Codeine (koe-deen)

**Classifications**
- Therapeutic: allergy, cold, and cough remedies, antitussives, opioid analgesics
- Pharmacologic: opioid agonists

**Schedule II, III, IV, V (depends on content)**

**Pregnancy Category C**

**Indications**
- Management of mild to moderate pain.
- Antitussive (in smaller doses).

**Action**
- Binds to opiate receptors in the CNS. Alters the perception of and response to painful stimuli while producing generalized CNS depression. Decreases cough reflex. Decreases GI motility.

**Therapeutic Effects:**
- Decreased severity of pain.
- Suppression of the cough reflex.
- Relief of diarrhea.

**Pharmacokinetics**
- **Absorption:** 50% absorbed from the GI tract.
- **Distribution:** Widely distributed. Crosses the placenta; enters breast milk.
- **Protein Binding:** 7%.
- **Metabolism and Excretion:** Mostly metabolized by the liver (primarily via CYP2D6); 10% converted to morphine; the CYP2D6 enzyme system exhibits genetic polymorphism (some patients [1–10% Whites, 3% African Americans, 16–28% North Africans/Ethiopians/Arabs] may be ultra-rapid metabolizers and may have q morphine concentrations and an q risk of adverse effects); 5–15% excreted unchanged in urine.
- **Half-life:** 2.5–4 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>PO</td>
<td>30–60 min</td>
<td>60–120 min</td>
<td>4 hr</td>
</tr>
</tbody>
</table>

**Adverse Reactions/Side Effects**
- **CNS:** confusion, sedation, dysphoria, euphoria, floating feeling, hallucinations, headache, unusual dreams.
- **EENT:** blurred vision, diplopia, miosis.
- **Resp:** respiratory depression.
- **CV:** hypotension, bradycardia.
- **GI:** constipation, nausea, vomiting.
- **GU:** urinary retention.
- **Derm:** flushing, sweating.
- **Misc:** physical dependence, psychological dependence, tolerance.

**Contraindications/Precautions**
- Contraindicated in: Hypersensitivity.
- Use Cautiously in: Head trauma; intracranial pressure; Severe renal, hepatic, or pulmonary disease; Hyperpyrexia; Adrenal insufficiency; Prostatic hypertrophy; Geriatric or debilitated patients (slow f.; required, more susceptible to CNS depression, constipation); Undergoed opioid withdrawal. OB: Has been used during labor; respiratory depression may occur in the newborn. OB, Lactation: Avoid chronic use; Pedi: Children undergoing tonsillectomy or adenoidectomy (risk of respiratory depression and death).

**Drug Interactions**
- **Drug-Drug:** Use with extreme caution in patients receiving MAO inhibitors (initial dose to 25% of usual dose). Additive CNS depression with alcohol, antidepressants, antihistamines, and sedative/hypnotics. Administration of partial antagonists (buprenorphine, butorphanol, nalbuphine, or pentazocine) may precipitate opioid withdrawal in physically dependent patients. Nalbuphine or pentazocine may antagonize analgesia.
- **Drug-Natural Products:** Concomitant use of kava-kava, valerian, skullcap, chamomile, or hops can q CNS depression.

**Route/Dosage**
- **PO (Adults):**
  - Analgesic—15–60 mg q 3–6 hr as needed.
  - Antitussive—10–20 mg q 4–6 hr as needed (not to exceed 120 mg/day).
  - Antidiarrheal—30 mg up to 4 times daily.
- **PO (Children 6–12 yr):**
  - Analgesic—0.5–1 mg/kg (up to 60 mg) q 4–6 hr (up to 4 times daily) as needed. Antitussive—5–10 mg q 4–6 hr as needed (not to exceed 60 mg/day). Antidiarrheal—0.5 mg/kg up to 4 times daily.
- **PO (Children 2–5 yr):**
  - Analgesic—0.5–1 mg/kg (up to 60 mg) q 4–6 hr (up to 4 times daily) as needed. Antitussive—5–10 mg/kg divided q 4–6 hr as needed. Antidiarrheal—0.5 mg/kg up to 4 times daily.

**Contraindications/Precautions**
- Contraindicated in: Hypersensitivity.
- Use Cautiously in: Head trauma; intracranial pressure; Severe renal, hepatic, or pulmonary disease; Hyperpyrexia; Adrenal insufficiency; Prostatic hypertrophy; Geriatric or debilitated patients (slow f.; required, more susceptible to CNS depression, constipation); Undergoed opioid withdrawal. OB: Has been used during labor; respiratory depression may occur in the newborn. OB, Lactation: Avoid chronic use; Pedi: Children undergoing tonsillectomy or adenoidectomy (risk of respiratory depression and death).
Renal Impairment
(Adults and Children):

CCr 10– 50 mL/min— Administer 75% of the dose; CCr < 10 mL/min— Administer 50% of the dose.

NURSING IMPLICATIONS

Assessment
- Assess HP, pulse, and respiration before and periodically during administration.
- If respiratory rate < 10/min, assess level of sedation. Physical stimulation may be insufficient to prevent significant hypoventilation. Dose may need to be decreased by 25– 50%.
- Initial dosing will diminish with continued use.

- Assess bowel function routinely. Prevention of constipation should be instituted with increased intake of fluids, bulk, and laxatives to minimize constipating effects. Stimulant laxatives should be administered routinely if opioid use exceeds 2– 3 days, unless contraindicated.
- Pain: Assess type, location, and intensity of pain before and periodically during administration.
- Risk for injury (Side Effects): Risk for injury (Side Effects)

- Lab Test Considerations: May cause plasma amylase and lipase concentrations.
- Toxicity and Overdose: All opioid antagonists are required to reverse respiratory depression or coma. Naloxone (Narcan) is the antidote. Doses of 0.01 mg/kg of naloxone in 10 mL of 0.5% NaCl and administration 0.4 mL (0.02 mg) by direct IV push over 2 min. For children and patients weighing < 40 kg, administer 0.1 mg/kg over 2 min. Titrate dose to avoid excitability, seizures, and severe pain.

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

Implementation
- High alert: Accidental overdose of opioid analgesics has resulted in fatalities. Before administering, clarify all ambiguous orders; have second practitioner independently check dose calculations and route of administration.
- High alert: Do not confuse codeine with Lodine (etodolac).

- Explain therapeutic value of medication before administration to enhance the analgesic effect.
- Regularly administered doses may be more effective than prn administration. Analgesia is more effective if given before pain becomes severe.
- Coadministration with nonopioid analgesics may have additive analgesic effects and permit lower doses.
- Medications should be discontinued gradually after long-term use to prevent withdrawal symptoms.
- When combined with nonopioid analgesics (aspirin, acetaminophen) = 15 mg, = 30 mg, = 60 mg codeine. Codeine as an individual drug is a Schedule II substance. In combination with other drugs, tablet form is Schedule III, and elixir or cough suppressant is Schedule V.

- PO: Oral doses may be administered with food or milk to minimize GI irritation.

Patient/Family Teaching
- Instruct patient on how and when to ask for and take pain medication.
- May cause drowsiness or dizziness. Advise patient to call for assistance when ambulating or standing. Caution ambulatory patient to avoid driving or other activities requiring alertness and response to medication is known.
- Advise patient to maintain position; if patient is unable to maintain a position, advise to use a goniometer to measure appropriate angle.
- Advise patient to change positions slowly to minimize orthostatic hypotension.
- Advise patient to avoid concurrent use of alcohol or other CNS depressants with this medication.
- Encourage patient to turn, cough, and breathe deeply every 2 hr to prevent atelectasis.
- Advise patient that good oral hygiene, frequent mouth rinses, and sugarless gum or candy may decrease dry mouth.

© 2015 F.A. Davis Company  
CONTINUED
Evaluation/Desired Outcomes

- Decrease in severity of pain without a significant alteration in level of consciousness or respiratory status.
- Suppression of cough.
- Control of diarrhea.

Why was this drug prescribed for your patient?