### INDICATIONS FOR EPIDURAL USE

**HEALTH CANADA APPROVED¹**
- Postoperative management of pain following general surgical procedures and Caesarean sections.

### CONTRAINDICATIONS

- **Hypersensitivity to fentanyl.¹** Cross hypersensitivity may occur with meperidine, sufentanil, alfentanil, and anileridine.

### CAUTIONS

- Elderly: may be at increased risk of respiratory depression after the first dose.²
- Very young³, debilitated or other poor risk patients (e.g. Addison’s disease), respiratory disease and patients with decreased respiratory reserve (e.g. obesity, kyphoscoliosis): increased risk of delayed respiratory depression.⁴
- Thoracic epidural administration: the risk of both early and delayed respiratory depression is increased.⁴
- Severe renal or hepatic impairment or patients with reduced metabolic rates: dose reduction may be required, due to decreased elimination.⁴
- Increased intracranial pressure, or head injury: respiratory depression or obscuring of clinical course may occur.⁴

### DRUG INTERACTIONS:

- CNS depressants – additive effects increase the risk of respiratory depression.²

### PREGNANCY/BREAST FEEDING:

Contact pharmacy for most recent information.

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### ADMINISTRATION

<table>
<thead>
<tr>
<th>MODE</th>
<th>DIRECT WITHOUT CATHETER</th>
<th>DIRECT VIA CATHETER</th>
<th>CONTINUOUS EPIDURAL INFUSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO MAY GIVE</td>
<td>Anaesthetist only</td>
<td>Registered nurses with specialised skills – training in epidural administration</td>
<td>Registered nurses with specialised skills – training in epidural administration</td>
</tr>
<tr>
<td>ADULT</td>
<td>Slowly and undiluted.</td>
<td></td>
<td>Prepared in NS: with or without bupivacaine. Mixing guidelines are available.</td>
</tr>
<tr>
<td>PAEDIATRIC</td>
<td>Slowly and undiluted.</td>
<td></td>
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</tr>
<tr>
<td>NEONATE</td>
<td>Limited information</td>
<td>Limited information</td>
<td></td>
</tr>
</tbody>
</table>

### REQUIREMENTS

- 0.22 micron epidural specific in-line filter.
- Infusion device for continuous infusion.
- Apnoea monitors if less than 6 months old or paediatric with lung disease.
- IV line must be established prior to epidural therapy and be maintained for 5 hours following last epidural dose or end of infusion.

### MONITORING

#### REQUIRED

**ADULTS – Non-Obstetrics**

**Direct via Catheter:**
- Baseline RR and sedation scale, then q 1 h x 5 hours.

**Continuous Infusion: monitor during infusion and for 5 hours after the epidural infusion is stopped**
- Baseline RR, then q 1 h x 24 hours, then q 4 hours.
- Baseline sedation scale, then q 1 h x 5 hours, then q 4 hours.

**ADULTS – Obstetrics**

- Monitoring as per prepared maternity epidural analgesia orders.

**PAEDIATRICS**

- Monitoring as per prepared paediatric epidural analgesia order.

### RECOMMENDED


### RECONSTITUTION

- None required. Available as fentanyl citrate 50 mcg/mL – 2, 5 and 20 mL ampoules.
## Compatibility/Stability
- Dilute only with NS WITHOUT PRESERVATIVE.
- Compatible and stable in NS, with or without bupivacaine for at least 72 hours at room temperature and in the refrigerator. Pharmacy recommends all aseptically admixed products be stored in the refrigerator.¹
- Compatible in a syringe with morphine or hydromorphone for at least 15 minutes at room temperature.³
- For additional drug-drug compatibility contact Drug Information.

## Adverse Effects

### Respiratory
- Respiratory depression: decreasing quality/depth of respirations may be the initial indication of respiratory depression. Will not occur without sedation, as higher doses are required to produce respiratory depression than to produce sedation. Treatment: naloxone IV and respiratory support.

### CNS
- Sedation; most patients experience sedation at the beginning of therapy and whenever the dose is increased significantly.

### Dermatological
- Pruritus (common); usually localised to the face, neck or upper thorax. More common in obstetric patients. Very rarely accompanied by a rash. Responds to a decrease in dose. If treatment is required: diphenhydramine or naloxone IV.
- True allergy (very rare). It is important to determine the exact nature of the reaction in patients reporting an allergy, as many believe they are allergic after experiencing an exaggerated pharmacological response such as nausea, drowsiness or constipation.²

### Miscellaneous
- Nausea, vomiting. Most common with the initial dose. Dose related. Slow and steady dose titration helps reduce nausea.
- Urinary retention: may require catherization.

## Dose
- The following doses should only be considered as guidelines. Safe and effective doses for individual patients will vary considerably, depending on age, medical condition, site of catheter placement, type of pain, and other factors.
- Using a combination of bupivacaine and fentanyl will decrease the required dose of fentanyl.
- Onset of action 5-15 minutes, peak 10-20 minutes, duration 1-3 hours; based on a single bolus administration.²
- Duration of analgesia is dose dependent; the higher the dose the longer the duration. When steady state is reached by continuous infusion, hydromorphone, morphine and fentanyl differ little in terms of duration of analgesia.²

### Adult
- **Bolus dose:** 25 – 150 mcg.² Frequency determined by patient’s clinical condition and response.
- **Continuous infusion:** 0-40 mcg/hour.² Dependent upon previous narcotic use.

### Elderly
- Some recommend lowering the starting dose and increasing the interval between doses. Consider age-related renal impairment.

### Paediatric
- **Bolus dose:** 1 – 2 mcg/kg.⁷ Frequency determined by patient’s clinical condition and response.
- **Continuous infusion:** initial rate 0.2 – 1.2 mcg/kg/hr, with or without bupivacaine.³ The upper dosage limits of epidural fentanyl alone are determined by clinical effects. When used in combination with bupivacaine, upper dosage limits are those of the local anaesthetic.³

### Neonate
- Limited information available at this time.

## Renal Impairment Adjustments
- Dosage reduction may be required; no guidelines currently available.¹

## Hepatic Impairment Adjustments
- Dosage reduction may be required; no guidelines currently available.¹

## Hemo/Peritoneal Dialysis
- No information available at this time.

## Miscellaneous
- When switching opioid-naïve patients from epidural to IV fentanyl a conversion ratio of 1:3 has been used.²
FENTANYL EPIDURAL - REFERENCES


