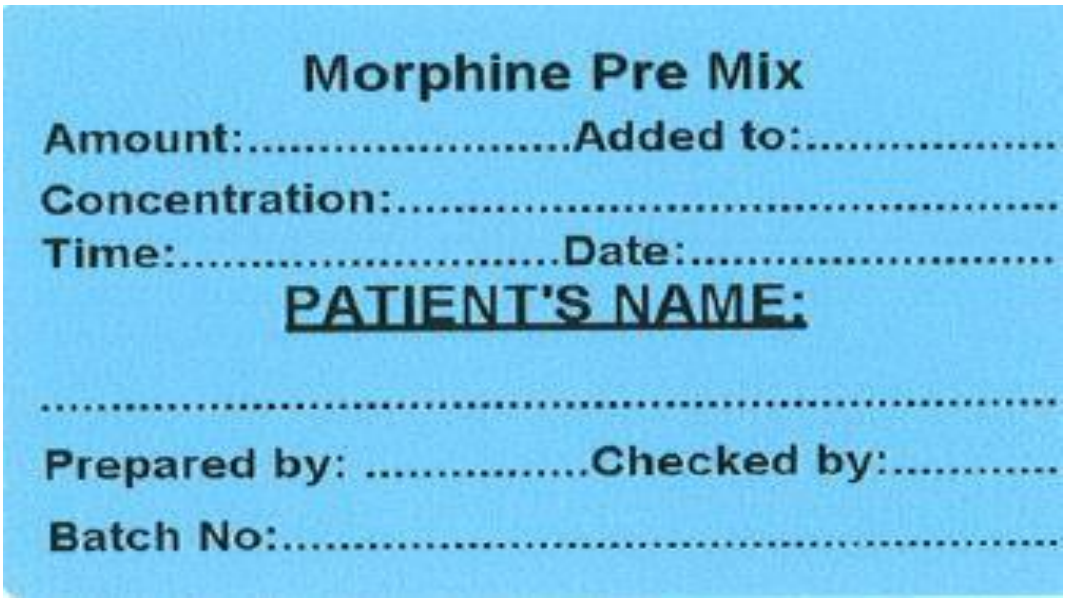
In addition to the above:
Morphine SC/IV dose titrated to response
3 Hourly
Or
PCA (refer to Outreach/Acute Pain team)

If pain score remains 3 post analgesia, FY2/reg to review AND refer to Outreach/Acute Pain team/anaesthetist out of hours for further advice on additional analgesia

Once all stages have been considered, refer onto Outreach/Acute Pain team, bleep 581.

The above should be followed in conjunction with NEWs Escalation. The above should act as a guide only, and should not replace clinical judgement

Appendix 5


Morphine Pre Mix
Amount:.....Added to:.....
Concentration:.....
Time:.....Date:.....
PATIENT'S NAME:
.....
Prepared by: .....Checked by:.....
Batch No:.....

Appendix 6

DRUGS ADDED TO THIS INFUSION

PATIENT		WARD	
DRUG DILUENT.....	AMOUNT	BATCH No.	PREP'D BY CHECKED BY
DATE PREP'D TIME PREP'D	EXP. DATE EXP. TIME	ROUTE	

DISCONTINUE IF CLOUDINESS OR PRECIPITATE DEVELOPS

Appendix 7

Record of destruction of part used infusions containing Controlled Drugs for ward :...

Part used infusions are destroyed by emptying into a Pharmaceutical sharps bin. Record the witnessed destruction below. Keep this record for 2 years from date of last entry.

Date	Patients name	Unit number	Where PCA was put up	Drug	strength	Approximate quantity destroyed	Destroyed by	Witnessed by