# Brighton and Sussex MHS University Hospitals

## **NHS Trust**

# GUIDELINES FOR CARE OF TUNNELLED EPIDURALS AND DRUG ADMINISTRATION IN THE COMMUNITY

The aim of the Epidural is to provide the patient with improved pain relief and symptom control.

# STANDARD OF PRACTICE: To provide the patien relief with minimal size

To provide the patient with sufficient pain relief with minimal side effects.

## INTRODUCTION

The infusion of local anaesthetic and Opioids into the epidural space has been shown to provide effective analgesia in patients undergoing a wide variety of procedures. Unlike other forms of analgesia, the technique has the potential to offer the child sufficient pain relief with few complications and is particularly indicated when pain is expected to be severe or where techniques such as oral or subcutaneous Analgesia are not suitable.

The epidural space lies between the Dura mater that covers the spinal cord and the inner aspect of the vertebral canal. Local anaesthetic and/or adjuvant drugs are injected into this space, diffuse into the nerves and spinal cord and block the pain impulses that are travelling from the periphery to the brain. A catheter can be inserted into this space through which drugs can be administered either by bolus or by a continuous infusion.

Epidural analgesia is **<u>segmental</u>** i.e. The drug agents used affect certain dermatomes. The level of insertion of the epidural catheter, the dose and volume of the agent injected determines the extent of the block.

If a local anaesthetic is used, the nerve block that is produced is relatively non-specific. As a consequence nerve fibres other than those which transmit the sensation of pain may be blocked.

If **motor** fibres are blocked then the patient may complain of weakness or paralysis of the limbs. Blockade of the **sensory** fibres may impair temperature sensation, skin sensation or position sense. Lastly blockade of the **autonomic** fibres may lead to hypotension and disturbances of bladder and bowel function.

The use of epidural Opioids/adjuvant drugs as opposed to local anaesthetic solutions can eliminate some of the problems of unwanted nerve blockade but can also produce other undesirable side effects, such as respiratory depression, hypotension or sedation.

In an attempt to minimize the incidence of unwanted side effects whilst retaining the benefits of both drugs, they are often used in combination at lower concentrations for their synergistic effect.

To ensure the safe administration of medication via the Epidural route in children the following guidelines will be followed by any Childrens Community Nurse carrying out the procedure:

- 1) Before administration the child's drug prescription chart must clearly state the medication and dosage to be administered by the epidural route. It must be signed and dated by the Consultant Paediatric Anaesthetist in charge of the child.
- 2) The Childrens Community Nurses who will administer the epidural medication regime will undertake the theoretical and practical training in epidural management provided by Brighton and Sussex University Hospitals NHS Trust and Dr Child, Consultant Paediatric Anaesthetist, to ensure competency is achieved and assessed before carrying out the procedure.
- 3) The epidural medication will be administered via a Graseby 9300 PCA or 9500 Epidural Ambulatory infusion pump over 24 hrs. The Childrens Community Nurse will assess the child's pain before each administration using a pain assessment tool appropriate to the individual child and his family. If pain is not controlled, liaise with the Consultant Anaesthetist for further advice.

#### IF ANY ALTERATION OR 'bolus' IS REQUIRED TO THE EPIDURAL MEDICATION, THIS MUST BE FURTHER PRESCRIBED BY THE CONSULTANT ANAESTHETIST AND IMPLEMENTATION OF THE CHANGE IN PRESCRIPTION MUST BE SUPERVISED BY THE PRESCRIBER.

The G.P/child's Consultant will be the first contact for all other concerns regarding GENERAL medical care.

- 4) Two trained nurses need to be present to check the child's prescription at each reload of the infusion reservoir cassette, one of whom must have been assessed as competent in the management of Epidurals.
- 5) The Childrens Community Nurse and the Consultant Anaesthetist caring for the child will write a plan of care which will clearly state all the instructions needed to enable other Childrens Community Nurses to carry out and record care.
- 6) The family will be instructed on the use of the syringe driver and the importance of not touching the purge button. This needs to be clearly labelled.

# WHAT TO OBSERVE FOR

THE DRESSING AT THE ENTRY AND EXIT SITE OF THE EPIDURAL CATHETER IS BEST LEFT INTACT AS MUCH AS POSSIBLE BUT THE SITE SHOULD BE VISUALLY INSPECTED AT LEAST ONCE A DAY BY A CHILDRENS COMMUNITY NURSE.

The site should be inspected for any:-

REDNESS -	Take patient's temperature
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- Look at the site carefully
- Is there any inflammation or oozing?
  - If worried, take a swab and discuss with the Consultant Anaesthetist or the child's Consultant.

LEAKING/BLEEDING -	Is not acceptable for longer than 24 hours and possible causes need to be identified e.g. bleeding may be due to low platelet count. The patient's pain may also be less well controlled. Report to the Consultant Anaesthetist for review of patient.
BLUE MARKERS -	The exit site should <b>NOT</b> show any blue markings from The epidural catheter. <b>This may vary from child to child and the Consultant</b>

Anaesthetist will advise on an individual patient basis.

If BLUE markings are observed, this shows the catheter has **migrated** and may no longer be in the epidural space. Contact the Consultant Anaesthetist to discuss this before removing the epidural catheter.

#### IF THE PATIENT IS IN PAIN

Check the syringe driver is working.

Check filter point is not occluded, cracked or occluding the epidural catheter.

Check the giving set line is not kinked or disconnected.

Check the epidural catheter is not leaking/bleeding and has not fallen out.

Liaise with the Consultant Anaesthetist.

Give PRN medication if required.

#### IF THE EPIDURAL CATHETER FALLS OUT

Cover the epidural site with a sterile waterproof dressing.

Inform the Consultant Anaesthetist.

(This is not an emergency. If this happens during the night, wait until the morning to inform the Consultant Anaesthetist).

Assess the patient's pain and general condition.

Give the prescribed stat medication regime as written on the child's drug prescription chart.

#### DRESSING PROCEDURE

The exit site DRESSING needs only to be changed if loose or lifting from the site. The entry dressing can be removed after 72hrs-post insertion and a new dressing applied if the site has not healed.

An Aseptic technique is to be used.

Two nurses should perform the dressings to reduce the risk of catheter migration whilst it is being redressed.

The epidural area should be cleaned with Chlora-hexidine (0.5% W/V in 70% IMS) or normal saline.

Any excess should be wiped off with sterile gauze to ensure site is dry before a new dressing is applied.

A transparent dressing that allows the site to be **CLEARLY** inspected should be secured over the epidural catheter and sealed around the edges with Mefix.

Tegaderm 10x12cm dressings or Opsite 3000 to cover wound sites. Only one for each site is required.

Secure with Mefix 10x10cm size (or nearest equivalent to this) ensuring a window is left to observe site of entry and exit.

The catheter should be firmly fixed to the patient's back or abdominal wall depending on the position of the exit site.

The bacterial filter needs to be secured against the patient in the most comfortable position for them to reduce the risk of disconnection from the epidural catheter. Ensure gauze is placed between the filter point and patients skin to prevent undue pressure sores/abrasions.

#### CHANGE OF INFUSION LINE AND BACTERIAL FILTER

The INFUSION LINE will need to be changed every 72 hours. (Manufacturers guidelines)

The BACTERIAL FILTER will need to be changed every 7-8 days. (Manufacturers guidelines)

For both procedures an aseptic technique is required and the line will need to be primed with the <u>prescribed medication</u> before being connected to the epidural catheter to ensure the patients medication regime is not interrupted. The manufacturer's guidelines will be followed and additional training carried out by SimsGraseby.

The infusion lines and filters can be ordered from Supplies.

# POTENTIAL SITES OF DISCONNECTION FOR TUNNELED EPIDURALS

1) Disconnection at cartridge and giving set connection point.

2) Disconnection at cartridge and bacterial filter connection point.

3) Disconnection at filter point and epidural catheter connection point.

#### Recommendations:

For disconnection at cartridge and giving set, prime a new line and cartridge and re-start the infusion.

For disconnection at cartridge and filter, prime a new line and filter and reconnect to the cartridge after wiping the connection point with an alcohol swab.

#### ADDITIONAL NOTES

Specialist training will only be organised through Dr. Child and Brighton and Sussex University Hospitals NHS Trust and will follow BSUH policy No.C0017.

The ongoing review of training needs will be carried out by Dr. Child, the Childrens Community Nursing Team and the Senior Sister for Practice Development.