Guidelines for Use of Fentanyl (SUBLIMAZE®)

Recommended Neonatal Dose, Route, and Interval

- **Sedation and analgesia:**
  - Intermittent bolus: 1-4 mcg/kg/dose IV push over 3-5 minutes, repeat every 2-4 hours prn
  - Continuous infusion: load 1-2 mcg/kg IV push over 3-5 minutes, then infusion 1 to 5 mcg/kg/hour, titrate upward as needed

Chief Indications

1. Analgesia
2. Sedation

Possible Adverse Reactions

1. Respiratory depression (may persist beyond period of analgesia)
2. Hypotension (less than morphine), bradycardia
3. CNS depression
4. Tolerance/dependence
5. Urinary retention
6. Chest wall rigidity with rapid IV administration (must administer over 3-5 minutes slow IV push) (Reverse with naloxone)
7. Seizures, especially with rapid weaning
8. Iatrogenic withdrawal

CONTRAINDICATIONS/PRECAUTIONS:

1. Hypersensitivity to fentanyl
2. Increased intracranial pressure, severe respiratory depression or severe liver or renal dysfunction
3. Abrupt discontinuation after prolonged use may precipitate withdrawal or seizures
4. Infuse slowly over at least 3-5 minutes (longer period of time for bigger doses) to prevent chest wall rigidity.

Nursing Implications

1. Naloxone should be readily available to reverse the adverse effects.
2. Monitor respiratory and cardiovascular status continuously
3. Observe for abdominal distention, loss of bowel sounds, or urinary retention.
4. Keep ventilatory support (O2, bag, mask) available at bedside
5. **Two RN signatures are required to verify that the physician order is calculated within guidelines.**
Special Considerations and Calculations

1. Vials are stored in Pyxis at room temperature and the dose will need to be diluted prior to administration per NICU standard dilution guidelines.
2. Dilution for a bolus: Dilute 1ml (50 mcg) with 9mL of D5W or NS to make a final concentration of 5mcg/mL.
3. Continuous infusion standard concentrations are: 5mcg/mL or 10mcg/mL in D5W or D10W. All continuous infusions will be made by pharmacy per policy.
4. Solution compatibility: D5W, NS, D10W
5. Discontinue by titrating slowly (10% q 6-12h)
6. Onset: 1-2 minutes; peak action: 5-10 minutes; plasma half life: 6-32 hours; usual analgesic duration: 30-60 minutes
7. Incompatibility: Pentobarbital, phenytoin, fosphenytoin
8. Compatible with: TPN, caffeine citrate, DOPamine, DOBUTamine, EPInephrine, furosemide, hydrocortisone, midazolam. See Neofax or contact pharmacy for further compatibility information

References:
1. Neofax 2009

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