Doncaster and Bassetlaw Teaching Hospitals
NHS Foundation Trust

Policy for the Management of Adult Patients with a Continuous Local Anaesthetic Wound and Perineural Infusion

This is new guidance: Please read in full.

Did you print this document yourself?
The Trust discourages the retention of hard copies of policies and can only guarantee that the policy on the Trust website is the most up-to-date version. **If, for exceptional reasons, you need to print a policy off, it is only valid for 24 hours.**

Executive Sponsor(s):	David Purdue, Chief Nurse
Author/reviewer: (this version)	Ailsa Woodhouse Lead Nurse Pain Team
Date written/revised:	October 2020
Approved by:	Drugs and Therapeutics Committee
Date of approval:	22 December 2020
Date issued:	4 March 2021
Next review date:	December 2023
Target audience:	Clinical Staff Trust Wide

Amendment Form

Please record brief details of the changes made alongside the next version number. If the procedural document has been reviewed **without change**, this information will still need to be recorded although the version number will remain the same.

Version	Date	Brief Summary of Changes	Author
Version 1	4 March 2021	• This is a new procedural document, please read in full	Ailsa Woodhouse

Contents

Page No.

1. INTRODUCTION

This guideline is for all staff caring for patients with a continuous local anaesthetic infusion (CLAI) as part of their pain management analgesic regime.

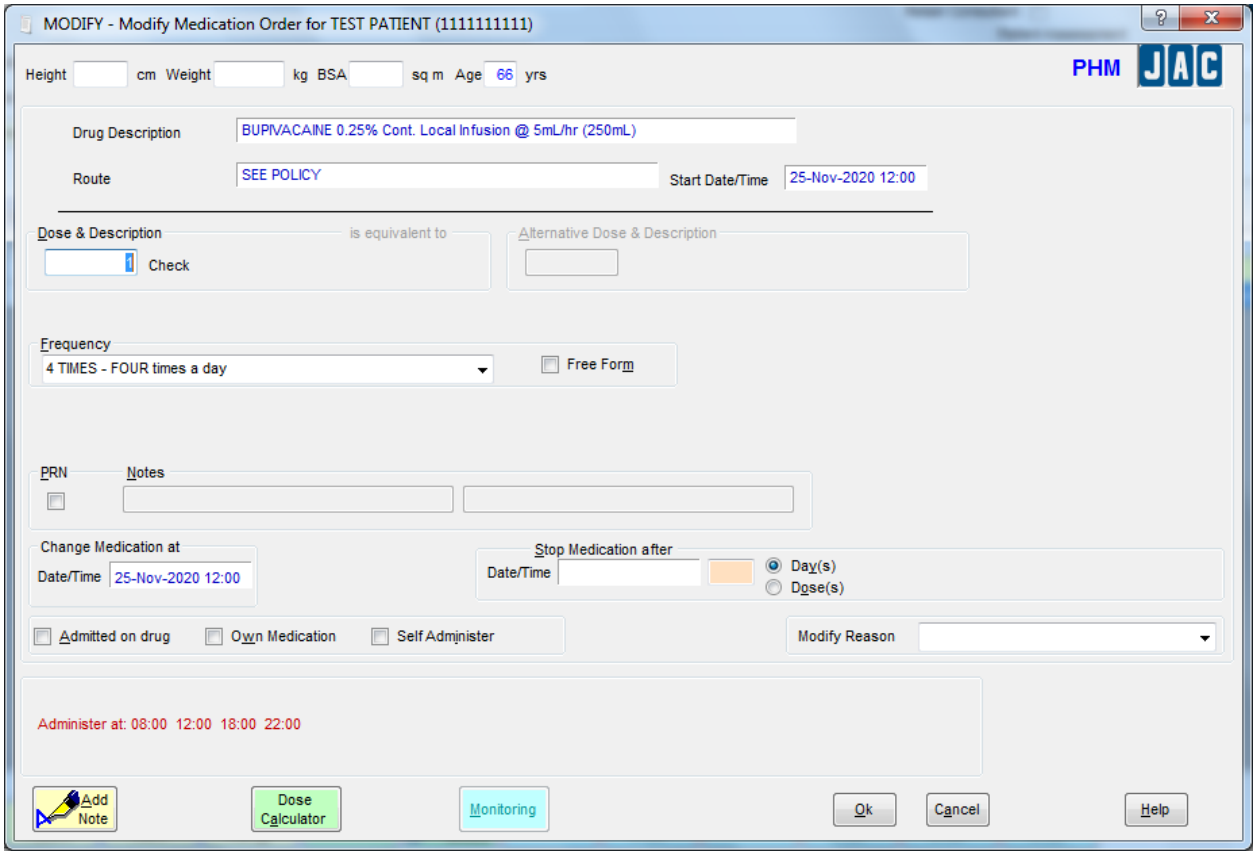
2. PURPOSE

The purpose of this policy is to ensure that all staff caring for patients with a continuous local anaesthetic infusion has the knowledge and skill to ensure safe/effective delivery of a continuous local anaesthetic infusion.

3. DUTIES AND RESPONSIBILITIES

Anaesthetists Responsibilities

- Select appropriate patients for this analgesic delivery route.
- Provide a clear prescription on the Continuous Local Anaesthetic Infusion prescription and JAC, using a standard solution of Bupivacaine 0.25% in 250mls to commence at 5mls/hr.
- Re-prescribe a renewal device if it is required.



Surgeons Responsibilities

Place the multi-holed catheter percutaneously in the wound during surgery and attach to the extension tubing.

3.1 Catheter placement for abdominal surgery

- Must be placed by the operating surgeon.
- Must be placed prior to mass closure, one on each side of the wound.
- Introduce the catheter percutaneously via the trocar at the superior extent of the wound, approximately 3-5cms lateral to the wound edge so that the catheter lies within the rectus sheath, posterior to the muscle belly.
- Place the catheter so the delivery holes are full within the sheath to avoid local anaesthetic leak.
- Avoid suturing the catheter in the wound when closure commences.
- Bolus of local anaesthetic **MUST** be given prior to infusion (LA is a weight dependent dose).
- Fix catheter coil on either side firmly and with sterile dressings.

3.2 Catheter placement for lower limb amputation

- Must be placed by the operating surgeon
- Placed adjacent to the sciatic nerve for above knee amputations
- Placed adjacent to the tibial nerve for below knee amputations
- Place the catheter so the delivery holes are full within the sheath to avoid LA leak.
- Bolus of local anaesthetic **MUST** be given prior to infusion (LA is a weight dependent dose)
- Fix catheter coil on either side firmly and with sterile dressings.

3.3 Healthcare professionals prescribing a continuous local anaesthetic infusion (this includes Anaesthetists, In-patient pain team Nurse Specialists who are Non-Medical prescribers)

- Assessing the patient's suitability for receiving a continuous local anaesthetic infusion.

- Requests for titration of the continuous wound infuser can be made to the anaesthetist and/or the Inpatient Pain Team in accordance to the maximum rates/weight chart **(Appendix 5)**

- Re-prescribing the continuous local anaesthetic infusion on the prescription and JAC system if required.

- Ensuring that the ward caring for or receiving a patient has suitably trained staff to monitor a patient with a continuous local anaesthetic infusion.

3.4 Department/ Ward Managers

- Ensuring all their registered nursing staff are competent to monitor a patient with a continuous local anaesthetic infusion.

- Ensure an appropriate Pain Link Nurse is identified to attend the Pain Study Days and disseminate up to date information and education.

- All staff are responsible for ensuring their own competence in the use of the pump and caring for the patient.

3.5 Contraindications to using a continuous local anaesthetic infusion

- Patients who have an allergy to local anaesthetic
- Any patient who has any infection at the proposed site of the infusion

3.6 Side effects of a local anaesthetic infusion

Systemic toxicity is related to the amount of drug absorbed by the systemic circulation. Principle systems affected are the Central Nervous System (CNS) and Cardiovascular System (CVS)

3.6.1 Side effects include

- There are few side effects
- Systematic absorption (rare) leading to hypotension

3.6.2 Signs of Severe Local Anaesthetic Toxicity (see hyperlink)

- Sudden alteration in mental status, severe agitation or loss of consciousness with or without convulsions
- Sinus bradycardia, asystole, conduction blocks
- Increased CNS stimulation – tingling around mouth, hands and feet

http://www.aagbi.org/sites/default/files/la_toxicity_2010_0.pdf

4. RECOMMENDED PROCEDURE

4.1 Monitoring and Observations

- Ensure the giving set is clearly identified for continuous local anaesthetic infusion
- All observations must be documented on the physiological observations chart this includes pain scores (Physiological Observations and prevention of deterioration in the acutely ill adult PAT/T 33)
- Observations of pain, blood pressure, respiratory rate, pulse, nausea and vomiting scores should be recorded as follows:
- Every 15 minutes in theatre recovery
- Hourly for the first 4 hours
- 4 hourly for the duration of the pump
- Check the pump 4 hourly as a minimum to ensure prescribed delivery of analgesia
- Ensure the insertion site and dressing is intact and checked for leaking, swelling and pain 4 hourly for the duration of the pump.
- Ensure correct documentation is filled in on the Continuous Local Anaesthetic infusion chart.

4.2 Management of Local Anaesthetic Toxicity

The signs include:

- Sudden loss of consciousness
- Tingling around the mouth
- Metallic taste in the mouth
- Ringing in the ears
- Dizziness
- Blurred vision
- Muscle twitches

If any of the above occur:

- Clamp the device
- Provide basic life support as required (Resuscitation Policy PAT/EC 1)
- Inform the anaesthetist and admitting team

Intralipid 20% is available in the following areas:

- Main theatres (cupboard on theatre corridor opposite crash bay)
- DCC/ITU
- **Orthopaedic theatres** (cupboard in main corridor above crash trolley) Access out of hours access via key on orthopaedic theatre key ring or via Parkhill (where key to cupboard is also available)

4.3 Management of Uncontrolled Pain

If the patient reports a **pain score of 8 or more** (severe pain) please commence the morphine protocol and consider a PCA

Contact the inpatient Pain Team via the nursing dashboard (electronic referral) or bleep 1449 (08:00 – 16:00 hours Monday to Friday)

- Weekends and Bank Holidays 2nd on call Anaesthetist bleep 1195

- Bassetlaw bleep 2nd on call anaesthetist via switchboard or contact Inpatient Pain Team at DRI for advice

4.4 Disconnecting the Pump

Disconnecting the pump

- When the infusion has finished it is to be discontinued by a registered nurse.
- Use a clean technique at all times, clamp the line and withdraw the catheter from the wound.
- Place catheter and infuser in a clinical waste bin for disposal.

Infuser leaking / damaged

- Disconnect the infusion.
- If any drug comes into contact with skin, immediately wash the area with warm soapy water.
- If the medication leaks on a surface, use the spill kit as instructed.

4.5 Patients Lacking Capacity

Sometimes it will be necessary to provide care and treatment to patients who lack the capacity to make decisions related to the content of this policy. In these instances staff must treat the patient in accordance with the Mental Capacity Act 2005 (MCA 2005).

- A person lacking capacity should not be treated in a manner which can be seen as discriminatory.
- Any act done for, or any decision made on behalf of a patient who lacks capacity must be done, or made, in the persons Best Interest.
- Further information can be found in the MCA policy, and the Code of Practice, both available on the Extranet.

There is no single definition of Best Interest. Best Interest is *determined on an individual basis. All factors relevant to the decision must be taken into account, family and friends should be consulted, and the decision should be in the Best interest of the individual. Please see S5 of the MCA code of practice for further information.*

5. TRAINING AND SUPPPORT

All staff must be trained and a record kept on the medical equipment training register form

Registered nurses must ensure they are trained to monitor for signs of local anaesthesia toxicity, document and act accordingly.

All staff are responsible for ensuring their own competence in the use of the pump and caring for the patient.

6. MONITORING COMPLIANCE WITH THE PROCEDURAL DOCUMENT

What is being Monitored	Who will carry out the Monitoring	How often	How Reviewed/ Where Reported to
Compliance with the policy	Ward managers, Matrons	Quarterly	On an individual /ward basis Local Clinical Governance
Incidents via the adverse incident reporting system	Ward managers and Matrons	Monthly	On an individual basis Local Clinical Governance
Complaints	Ward managers and Matrons	Quarterly	On an individual complaint basis Local Clinical Governance

7. DEFINITIONS

CLAI – Continuous Local Anaesthetic Infusion
DCC – Department of Critical Care
IV – Intravenous
JAC -
MST – Morphine Sulphate Tablets
NSAIDs – Non-Steroidal Anti-inflammatory Drugs
PO – Per oral
PPI – Proton Pump Inhibitors
PONV – Post Operative Nausea and Vomiting

8. EQUALITY IMPACT ASSESSMENT

The Trust aims to design and implement services, policies and measures that meet the diverse needs of our service, population and workforce, ensuring that none are disadvantaged over others. Our objectives and responsibilities relating to equality and diversity are outlined within our equality schemes. When considering the needs and assessing the impact of a procedural document any discriminatory factors must be identified.

An Equality Impact Assessment (EIA) has been conducted on this procedural document in line with the principles of the Equality Analysis Policy (CORP/EMP 27) and the Fair Treatment For All Policy (CORP/EMP 4).

The purpose of the EIA is to minimise and if possible, remove any disproportionate impact on employees on the grounds of race, sex, disability, age, sexual orientation or religious belief. No detriment was identified.
A copy of the EIA is available on request from the HR Department.

9. ASSOCIATED TRUST PROCEDURAL DOCUMENTS

Mental Capacity Act 2005 Policy and Procedure - PAT/PA 19
Privacy and Dignity Policy - PAT/PA 28
Physiological Observations and prevention in the acutely ill adult - PAT/T 33
Resuscitation Policy PAT/EC 1
Recommended Summary Plan for Emergency Care and Treatment ReSPECT Policy – PAT/EC 8
Fair Treatment for All Policy – CORP/EMP 4
Equality Analysis Policy – CORP/EMP 27

10. DATA PROTECTION

Any personal data processing associated with this policy will be carried out under 'Current data protection legislation' as in the Data Protection Act 2018 and the General Data Protection Regulation (GDPR) 2016.

For further information on data processing carried out by the trust, please refer to our Privacy Notices and other information which you can find on the trust website:
https://www.dbth.nhs.uk/about-us/our-publications/information-governance/

11. REFERENCES

British Medical Association (2012) **British National Formulary 63**

Dougherty L & Mallett J (2000) (eds) **Manual of Clinical Nursing Procedures. The Royal Marsden Hospital — 5th Edition** Blackwell Science – London

Horlocker T. (1998) Peripheral nerve block : regional anaesthesia for the new millennium. *Regional Anaesthesia and pain medicine.***23** 237 - 240

Hunter D (1993) **Acute Pain** in Carroll D & Bowsher D (1993) (eds**) Pain – Management & Care** Butterworth Heinemann – Oxford

McCaffery M & Beebe A (1994) **Pain – Clinical Manual for Nursing Practice.** Mosby – London

Murphy D. (2003) Nerve Blocks for Acute Pain : Principles**. In Clinical Pain Management Acute Pain**. Rowbotham D. Macintyre P. (eds) Arnold London.

NMC (2008) **The Code of Professional Practice.** HMSO

NMC (2008) **Standards for Medicines Management** HMSO

Serpell M. (2003) Clinical pharmacology – Local anaesthetics. **In Clinical Pain Management Acute Pain**. Rowbotham D. Macintyre P. (eds) Arnold London.

APPENDIX 1 – THE PROCEDURE FOR THE INSERTION OF AN INFUSION CATHETER

The procedure for the insertion of an infusion catheter

The technique with risks and benefits must be explained to the patient and verbal consent obtained.

	The procedure for the insertion of an infusion catheter
No.	**Action**
1	The catheter must be sited in an appropriate environment where asepsis can be maintained and where monitoring and skilled assistance are available – in accordance with the Association of Anaesthetists of Great Britain and Ireland (AABGI) who also recommend using **full aseptic technique**.
2	The equipment used must be sterile and kept so on a sterile field on a trolley which has been cleaned with peracide and allowed to dry.
3	Full surgical hand wash with chlorhexidine 4%, povidone iodine 7.5% or Triclosan 2% for 2 minutes, ensuring that all areas of the hands and wrists are scrubbed paying attention to finger tips, thumbs and wrists. After rinsing thoroughly, dry thoroughly with a sterile towel.
4	Gloves, gown, hat and mask must be used
5	Preparation of the patient's skin using 0.5% chlorhexidine in 70% alcohol, cleaning in a circular motion from the centre of the site outwards. The skin prep must be allowed to dry for 2 minutes, to allow the alcohol to evaporate and the chlorhexidine to penetrate deeper skin layers. A large surgical drape must be used
6	The catheter is inserted under direct vision if it is being placed at the end of a surgical procedure or by using real - time ultra sound guidance.
7	The technique of insertion must be documented in the patient's notes or anaesthetic chart. Any bolus of local anaesthetic given at insertion must be documented on the patient's anaesthetic chart ,drug chart or recorded on JAC
8	Good catheter care is essential to **minimise the risks of infection**. The catheter should be attached to a sterile filter to prevent entry of micro-organisms. A sterile clear occlusive dressing should cover the catheter insertion site.

APPENDIX 2 – POST-OPERATIVE PAIN MANAGEMENT PROTOCOL FOR ABDOMINAL SURGERY

Post-operative pain management protocol for abdominal surgery

Post-surgery patients often have an ileus, a naso-gastric tube or remain nil by mouth. Where additional analgesia is required these patients, the parenteral route is the route of choice.

Choice 1 IV PCA (judge patients ability to self-administer) When discharged from recovery to DCC then an IV morphine infusion is an option

Choice 2 S/C morphine (dose dependent on age and renal function)

In addition, prescribe regular oxycodone or Targinact , Paracetamol IV/PO and NSAIDs where benefits outweigh risks.

APPENDIX 3 – POST-OPERATIVE PAIN MANAGEMENT PROTOCOL FOR VASCULAR/LOWER LIMB AMPUTATION

Post-operative pain management protocol for vascular/lower limb amputation

Continue preoperative analgesic medication as directed below

Regular:

Paracetamol (weight related) +/- NSAID + PPI

Co-analgesics, for example: pregabalin, gabapentin and amitriptyline
Opioids

- If Tramadol/Codeine Phosphate –continue at pre-operative doses
- If stronger opioids continue as below
- Reduce all opioids by 50% from pre-surgery level, for example MST, Oxycodone and Fentanyl (**block MUST be effective to do this**)

PRN

Ensure oramorph dose prescribed as per morphine protocol (dose dependent on age and renal function)

APPENDIX 4 – OBSERVATIONS AND WARD MANAGEMENT

Observations and ward management

Correct and careful observation of these patients is necessary to ensure they have adequate pain relief but do not experience any side effects from the local anaesthetic. These might include tingling around the mouth, light headedness or palpatations.

If signs of overdose occur the infusion is stopped immediately and medical help sought.
The patient must have a patent intravenous cannula at all times.

http://www.aagbi.org/sites/default/files/la_toxicity_2010_0.pdf

	Procedure for monitoring a patient with a local anaesthetic infusion
No	**Action**
1	Monitor and observe hourly for four hours and four hourly for the duration of the pump. This is to ensure the infusion catheter has not become dislodged, the catheter site does not show any signs of infection, and to monitor for local anaesthetic toxicity. **Monitor and observe** • Pain Score • Respiration rate • Pulse and Blood pressure • Emesis (PONV) score • Bromage Score (motor block) • Record of supplementary analgesia (see JAC) • Infusion rate • Total amount infused • Programme pump check These observations are recorded on a designated chart for monitoring patients with a Continuous Local Anaesthetic Infusion.
2	Check the insertion site for leakage and signs of infection 4 hourly as a minimum.
3	The patient can be given additional analgesia if prescribed Paracetamol NSAIDs if not contraindicated Codeine Tramadol Oramorph IV PCA Morphine Targinact Oxycodone

4	There is no need to wean the infusion prior to discontinuation
5	The infusion is stopped after medical team advice, or if it has run for the designated time period of 48 hours. The catheter should be removed using a clean teqhnique The catheter tip is only sent for culture and sensitivity if there are any signs of infection

APPENDIX 5 – MAXIMUM RATES/WEIGHT

All patients are to commence the infusion at 5mls/hr.

If pain control is problematic or a longer infusion is required, the rate may be titrated. This can only occur after discussion with the Anaesthetist and/or the Inpatient Pain Team

Maximum Rates and Weight

Weight/Kg	Maximum Rate ml/hr
>70	14ml/hr
60-70	12ml/hr
50-59	10ml/hr
40-49	8ml/hr

APPENDIX 6 – EQUALITY IMPACT ASSESSMENT - PART 1 INITIAL SCREENING

Service/Function/Policy/Project/ Strategy	Division	Assessor (s)	New or Existing Service or Policy?	Date of Assessment
Management of Adult Patients with a Continuous Local Anaesthetic Wound and Perineural Infusion – PAT/MM 10 v.1	Anaesthetics	Alisa Woodhouse and Inpatient Pain Team	New	December 2020

1) Who is responsible for this policy? Name of Division: Alisa Woodhouse, Lead Nurse Pain Team

2) Describe the purpose of the service / function / policy / project/ strategy? It is intended to benefit patients, nursing and medical staff to provide safe management and monitoring of patients with a Continuous Local Anaesthetic Wound and Perineural catheter/infuser. To ensure adequate pain relief through the use of the Continuous Local Anaesthetic Wound and Perineural Catheter and Infuser.

3) Are there any associated objectives? National Patient Safety Agency (NPSA) Association of Anaesthetist Guidelines (AAGBI)

4) What factors contribute or detract from achieving intended outcomes? Medical and nursing staff safe and competent with their knowledge and skills in the ability to prescribe, use and monitor the continuous local anaesthetic wound infuser.

5) Does the policy have an impact in terms of age, race, disability, gender, gender reassignment, sexual orientation, marriage/civil partnership, maternity/pregnancy and religion/belief? No

- **If yes, please describe current or planned activities to address the impact**

6) Is there any scope for new measures which would promote equality? No

7) Are any of the following groups adversely affected by the policy?

Protected Characteristics	Affected?	Impact
a) Age	No	
b) Disability	No	
c) Gender	No	
d) Gender Reassignment	No	
e) Marriage/Civil Partnership	No	
f) Maternity/Pregnancy	No	
g) Race	No	
h) Religion/Belief	No	
i) Sexual Orientation	No	

8) Provide the Equality Rating of the service / function /policy / project / strategy – tick (✓) outcome box

Outcome 1 ✓	Outcome 2	Outcome 3	Outcome 4

If you have rated the policy as having an outcome of 2, 3 or 4, it is necessary to carry out a detailed assessment and complete a* **Detailed Equality Analysis form – see CORP/EMP 27

Date for next review: December 2023

Checked by: Lee Wilson **Date:** December 2020