nalbuphine (nal-byeoo-feen)

Subsitute

Classification
Therapeutic: opioid analgesics
Pharmacologic: opioid agonists/analgesics

Pregnancy Category C

Indications
Moderate to severe pain. Also provides: Analgesia during labor, Sedation before surgery, Supplement to balanced anesthesia. Prevention or treatment of opioid-induced pruritus.

Action
Binds to opiate receptors in the CNS. Alters the perception of and response to painful stimuli while producing generalized CNS depression. In addition, has partial antagonist properties, which may result in opioid withdrawal in physically dependent patients. Therapeutic Effects: Decreased pain.

Pharmacokinetics
Absorption: Well absorbed after IM and subcut administration.
Distribution: Probably crosses the placenta and enters breast milk.
Protein Binding: 50%.
Metabolism and Excretion: Mostly metabolized by the liver and eliminated in the feces via biliary excretion. Minimal amounts excreted unchanged by the kidneys.
Half-life: Children 1–8 yrs: 0.9 hr; Adults: 3.5–5 hr.

TIME/ACTION PROFILE (analgesia)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM</td>
<td>15 min</td>
<td>60 min</td>
<td>3–6 hr</td>
</tr>
<tr>
<td>Subcut</td>
<td>15 min</td>
<td>unknown</td>
<td>3–6 hr</td>
</tr>
<tr>
<td>IV</td>
<td>2–3 min</td>
<td>30 min</td>
<td>3–6 hr</td>
</tr>
</tbody>
</table>

Contraindications/Precautions
Contraindicated in: Hypersensitivity to nalbuphine or bisulfites; Patients physically dependent on opioids and who have not been detoxified (may precipitate withdrawal).

Adverse Reactions/Side Effects

Interactions
Drug-Drug: Use with extreme caution in patients receiving MAO inhibitors (may result in unpredictable, severe reaction—initial dose of nalbuphine to 25% of usual dose). Additive CNS depression with alcohol, antihistamines, and sedative/hypnotics. May precipitate withdrawal in patients who are physically dependent on opioid agonists. Avoid concurrent use with other opioid analgesic agonists (may diminish analgesic effect).

Route/Dosage
Analgesia
IM, Subcut, IV (Adults): Usual dose is 10 mg q 3–6 hr (maximum: 20 mg/dose or 160 mg/day).

Supplement to Balanced Anesthesia
IV (Adults): Initial—0.3–3 mg/kg over 10–15 min. Maintenance—0.25–0.5 mg/kg as needed.

Opioid-induced pruritus
IV (Adults): 2.5–5 mg; may repeat dose.

Use Cautionfully in: Head trauma; intracranial pressure; Severe renal, hepatic, or pulmonary disease; Hypothyroidism; Adrenal insufficiency; Skeltonism; Unk—aggressed additional pain. Prevents hypotension. Patients who have recently received opioid agonists. Discontinued.

Discontinued.
NURSING IMPLICATIONS

Assessment

- Assess type, location, and intensity of pain before and 1 hr after IM or 30 min after IV administration. When titrating opioid doses, increases of 25–50% should be administered until there is either a 50% reduction in the patient's pain rating on a numeric or visual analog scale or the patient reports satisfactory pain relief. A repeat dose can be safely administered at the time of the peak if previous dose is ineffective and side effects are minimal. Patients requiring doses higher than 20 mg should be converted to an opioid agent.

- An equianalgesic chart (see Appendix B) should be used when changing routes or when changing from one opioid to another.

- Assess BP, pulse, and respirations before and periodically during administration. If respiratory rate is ≤10/min, assess level of sedation. Physical stimulation may be sufficient to prevent significant hypoventilation. Dose may need to be decreased by 25–50%. Nalbuphine produces respiratory depression, but this does not markedly increase with increased doses.

- Assess for signs of respiratory depression (e.g., slurred speech, confusion, agitation, decreased respiratory rate). Use of nalbuphine can result in loss of consciousness and respiratory depression. Nalbuphine can be used as an alternative to alfentanil or fentanyl for anesthesia induction or maintenance in patients requiring general anesthesia. Nalbuphine should not be used as a sole anesthetic agent.

- Lab Test Considerations: May cause increases in serum amylase and lipase concentrations.

- Toxicity and Overdose: If an opioid antagonist is required to reverse respiratory depression or coma, naloxone (Narcan) is the antidote. If nalbuphine is used for anesthesia induction or maintenance, naloxone may be administered as an additional dose to reverse respiratory depression. Nalbuphine is a partial opioid agonist and may produce respiratory depression, sedation, and pruritus. Nalbuphine is not recommended for prolonged use or as a first-line therapy for acute or cancer pain.

Implementation

- **High Alert**: Accidental overdose of opioid analgesics has resulted in fatalities. Before administering, clarify all orders and reconcile with the patient's history. Be aware of the potential for opioid toxicity, especially in patients with a history of substance abuse. Follow all safety precautions to prevent accidental exposure. Use aseptic technique when handling opioid solutions.

- **Phenomena of Dosage**: Nalbuphine is a partial opioid agonist and may produce respiratory depression, sedation, and pruritus.

- **Pharmacokinetics**: Nalbuphine is rapidly absorbed after intravenous administration and has a short half-life. It is metabolized in the liver and excreted in the urine.

- **Potential Nursing Diagnoses**: Acute pain (Indications), Risk for injury (Side Effects), Disturbed sensory perception (visual, auditory) (Side Effects)

- Acute pain (Indications)

- Risk for injury (Side Effects)

- Disturbed sensory perception (visual, auditory) (Side Effects)

Patient/Family Teaching

- Inform patient and family that nalbuphine is a partial opioid agonist and may produce respiratory depression, sedation, and pruritus. Nalbuphine is not recommended for prolonged use or as a first-line therapy for acute or cancer pain.

- Instruct patient on how and when to ask for pain medication.

- May cause drowsiness or dizziness. Advise patient to call for assistance when ambulating and to avoid driving or other activities requiring alertness until response to the medication is known.

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CONTINUED
Continued

Nalbuphine

- Caution patient to change positions slowly to minimize orthostatic hypotension.
- Advise patient that frequent mouth rinses, good oral hygiene, and sugarless gum or candy may decrease dry mouth.
- Encourage patient to turn, cough, and breathe deeply every 2 hr to prevent atelectasis.
- Advise patient to avoid concurrent use of alcohol or other CNS depressants with this medication.

Evaluation/Desired Outcomes

- Decrease in severity of pain without significant alteration in level of consciousness or respiratory status.

Why was this drug prescribed for your patient?