

Epidural Management

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Purpose

This policy is to ensure the management of epidurals for adults & children is performed in a standardised manner using best practice evidence by approved personnel.

Applicability

CDHB wards and departments with patients requiring epidural infusions.

First Level IV registered nursing and midwifery staff who have also completed the epidural education programme

Medical Practitioners

Education and training

The nurse/midwife must have completed the epidural education programme run by the APMS (Acute Pain Management Service), or a similar education programme via the Obstetric Department.

Policy

General

The epidural infusion must be prescribed by an anaesthetist on the applicable form either:

- Adult Epidural Infusion Analgesia Treatment Form ref: 2401852
- or
- Paediatric Epidural Analgesia Infusion Form ref: 2402679

With notification of the separate prescription on the patient's medication chart.

- Naloxone must be charted and available
- A specific epidural electronic pump device must be used for infusions with a dedicated yellow colour coded infusion set. In paediatrics only a CADD Infusion pump is to be used.

Epidural Indications

For more major abdominal/thoracic surgery.

Some pelvic/lower limb orthopaedic procedures.

Surgical in-patients with severe respiratory disease.

Contra-indications

- Hypovolemia
- Infection
- Coagulopathy
- Raised intracranial pressure
- Patient refusal
- Where PCA may be inappropriate

Procedural Considerations

Where possible a standardised premixed bag should be prescribed.

The infusion must be prepared and checked by two IV certified Registered Nurses/Midwives, one whom must have completed their epidural competency.

Epidural boluses may only be administered by an anaesthetist, or APMS staff, unless authorised by the APMS/Anaesthetist

A thorough handover must occur to any staff that subsequently looks after the patient to ensure the prescription requirements are clear.

On warding the nurse/midwife must checking that:

- The tubing and the securement dressing must be labelled proximally with a yellow epidural sticker.
- A 0.2 micron yellow coloured filter must be attached between the catheter and tubing.
- The catheter is taped to avoid displacement between the insertion site and the securement dressing on the front of the patient

- Bioclusive must not be removed unless first discussed and agreed upon with APMS/Anaesthetist.
- The system (line) integrity must be maintained. The only situation where it may be appropriate to break the system is when the anaesthetist administers a non-premix bolus directly into the epidural line.
- If the infusion is to continue for over 72hrs call the APMS to change the tubing. **Only** the APMS is authorised to change epidural tubing. In the event tubing is required to be changed after hours contact PACU for assistance.

Monitoring and Observations

Frequency of monitoring and observations to be performed are stated on the forms:

Adult Epidural Infusion Analgesia Treatment Form (ref 2401852)

or

Paediatric Epidural Analgesia Infusion Form (ref 2402679)

Patients with an epidural infusion need to be allocated a bed that facilitates easy observation.

Epidural infusions are formally assessed at least once daily by the APMS.

Assess pressure injury risk using the applicable tool (Braden scale, Adults, Glamorgan Scale: Children).

Manage increased pressure injury risk and pressure injuries by documenting management strategies in the care plan.

Inspect the insertion site at least every 8 hrs.

Leakage around the site or signs of inflammation/infection must be documented and the APMS/Anaesthetist notified.

Contact the APMS/Anaesthetist or after hours duty anaesthetist with any concerns of the integrity of the dressing or epidural system.

Epidural observations are to be recorded on the appropriate CDHB Observation chart.

Pain score/assessment is to be recorded hourly for the first four hours then as indicated.

Document total dose infused and injection attempts 2 hourly on the Epidural Infusion Analgesia form if Patient Controlled Epidural Analgesia (PCEA) is being used.

Paediatric Considerations

For children record the first date and time that the patient tolerated enteral feeding post operatively.

A sleeping child is not to be woken if they rouse easily with light tactile stimulation.

Block Complications (Only applicable to adults)

If a dermatone level rises above the parameters prescribed by the anaesthetist then the infusion should be stopped and the APMS or Duty Anaesthetist called immediately.

Discontinuation/removal Considerations

In addition to the information below refer to the [Epidural Education package](#).

Epidural infusions are to be discontinued/stopped only upon the instruction of an anaesthetist or the APMS.

Consideration is required pre-removal where anti-coagulants are used (recommended time for removal if patient is receiving low molecular weight heparin (LMWH) 12 hours pre removal or 4 hours post removal).

For children having anticoagulant therapy and epidural analgesia the epidural catheter must not be removed without approval from the APMS Anaesthesia.

Ensure alternative analgesia is charted prior to stopping the infusion.

To ensure alternative pain relief is effective, pain scoring should continue.

Leave tubing/dressing insitu once the infusion has been stopped.

Remove the epidural catheter 4hrs post cessation of the infusion **only if** alternative pain relief has been effective.

IV Access must be maintained for the duration and for 4 hours after the discontinuation of epidural infusions.

After discontinuing an epidural infusion, continue observations for a minimum of 4 hours.

Notify the APMS/Anaesthetist and obtain a microbiology swab of the site if there is signs of inflammation/infection and using sterile scissors to remove the catheter tip, send both for bacteriology culture.

The tip of Epidural catheter should be examined on removal to check for intactness. Tip is coloured blue and blunted. If catheter not intact, notify APMS or duty anaesthetist.

Document removal of the catheter and any variances (see above point) in the patient's clinical record.

Changing the Epidural Infusion Bag

Refer to relevant operators manual CADD Solis

Potential Complications with Epidural Administration

Refer to the [Epidural Education package](#).

PCEA (Patient Controlled Epidural Administration)

Definition: PCEA enables the patient to self-administer a "top-up" bolus of a predetermined amount of epidural infusion solution whilst their epidural infusion continues at the prescribed rate.

Criteria

The order for PCEA must be prescribed by APMS staff/duty Anaesthetist on the Adult Epidural Analgesia Infusion Treatment Sheet (ref: 2401852) or the Paediatric Epidural Infusion (ref: 2402679)

The Nurse/Midwife can alter the background Epidural Infusion rate as prescribed, but must not alter the settings for PCEA.

This Registered Nurse/Midwife is responsible for:

Performing the following observations every two hours unless directed otherwise by APMS staff/Duty Anaesthetist

- pain score
- number of injection attempts
- dermatome level
- sedation score
- respiration rate
- blood pressure
- pulse
- Motor BLOCK scale
- Skin assessment.

Note daily pressure injury risk assessment (Using the Braden scale for adults or Glamorgan Scale for paediatrics) should be conducted acknowledging that Epidural equipment present a pressure injury risk to patients and should be regularly assessment /managed as required.

Documenting the above observations on the Adult Epidural Analgesia Infusion treatment Sheet ref: 2401852 or Paediatric Epidural Analgesia infusion treatment Sheet (QMR0166) and ensuring any variances are reported immediately to a Medical Officer.

Zeroing the injection attempts on the pump every eight hours.

Policy Measurement

Daily rounds are conducted by the Acute Pain Management Service where policy requirement are continually reviewed and if required immediately addressed. Additionally incidents reported via Safety 1st will be collectively reviewed every six months relating to epidural management to identify educational opportunities to ensure compliance with this policy.

Supporting material

Adult Epidural Infusion Analgesia Treatment Form ref: 2401852

Paediatric Epidural Analgesic Infusion Form ref: 2402679

[Epidural Education package](#)

[CADD Solis Operators Manual](#)

Acute Pain Management Service Scientific Evidence (Fourth ed.) National Health and Medical Research Council (2015) Australian Government

McIntyre, P.E, Shug, S.A., Acute Pain Management. A practical guide (4th ed.) 2015, Saunders