Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust

Policy for the Administration of Epidural Analgesia (For use in Adult Areas excluding Maternity & Obstetrics)

This procedural document supersedes: PAT/MM 12 V.1 – Policy for the Administration of Epidural Analgesia (For use in Adult Areas excluding Maternity & Obstetrics)

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Target audience:	**Clinical areas excluding Obstetrics where adult patients receive Epidural Infusions for Pain Management**

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 Issued	Brief Summary of Changes	Author
2	February 2023	Oral Anti coagulation Advice Update	Sr Woodhouse
1	November 2021	This is a new procedural document, please read in full,	Sr Ailsa Woodhouse and Dr Raj McNab

CONTENTS

1.0 INTRODUCTION

This policy sets out the framework for the safe and effective delivery of epidural analgesia via an infusion device for patients requiring this method of analgesia within a surgical setting. It covers the expectations and standards required from different groups of staff who will be involved in this process.

This policy does not cover the use of epidurals within the maternity setting. Please refer to the Epidural Anaesthesia in Labour policy MSG83 V3.

https://extranet.dbth.nhs.uk/document/msg-83-epidural-anaesthesia-in-labour/

Epidural analgesia is an effective invasive technique where analgesic drugs are injected or infused into the epidural space. Epidurals are sited in either the thoracic or lumbar regions of the spine.

Thoracic epidural analgesia is a safe and effective way of providing pain relief following major surgery or trauma. Improved analgesia has been reliably demonstrated in patients having thoracic and abdominal surgery and leads to improved pulmonary function, mobility, improved compliance with physiotherapy, improved gut function and higher patient satisfaction.

This method of pain relief is achieved by the administration of opioid analgesics and/or a local anaesthetic agent via a catheter inserted into the epidural space. The catheter may be inserted at different spinal cord levels in order to block the appropriate nerve roots supplying the site of pain.

Epidural analgesia is only to be administered using a yellow Smiths Medical CADD Solis pump and a dedicated yellow striped administration set clearly labelled “For Epidural Use Only”.

2.0 PURPOSE

To promote the safe and effective management of patients receiving an epidural for Pain Management (National Patient Safety Agency (2007) and following the Patient Safety Alert (21) Ensuring Safer Practice for patients receiving epidural injections/infusions.

It is intended to assist both medical and nursing staff to provide safe and effective management of an Epidural infusion and to ensure patients receive continuity of analgesia.

This policy should be read in conjunction with the policy for ‘Safe and secure handling of controlled drugs part B’:

https://www.dbth.nhs.uk/document/patmm1b/

3.0 DUTIES AND RESPONSIBILITIES

3.1 All clinical staff must:

- Ensure that they are competent in the setting up/use of the epidural pump when caring for a patient with an epidural, in accordance with completion of the Trusts Epidural Training Package.
- Maintain contemporaneous records pertaining to observations and pump monitoring.
- Staff will receive practical instruction on using the equipment from the inpatient pain team and clinical educators. Standard Operating Procedure (SOP) leaflets are available from the inpatient pain team. These act as an aide- memoir and do not replace training. Familiarisation to the operator's manuals (available in the relevant clinical areas/ wards) is essential.

3.2 The senior nurse in charge of the clinical area:

- Ensure their ward staff has been appropriately trained in the use and troubleshooting of epidurals and have an identifiable Pain Link Nurse.
- The registered nurse/healthcare professional must demonstrate competency in management of epidural infusions using the identified equipment in accordance with the Trust policy Medical Equipment Training (CORP/RISK 2).
- In collaboration with the matron and other relevant professionals, must investigate all adverse clinical incidents in relation to inadequate analgesia to prevent their future occurrence.

3.3 The Prescriber

It is the responsibility of the prescriber to ensure that an epidural is a suitable analgesic route for the patient. This decision will be based upon clinical condition of the patient requiring the need for a readily available pain relief. The analgesia prescription must be completed by an appropriate prescriber and be signed and dated. This is required on Well Sky and the paper prescription.

4.0 PROCEDURE - OPIOIDS AND INDIVIDUAL PATIENT FACTORS

4.1 Patient Related Factors

Absolute contraindications:

- patient refusal
- Infection at the site of catheter insertion
- Coagulopathy and anti-coagulant therapies – Advice from Haematology must be sought
- Raised intracranial pressure
- Allergy to agents prescribed in the epidural

- Lack of appropriately trained medical/nursing personnel available

Relative Contraindications:

- Cognitive impairment (please refer to **4.4**)
- Hypotension
- Immunocompromised patients
- Dissatisfied patients and unrealistic expectations.
- Side effects include urinary retention, motor block, poor analgesia and pruritus.

Motor block monitoring to be regularly conducted to ensure safe and effective analgesic levels. These must be documented after each assessment Refer to 6.5

- Conscious levels need to be regularly monitored during cross over period when using epidural administered fentanyl and oral/subcutaneous morphine.
- Fentanyl will take approximately 3 hours to clear safely from the patients system. This is cautionary advice not a reason to omit analgesia.

4.2 Chronic pain patients

In patients on long-term opioids continue the opioids (e.g. Buprenorphine or Fentanyl patches) while the patient has their epidural.

4.3 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 (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 Interests of the individual. Please see S5 of the MCA code of practice for further information.*

5.0 DOCUMENTATION OF CONTROLLED DRUGS

5.1 This policy must be read in conjunction with the Trust policy for the Safe and Secure Handling of Medicines – Controlled Drugs - PAT/MM 1 B.

- Infusion bags/syringes must be clearly labelled with '**For epidural use only'**
- Minimise confusion between types and strengths of epidural infusions by:
  - Rationalising the range of infusions available
  - Maximising the use of ready to administer epidural infusion preparations

- Reduce the risk of the wrong medicine selection by storing epidural infusions in a separate cupboard/refrigerator from those holding Intravenous Infusions
- Use clearly labelled epidural giving sets and catheters that distinguish them from IV routes and labelled clearly as '**Epidural**'
- Use specific infusion pumps for epidural infusions that are easily distinguishable from other types of infusions
- A second practitioner independently confirms that the correct product, line and connection port has been selected and prepared and that the administration method is correct

- The amount of drug remaining in the bag must be documented as detailed in the "controlled drug transfer section" of the prescription (WPR 31320) when patients are transferred to and between wards.
- Transfer to wards – It is the responsibility of the registered nurse to sign the "controlled drug transfer section" of the prescription (WPR 31320) when patients are transferred to other areas. (see Trust Policy PAT MM1 https://www.dbth.nhs.uk/document/patmm1b/ (Transfer from Theatres to Wards or Between Wards on p.39)).

5.2 Persons authorised to administer Clinician Bolus and Assessing Sensory Block

- Only persons who have demonstrated that they are competent to, have completed their intravenous and epidural training package can administer a Clinician Bolus. The keypad lock pin number will be given on an individual basis to those competent in epidural bolus.
- A maximum of 2 boluses within 3 hours can be delivered.
- Close monitoring and observations must be recorded as follows:
  - **15 minutes for 1 hour**
  - **30 minutes for 1 hour and if remains in normal limits standard hourly and 4 hourly observations**

- Assessment of sensory and motor block must be performed by an appropriately trained member of staff who has completed the epidural training package and use the Bromage Scale (appendix 1). This assessment must take place **frequently** as outlined in section **6.2.**

- Each registered nurse/practitioner will have the appropriate knowledge and skills to safely manage patients receiving an epidural and perform replacement bag changes. Epidurals will not be issued on wards where there is insufficient trained staff or where staff are unable to maintain their skill and competence.
- The nurse in charge of the clinical area is responsible for ensuring that only competent nurses/practitioners undertake epidural administration and undergo regular re-assessment.
- Two competent staff must verify the epidural infusion device programme and the bag label against the prescription at commencement of the infusion, every bag change and after any alteration to the infusion. This should be documented accordingly.
- The epidural which is prepared for administration shall be administered as per professional guidance of the administration of medicine in Health Care Settings immediately by the person who has prepared the epidural or in their presence (RCN 2019).
- Compatible and appropriately prescribed intravenous fluids should be administered for the duration of the epidural.
- Documentation of the epidural data must occur on the Trusts infusion chart.

Checking of the pump settings must occur at the start of each shift and 4 hourly thereafter. This must be clearly documented on the infusion chart and Well Sky.

6.0 PATIENT CARE

6.1 Pain assessment

Self-reporting of pain should be used whenever appropriate as pain is an individual and subjective experience. Regular assessment of pain leads to improved acute pain management (Gould et al 1992, Level 3). Best practice requires the documentation of pain assessment scores at rest, on movement and deep breathing and coughing, by using the verbal descriptive tool none, **mild** (0-3), **moderate** (4-7), **severe** (8-10) **NB:** The numbers are for documentation purposes only.

Observations should include: pulse, blood pressure, respiratory rate, oxygen saturations, conscious level (AVPU), pain score, nausea/vomiting score and sensory levels/motor block checked as stated in this policy **6.2**. The rate of epidural infusion and drugs checked against prescription at must be checked at the beginning of every shift and 4 hourly thereafter.

6.2 Observations

- The Electronic observation system must be manually set to the appropriate minimum time to ensure observations are performed safely whilst an epidural is in situ
- Motor block observations to be performed for the duration of the epidural, whether infusing or not. Cold anaesthetic spray must be readily available to conduct the motor block
- Epidural site to be reviewed for the duration of the epidural whether infusing or not
- Epidural site to be monitored for 24 hours post removal of catheter

The frequency for all of the above observations should be:

In Recovery

- **¼ hourly for the first hour**
- **½ hourly for one hour**

On return to the ward

- **Every 30 minutes for the first 2 hours**
- **Hourly for the next 12 hours if stable**
- **4 hourly for the duration of the epidural and for 24 hours after the epidural has been discontinued**

Informed verbal consent must be obtained from the patient to undertake observations. When a patient refuses, give clear explanations of the importance of observations and why they are necessary. Always document refused consent and refer to Trust Mental Capacity Act policy (PAT/PA 19) via https://www.dbth.nhs.uk/document/patpa19-3

Repeat attempts to undertake observations at frequencies stipulated in this policy.

6.3 Consciousness Levels

Increasing sedation may be a sign of impending respiratory depression. If there is concern as to whether the patient asleep or sedated, attempts must be made to rouse the patient.

A – Alert
V – responsive to Voice
P – responsive to Pain
U – Unresponsive

6.4 Respiratory depression

- Refer to Naloxone Protocol (see appendix 3)

6.5 Pump observations

This information should be recorded, as a minimum, once per shift and when the epidural bag or prescription is changed.

- Check prescription against the infusion bag once per shift
- Document and change in the prescription including a clinician bolus
- Check for leaks from, or obstruction to, the giving set.
- Ensure the correct dedicated epidural giving set is being used (to be replaced after 72 hours)

6.5 Discontinuing epidural

- Consider stopping after 72 hours for major abdominal and vascular surgery
- Consider stopping after 48 hours for orthopaedic, urology and gynaecological surgery
- Assess analgesia needed for effective pain management post removal
- Assess whether epidural is aiding/hindering recovery at this stage

6.6 If appropriate to discontinue use step down analgesia

- Ensure analgesia is prescribed on a regular basis.
  Where prescribing slow release opioids as stepdown analgesia, e.g Targinact (bowel surgery), oxycodone modified release (MR) or morphine MR, please ensure a stop date is provided. This is usually only 2 days following initiation.
- Morphine Protocol PRN (Gold Standard) or alternatively patients can be given oxycodone 5mg/5ml oral solution PRN if unable to tolerate Morphine.

Assess and document pain scores during performance of observations

6.7 Stopping the infusion

- Aim to stop infusion in a morning. Patient's perceptions and coping mechanisms are better during the daytime. Support can be sought from the Inpatient Pain Team available Monday-Friday 8:00 – 16:00 hours
- Halve the infusion rate and monitor pain scores. Commence step down analgesia at this time.
- Stop the infusion 1 hour after a step down analgesic has been administered

6.8 Managing Pain

- Regular pain scoring when carrying out vital signs and AVPU (Alert, Verbal, Pain, Unresponsive)
- Regular multi modal range of analgesia +/- Morphine
- Conscious levels need to be regularly monitored during cross over period when using epidural administered Fentanyl and oral/SC Morphine. Fentanyl will take approximately 3 hours to clear safely from the patients system. This is cautionary advice not a reason to omit analgesia.

***Pain bundles are available on Well Sky for specific surgeries following Enhanced Recovery Programme i.e Gastroenterology, Orthopaedics, Gynaecology**

7.0 EPIDURAL CATHETER REMOVAL

Epidural catheters should be removed as soon as possible following discontinuation of infusion. Before removing the epidural catheter it is your responsibility to check the patient's coagulation.

7.1 Catheter can only be removed if:

- INR<1.5
- It is at least 12 hours post administration of last Low Weight Molecular Heparin (i.e.Dalterparin)
- It is at least 2 hours before next dose of Low Weight Molecular Heparin (i.e. Dalteparin) is due

- Oral anticoagulation advice

    - Clopidogrel has been stopped for at least 7 days and Rivoraxaban/Apixaban stopped for 48 hours if normal renal function
    - If renal function abnormal and patient on oral anticoagulants discuss with pain team or anaesthetist on call
    - NB: Patients should **not** be on oral anticoagulants whilst epidural in situ.
    - Should not recommence oral anticoagulants for 6 hours after removal of epidural catheter

7.2 Prior to removing epidural catheter:

- Wash hands with soap and water
- Apply apron and prepare the dressing trolley
- Decontaminate hands using alcohol gel and prepare the sterile pack using aseptic non-touch technique
- Decontaminate hands using alcohol gel and apply sterile gloves
- Remove catheter in one smooth movement - **ensure blue tip intact**
- Observe site for redness/ exudates - ***(if present or patient spiking temperatures or raised white cell count send tip to microbiology for MC&S)***
- Cover site with sterile dressing
- Dispose of clinical waste
- Remove PPE and wash hands with soap and water
- Ensure patient is comfortable
- Document removal of epidural catheter and any findings in patients' medical/nursing notes
- Redress daily observing the site throughout the healing process

7.3 Equipment needed to remove epidural catheter

- Disposable apron
- Dressing trolley
- Alcohol gel
- Sterile pack
- Sterile gloves disposable gloves
- Sterile dressing
- Clinical waste bag

8.0 PATIENT SAFETY

Epidural analgesia can cause serious, potentially life changing and life threatening complications. Practitioners should be aware of the following and how to respond if these occur

8.1 Over sedation/Respiratory Depression

- Maintain oxygen therapy, monitor saturation levels
- Reposition patient
- Encourage deep breathing exercises
- Document respiratory rate, reassess accordingly, act appropriately
- Monitor and document conscious levels **(Alert, Verbal, Pain, Unresponsive)**

If conscious levels respond to Voice/Pain or Respiratory rate <8 you must

- **Stop Epidural infusion**
- **Call Parent Team**
- **Call 2nd on call Anaesthetist bleep 1195**
- **Call Inpatient Pain Team bleep 1449 (Monday to Friday 08.00 – 16.00 hours)**
- **Consider drug related cause for patient's condition e.g. high block**

8.2 Epidural Haematoma/Abscess (Appendix 4 and 5)

This can develop up to 7 days following an epidural or post removal of catheter

Epidural abscess or haematoma are extremely rare but can occur and potentially cause catastrophic effects such as paralysis. The presence of either needs urgent recognition and treatment to ensure the best outcome. Delay in managing these patients could lead potentially to permanent spinal cord injury. There are increased risks of these complications with multiple attempts of insertion, current anticoagulation therapy, sepsis or conditions where immunity maybe impaired, for example diabetes. Any clinical suspicion requires urgent assessment by the parent team and involvement of the Inpatient Pain Team (available Monday to Friday 08:00 am – 16:00 hours) and/or the 2nd on call anaesthetist. An urgent MRI scan of the spine may be required

in accordance with the Guideline for Out of Turn MRI Scanning in Acute Presentations Standard Operating Policy.

Throughout the duration of the epidural catheter:

- Monitor for unremitting unexplained back pain - Document this and bring to the attention of the parent team and Inpatient Pain Team
- Monitor the epidural site 4 hourly as a minimum
- Ensure it is clean with no signs of discharge or new blood
- Ensure it is dressed appropriately with clear, dry smooth dressing
- Monitor for irritation, redness or swelling

If you suspect an epidural haematoma or epidural abcess please contact the parent team for urgent assessment and inform the Inpatient Pain Team (Monday to Friday 08:00 am – 16:00 hours) and/or the 2nd on call anaesthetist for further assistance.

Refer to appendix 4 or 5 for the appropriate algorithm.

8.3 Blood Pressure

Low blood pressure can be due to local anaesthetic being infused in to the epidural space
Ensure a patent cannula is present for IV fluids

8.4 Dehydration

Post-Operative Causes e.g Hypovolaemia secondary to blood/fluid loss

- Monitor blood pressure as per protocol. If blood pressure is outside acceptable limits, increase monitoring frequency.
- Consider the patients position e.g lie the patient flat
- Assess the need for fluid management
- Contact Parent Team
- Consider reducing or stopping the epidural infusion
- Consider increasing IV fluids if necessary
- May need referral to 2nd on call anaesthetist and/or Critical Care Outreach for specialist input

8.5 Nausea/Vomiting

- Monitor nausea scores as art of epidural infusion observations
- Treat nausea score that is>1
- Administer anti emetic per protocol

- Reassess the nausea score 30 minutes following intervention
- Monitor and manage the patient's potential to become dehydrated/hypovolemic secondary to excessive vomiting and reduced oral intake
- Consider causes of nausea and vomiting e.g medication, pain, anxiety, hypovolaemia or bowel related causes

8.6 High Block

Features of a block that is running too high include:

- Droopy eyelids
- Weakness/tingling in arms
- Tingling around the mouth
- Numbness in chest wall (above nipple level)
- Difficulty in breathing

Management of high block:

- **Reposition patient upright in to sitting position if possible**
- **Monitor all observations frequently throughout the episode until the block level had reduced**
- **Consider stopping epidural infusion**
- **Contact Inpatient Pain Team for support (bleep 1449 available Monday to Friday 08:00 hours – 16:00 hours) and/or 2nd on call Anaesthetist (bleep 1995)**

8.7 Motor Block

A dense motor block can be common during the first few hours post insertion due to the loading dose and volume administered intra-operatively. This dense block should regress once a reduced strength and a lower rate infusion has commenced.

A **persistent motor block** is unpleasant for the patient and can lead to an increase risk of developing deep vein thrombosis or pressure sores due to reduced mobility. In addition this it may be related to an epidural abscess or haematoma developing

- **A persistent motor block may indicate intrathecal migration or abscess or haematoma formation**
- **STOP the infusion**
- **Urgent assessment by medical staff (within the Parent Team) is required with possible escalation to the 2nd on Call anaesthetist for specialist advice**
- **Reassess block at 15 minute intervals and document appropriately**
- **Discuss with the Inpatient Pain Team (available Monday – Friday 08:00 – 16:00 hours)**

8.8 Pruritus

Pruritus is troublesome itching following the delivery of opioids via the epidural/intrathecal route. It is unrelated to histamine release or the dose of the drug given; it can last for up to 30 hours after opioid administration. It can be severe and prolonged and very distressing for the patient.

- Consider changing to the Local Anaesthetic only infusion
- Consider a reduced rate infusion
- Severe cases may warrant a complete review of pain management methods
- Consider administration of low dose naloxone (0.1mg) systemically. This does not adversely affect analgesic effect.

8.9 Intrathecal Migration

Intrathecal migration is the movement of the epidural catheter in to the intrathecal space. Within this space there is much greater effect of infusion within the cerebrospinal fluid. This can potentially be fatal.

During Epidural Observations, you need to monitor for:

- A fall in the patients' blood pressure
- Deterioration of conscious level
- Reduced respiratory effort
- Dense motor block
- Unexplained high sensory block
- The epidural insertion site

If at any time you suspect and Intrathecal migration:

- **Stop the Epidural Infusion monitor patient for signs of deterioration**
- **Call the Patient's Parent Team for urgent review**
- **Call 2nd on call Anaesthetist (available 24 hrs)**
- **Call Inpatient Pain Team (Monday to Friday 08.00am – 16.00pm Bleep 1449)**

9.0 TRAINING/ SUPPORT

- A designated link nurse for each ward using epidurals must be identified.
- The Link nurse must attend the Pain Link Nurse Study days.

The following are the minimum requirements of training to be undertaken before an individual is deemed competent/trained in setting up, administering and monitoring the epidural:

- Trust IV package completed – connection can only be made if the individual is IV trained

- Trust Anaphylaxis training completed
- Undertake a period of training and assessment of both theoretical knowledge and practical experience of setting up, monitoring and attaching the epidural. The Clinical Skills Package must be completed.

The Inpatient pain team are available on Bleep 1449 or extension 642187 Monday to Friday 08.00 – 16.00 and are available to give specialist advice, support and provide appropriate training and education when required.

Epidurals must only be nursed in clinical areas where appropriately trained staff are available at all times. Wards appropriate to accept epidurals are Recovery, Surgical Wards, Department of Critical Care, and St Leger 7, 8 & 9 (DRI) and B5 (BDGH).

Please refer all epidurals to the Inpatient Pain Team

10.0 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 protocols (Appendix 1)	Ward manager	Monthly	Via local clinical governance group
Incidents – via the adverse incident reporting system.	Ward managers and Matrons	On individual incident basis	DATIX, department clinical governance, divisional clinical governance
Complaints – via the complaints procedure	Ward managers and Matrons	On individual complaint basis	Department clinical governance, divisional clinical governance

11.0 DEFINITIONS

11.1 Epidural

Epidural analgesia is one of the most effective techniques available for the management of acute pain (Macintyre and Ready, 2001). It is an invasive technique where analgesic drugs are injected or infused into the epidural space Epidurals are sited in either the thoracic or lumbar regions of the spine.

11.2 Multi-modal analgesia

Multi-modal (balanced) analgesia refers to the use of various drugs and modalities to achieve balanced analgesia. Slow release opiates can be prescribed regularly for a short duration (usually 2 days) then step analgesia down to either Tramadol or Codeine regular. By taking advantage of the synergistic effects of the drugs with the differing modes of action we avoid the side effects of using opioids excessively.

The lowest rung on the World Health Organisation (WHO 2002) analgesic ladder consists of non-opioid simple analgesics. The main drugs are Paracetamol and Non-Steroidal Anti-inflammatory Drugs (NSAID's) e.g. Ibuprofen.

Of the NSAID's low dose Ibuprofen (e.g. 1200mg daily or less) has low GI toxicity and does not increase the risk of myocardial infarction (McCarthy 1999). This is 1st line drug to use. When these drugs are prescribed and administered regularly they provide multi-modal (balanced) analgesia.

NB: NSAID's should be prescribed at the lowest effective dose, and the shortest duration of treatment necessary to control pain e.g. the time limited prescription for post-operative analgesia is 72 hours then a review by the Inpatient Pain Team or parent team is needed.

12.0 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 Complaints, Concerns, Comments and Compliments Resolution and Learning 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. See Appendix 4.

13.0 ASSOCIATED TRUST PROCEDURAL DOCUMENTS

- Epidural Anaesthesia in labour – MSG83 v3
- Equality Analysis Policy - CORP/EMP 27
- Complaints, Concerns, Comments and Compliments Resolution and Learning – CORP/COMM4 via https://www.dbth.nhs.uk/document/corpcomm4-complaints-concerns-comments-compliments-resolution-learning/
- Medical Equipment Training Policy – CORP/RISK 2
- Mental Capacity Act 2005 Policy and Guidance, including Deprivation of Liberty Safeguards (DoLs) – PAT/PA 19
- Physiological Observations and prevention of deterioration in the acutely ill adult - PAT/T 33
- Hand hygiene PAT/IC 5
- Patient Identification policy PAT/PS 7
- Standard Infection Prevention and Control Precautions Policy PAT/IC 19
- Safegurding Adults Policy PAT/PS 8
- Consent to Examination or treatment policy PAT/PA 2
- Resuscitation PAT/EC 1
- Privacy and Dignity Policy - PAT/PA 28
- Safe and Secure Handling of Medicines – Controlled Drugs – PAT/MM 1 B via https://www.dbth.nhs.uk/document/patmm1b/

14.0 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 UK General data Protection Regulation (GDPR) 2021.

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/

15.0 REFERENCES

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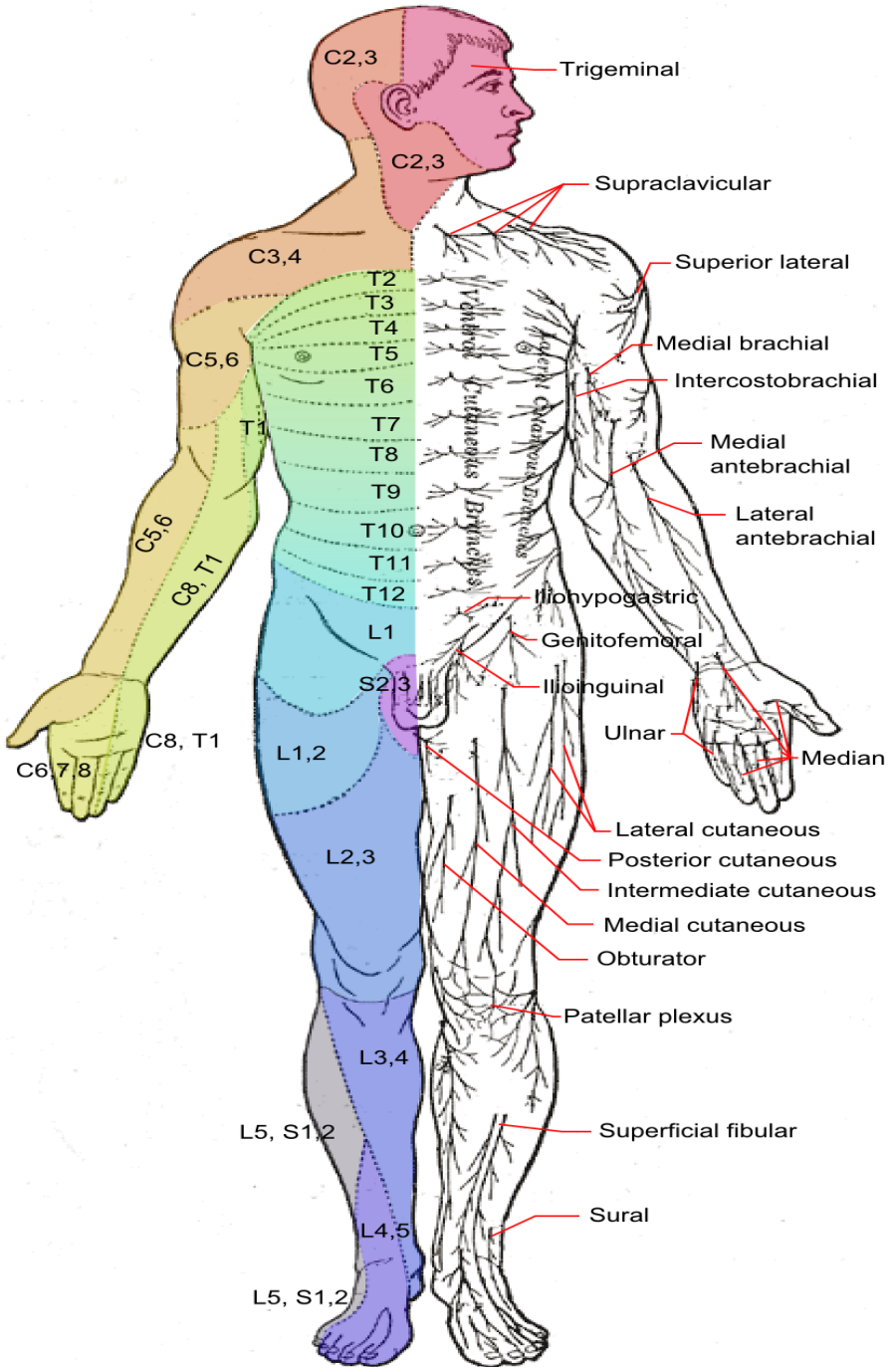
APPENDIX 1

Bromage Scale

Grade	Criteria	Degree of Block
0	Free movement of knees and feet	Nil (0%)
1	Just able to flex knees with free movement of feet	Partial (33%)
2	Unable to flex knees but with free movement of feet	Almost Complete (66%)
3	Unable to move feet or knees	Complete (100%)

APPENDIX 2

Häggström, M (2014).



Operation	Epidural insertion site
Laparotomy	T6 – T11
Hips	T12 – L1
Knees	L2 – L4

	Cervical	Thoracic	Lumbar	Sacral	Coccygeal
Vertebra	7	12	5	5	4
Spinal Nerves (Pairs)	8	12	5	5	4

APPENDIX 3

Guidelines for Administration of Naloxone (Narcan) for Opioid induced Respiratory Depression

Respiratory rate less than 8 per min + Conscious level A or V

No → Maintain physiological observations as per hospital policy

Yes

- Stop opioid administration and/or remove PCA/PCEA handset from patient.
- Administer 40% oxygen via face mask.
- Monitor and reassess at regular 15 minute intervals until RR > 8.
- Contact pain team.
- Naloxone administration is not warranted at this stage.

Respiratory rate less than 6 per min + Conscious level P or U

Yes

- Stop opioid administration and/or remove the PCA/PCEA handset.
- Administer 15 litres of oxygen via reservoir face mask.
- Attempt to waken patient.
- Administer 100 micrograms naloxone IV immediately.
- Seek urgent assistance from on-call anaesthetist/outreach team/pain team.
- Document in case notes.
- Repeat this dose if no or limited response after 2 minutes.
- Support ventilation by face mask or Ambu-bag if rate declines further or if respiratory depression persists.
- Consider naloxone infusion.
- Be aware that respiratory depression can return as the naloxone may act for a shorter time period than the opioid.

Conscious Level

A – Awake
V – Voice
P – Pain
U – Unresponsive

Preparation & Administration of Naloxone

The ampoules contain 400micrograms/ml of naloxone.

Dilute 1ml of naloxone 400micrograms/ml with 7mls of normal saline to give 8mls of a 50micrograms/ml solution.

Give 2mls (100micrograms) IV of this mixture. If no IV access is available - give IM.

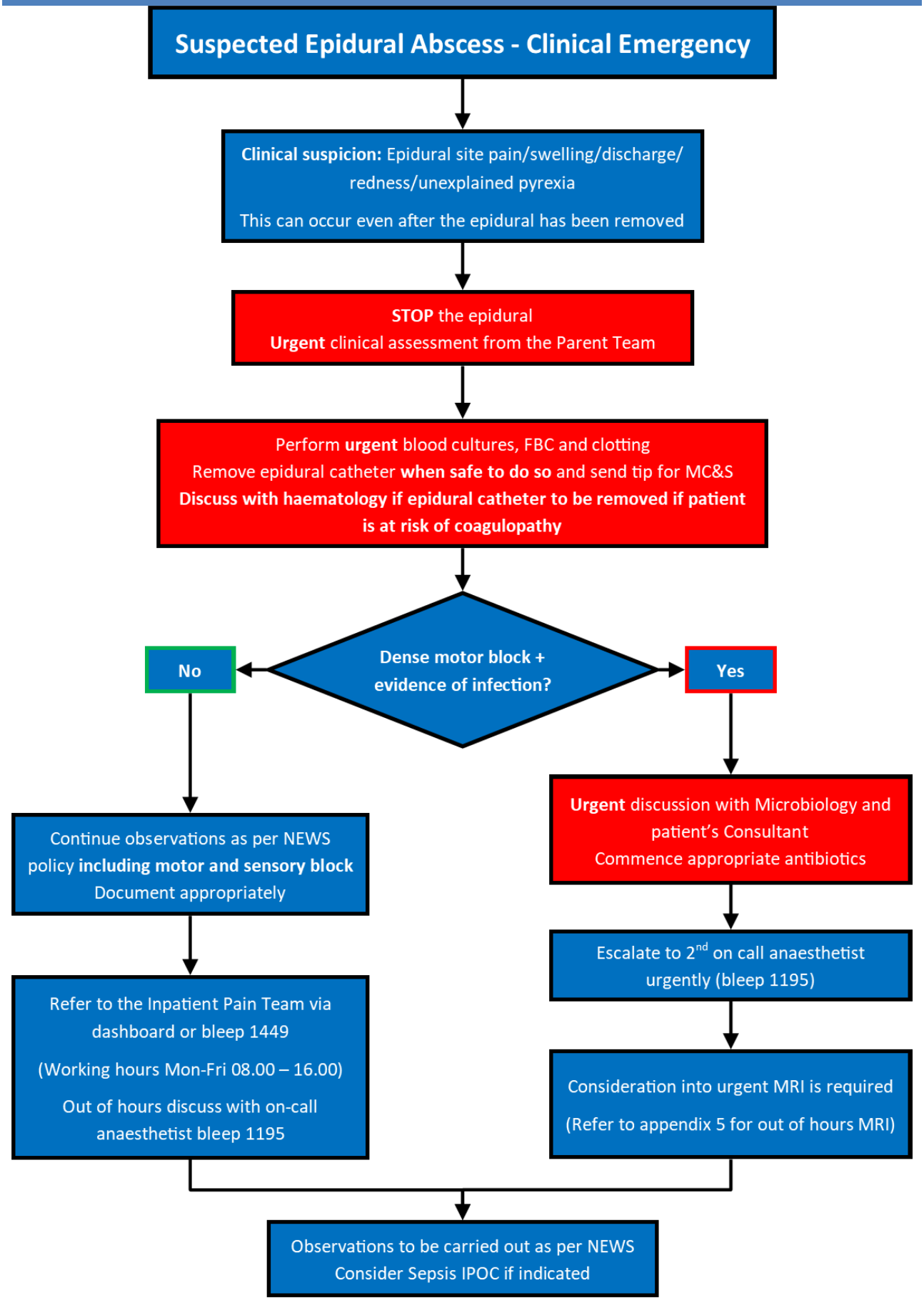
Titrate the dose to reverse respiratory depression without reversing analgesia.

If no response after 2 minutes repeat to a maximum of 400micrograms (8mls).

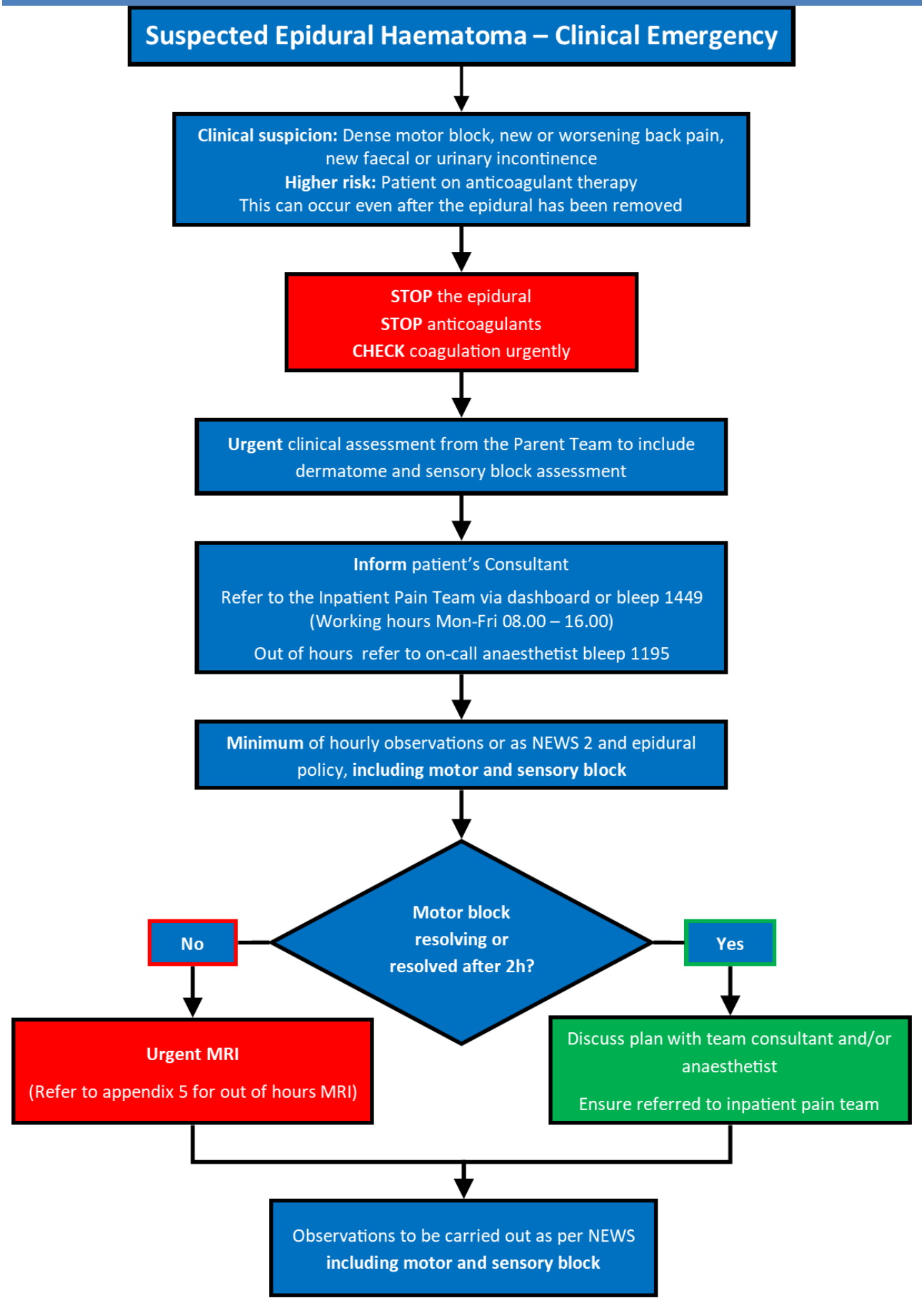
Preparation for infusion

- Add 2mg of naloxone to 500ml of normal Saline or Dextrose 5% (this gives a final concentration of 4micrograms/ml).
- Usual infusion rate is 25-100ml/hr (100-400micrograms/hr).
- Rate of infusion should be adjusted according to the response, and can be increased up to 200ml/hr (800micrograms/hr).

APPENDIX 4


Suspected Epidural Abscess - Clinical Emergency
Clinical suspicion: Epidural site pain/swelling/discharge/ redness/unexplained pyrexia
This can occur even after the epidural has been removed
STOP the epidural
Urgent clinical assessment from the Parent Team
Perform urgent blood cultures, FBC and clotting
Remove epidural catheter when safe to do so and send tip for MC&S
Discuss with haematology if epidural catheter to be removed if patient is at risk of coagulopathy
Dense motor block + evidence of infection?
No
Yes
Continue observations as per NEWS policy including motor and sensory block
Document appropriately
Refer to the Inpatient Pain Team via dashboard or bleep 1449
(Working hours Mon-Fri 08.00 – 16.00)
Out of hours discuss with on-call anaesthetist bleep 1195
Urgent discussion with Microbiology and patient's Consultant
Commence appropriate antibiotics
Escalate to 2nd on call anaesthetist urgently (bleep 1195)
Consideration into urgent MRI is required
(Refer to appendix 5 for out of hours MRI)
Observations to be carried out as per NEWS
Consider Sepsis IPOC if indicated

APPENDIX 5


Suspected Epidural Haematoma – Clinical Emergency
Clinical suspicion: Dense motor block, new or worsening back pain, new faecal or urinary incontinence
Higher risk: Patient on anticoagulant therapy
This can occur even after the epidural has been removed
STOP the epidural
STOP anticoagulants
CHECK coagulation urgently
Urgent clinical assessment from the Parent Team to include dermatome and sensory block assessment
Inform patient's Consultant
Refer to the Inpatient Pain Team via dashboard or bleep 1449
(Working hours Mon-Fri 08.00 – 16.00)
Out of hours refer to on-call anaesthetist bleep 1195
Minimum of hourly observations or as NEWS 2 and epidural policy, including motor and sensory block
Motor block resolving or resolved after 2h?
No
Yes
Urgent MRI
(Refer to appendix 5 for out of hours MRI)
Discuss plan with team consultant and/or anaesthetist
Ensure referred to inpatient pain team
Observations to be carried out as per NEWS including motor and sensory block

APPENDIX 6


Protocol for urgent MRI
If epidural haematoma or abcess suspected, ensure appropriate algorithm has been followed
Daytime in hours or out of hours urgent MRI request?
Urgent in hours scan
Urgent out of hours scan
Contact consultant radiologist at DRI
Trust MRI facility available 08:00—20:00
Requests for in hours MRI can be taken 07:30—20:00
Explain urgency of the situation Request urgent/category A MRI (Document "Category A" on the request form)
Contact on call MRI radiologist via Sheffield Teaching Hospitals (STH) switchboard to discuss
If epidural haematoma/abscess is confirmed on MRI then immediately contact orthopaedic spine surgeons at the Northern General Hospital in Sheffield through switchboard and act as per the instructions from the spinal surgeons
If accepted then patient will need preparing for urgent transfer to STH
Clearly document any discussions and decisions
Arrange urgent transfer to STH if appropriate
Continue to monitor patient as per epidural policy document

APPENDIX 7

Disposal of controlled drugs
This policy must be read in conjunction with the Trust policy for the Safe and Secure Handling of Medicines – Controlled Drugs - PAT/MM 1 B.

Record the surplus opioid in the CD register with a witness and sign the CD register.
Any surplus opioid remaining after the PCA has been discontinued shall be measured and disposed of by adding directly to an approved **Controlled drug Disposal Kit.** To be returned to pharmacy for disposal with the pharmaceutical waste.

A separate entry shall be made in the ward Controlled Drug Record book under the heading e.g. "Morphine Sulphate 100mg/50ml as PCA syringes waste" or the name of the opioid wasted. The entry shall record:

- Date and time of disposal
- Patients name
- The volume remaining in the syringe which is waste
- The signature of the nurse disposing of the solution
- The signature of the nurse witnessing the disposal

Return the pump complete with patient demand button to recovery. If it cannot be returned immediately, ensure it is plugged in.

All pumps must be handled with care. Any damage incurred will be charged to the ward responsible.

Pain assessment/documentation should be continued regularly (4-hourly) for the next 24 hours then "routine monitoring" can be resumed as per Trust policy (PAT/T 33).

APPENDIX 8 - EQUALITY IMPACT ASSESSMENT PART 1 INITIAL SCREENING

Service/Function/Policy/ Project/Strategy	Care Group/Executive Directorate and Department	Assessor (s)	New or Existing Service or Policy?	Date of Assessment
Acute Pain – Administration of Epidural Analgesia (Adult Inpatients)	Anaesthetics	Ailsa Woodhouse	Existing	January 2023

1) Who is responsible for this policy? Ailsa Woodhouse (Lead Nurse) & Dr Raj McNab (Consultant Anaesthetist)

2) Describe the purpose of the service / function / policy / project/ strategy? It is intended to benefit nursing/medical staff to provide safe and effective epidural analgesia within general ward areas excluding maternity. This is to ensure continuity of effective analgesia

3) Are there any associated objectives? National Patient Safety Agency, Essence of Care, NICE Guidance

4) What factors contribute or detract from achieving intended outcomes? – Staff knowledge and skills in the ability to prescribe, assess and use of the pump.

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

6) Is there any scope for new measures which would promote equality? [any actions to be taken] 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 in Appendix 4

Date for next review: November 2024

Checked by: Raj McNab **Date: January 2023**