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<tr>
<th>Name</th>
<th>Class</th>
<th>Mechanism of Action</th>
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<tr>
<td>Absorbent Gel (Zaptec, Chasis, Galen)</td>
<td>Adhesive</td>
<td>Transfers heat to the skin from the adhesive patch.</td>
<td>Absorbs toxic substances from skin surfaces</td>
<td>Pregabalin is the most commonly used agent, followed by gabapentin and pregabalin.</td>
<td>Syncope, cardiac arrest, dysrhythmia, tachycardia, palpitations, peripheral vasoconstriction, flushing, nervous system disturbances, peripheral neuropathy.</td>
<td>Anticonvulsants, calcium channel blockers.</td>
<td>0.25 mg/mL vials. 0.5 mg/mL tablets.</td>
<td>Adult: 15-mg IV bolus over 2 minutes; then 0.75 mg/min IV/IO; repeat 15–30 minutes.</td>
<td>2–4 hours.</td>
<td>Use with caution in administering to patients with history of CNS toxicity.</td>
</tr>
<tr>
<td>Aloe Vera (Lacerta, Lacheta, Pommegranate)</td>
<td>Topical</td>
<td>Promotes hydration and healing of skin.</td>
<td>Acute and chronic dermatitis, dry skin, burns, wounds, scars, radiation dermatitis.</td>
<td>Hypersensitivity, skin irritation, allergic contact dermatitis.</td>
<td>Local skin reactions, stinging, burning, itching, redness, rash, swelling.</td>
<td>None.</td>
<td>20% Aloe Vera Gel.</td>
<td>Adult: 20% Aloe Vera Gel at injection site, coronary and cerebral arteries.</td>
<td>10% solution.</td>
<td>None.</td>
</tr>
<tr>
<td>Alcogel (Durogel)</td>
<td>Chemical</td>
<td>Activates or reverses local anesthetic agents.</td>
<td>Postoperative pain, dental pain, CVA pain, diabetic neuropathy.</td>
<td>Pregabalin is the most commonly used agent, followed by gabapentin and pregabalin.</td>
<td>Syncope, cardiac arrest, dysrhythmia, tachycardia, palpitations, peripheral vasoconstriction, flushing, nervous system disturbances, peripheral neuropathy.</td>
<td>Anticonvulsants, calcium channel blockers.</td>
<td>0.25 mg/mL vials. 0.5 mg/mL tablets.</td>
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<td>2–4 hours.</td>
<td>Use with caution in administering to patients with history of CNS toxicity.</td>
</tr>
<tr>
<td>Allopurinol (Zyloprim)</td>
<td>Xanthine oxidase inhibitor</td>
<td>Inhibits xanthine oxidase, reducing uric acid levels.</td>
<td>Hyperuricemia, gout, uric acid nephrolithiasis, primary hyperuricemia.</td>
<td>Hypersensitivity, skin rash, fever, headache, nausea, vomiting, diarrhea, anorexia, chills, flushing, malaise, pruritus, arthralgia, myalgia, dyspepsia, nausea, vomiting, diarrhea, rash, urticaria, angioedema.</td>
<td>None.</td>
<td>Tablets, capsules, oral solution.</td>
<td>Adult: 300–600 mg/day PO; children: 150 mg/kg/day PO, not to exceed 600 mg/day.</td>
<td>80% cleared within 10 hours.</td>
<td>None.</td>
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</tr>
<tr>
<td>Alprazolam (Xanax)</td>
<td>Benzodiazepine</td>
<td>Enhances the actions of GABA at the inhibitory synaptic junctions.</td>
<td>Anxiety, panic disorders, social anxiety disorder, major depressive disorder, acute and short-term treatment of alcohol withdrawal.</td>
<td>Hypersensitivity, skin rash, fever, headache, nausea, vomiting, diarrhea, anorexia, chills, flushing, malaise, pruritus, arthralgia, myalgia, dyspepsia, nausea, vomiting, diarrhea, rash, urticaria, angioedema.</td>
<td>None.</td>
<td>Tablets, capsules, oral solution.</td>
<td>Adult: 0.25–2 mg/day PO; children: 0.25–1 mg/day PO.</td>
<td>80% cleared within 10 hours.</td>
<td>None.</td>
<td></td>
</tr>
<tr>
<td>Aminophylline (Erthrom)</td>
<td>Xanthine oxidase inhibitor</td>
<td>Inhibits xanthine oxidase, reducing uric acid levels.</td>
<td>Hyperuricemia, gout, uric acid nephrolithiasis, primary hyperuricemia.</td>
<td>Hypersensitivity, skin rash, fever, headache, nausea, vomiting, diarrhea, anorexia, chills, flushing, malaise, pruritus, arthralgia, myalgia, dyspepsia, nausea, vomiting, diarrhea, rash, urticaria, angioedema.</td>
<td>None.</td>
<td>Tablets, capsules, oral solution.</td>
<td>Adult: 300–600 mg/day PO; children: 150 mg/kg/day PO, not to exceed 600 mg/day.</td>
<td>80% cleared within 10 hours.</td>
<td>None.</td>
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</tr>
<tr>
<td>Anticholinergic (Atropine, Scopolamine)</td>
<td>Muscarinic cholinergic</td>
<td>Inhibits the action of acetylcholine at the autonomic ganglia and smooth muscle.</td>
<td>Anticholinergic side effects in various settings.</td>
<td>Hypersensitivity, skin rash, fever, headache, nausea, vomiting, diarrhea, anorexia, chills, flushing, malaise, pruritus, arthralgia, myalgia, dyspepsia, nausea, vomiting, diarrhea, rash, urticaria, angioedema.</td>
<td>None.</td>
<td>Tablets, capsules, oral solution.</td>
<td>Adult: 0.25–2 mg/day PO; children: 0.25–1 mg/day PO.</td>
<td>80% cleared within 10 hours.</td>
<td>None.</td>
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</tr>
<tr>
<td>Aprotinin (Trasylol)</td>
<td>Antithrombin</td>
<td>Enhances the actions of coagulation factors.</td>
<td>Trauma, burns, shock, sepsis, operation, surgery, obstetric complications, severe bleeding.</td>
<td>Hypersensitivity, skin rash, fever, headache, nausea, vomiting, diarrhea, anorexia, chills, flushing, malaise, pruritus, arthralgia, myalgia, dyspepsia, nausea, vomiting, diarrhea, rash, urticaria, angioedema.</td>
<td>None.</td>
<td>Tablets, capsules, oral solution.</td>
<td>Adult: 300–600 mg/day PO; children: 150 mg/kg/day PO, not to exceed 600 mg/day.</td>
<td>80% cleared within 10 hours.</td>
<td>None.</td>
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<tr>
<td>Aspirin (Acetylsalicylic Acid)</td>
<td>Nonsteroidal anti-inflammatory drug</td>
<td>Provides analgesic, anti-inflammatory, antipyretic effects.</td>
<td>Acute and chronic pain, fever, inflammation, conditions associated with platelet aggregation.</td>
<td>Hypersensitivity, skin rash, fever, headache, nausea, vomiting, diarrhea, anorexia, chills, flushing, malaise, pruritus, arthralgia, myalgia, dyspepsia, nausea, vomiting, diarrhea, rash, urticaria, angioedema.</td>
<td>None.</td>
<td>Tablets, capsules, oral solution.</td>
<td>Adult: 300–600 mg/day PO; children: 150 mg/kg/day PO, not to exceed 600 mg/day.</td>
<td>80% cleared within 10 hours.</td>
<td>None.</td>
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<tr>
<td>Drugs</td>
<td>Description</td>
<td>Use</td>
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<tr>
<td>Loop diuretics</td>
<td>Help to eliminate excess fluid and fluid that is absorbed from the digestive tract</td>
<td><strong>Severe congestive heart failure, edema,</strong> and <strong>renal failure.</strong></td>
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<tr>
<td>Beta-2 agonists</td>
<td>Relax smooth muscles and cause bronchodilation after beta-receptor stimulation</td>
<td><strong>Acute bronchial asthma,</strong> <strong>persistent bronchospasm,</strong> <strong>COPD,</strong> and <strong>ongoing client who has had no bronchodilator effect from previous medication.</strong></td>
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<tr>
<td>Sympathomimetics (Xylocaine)</td>
<td>Increase the release of endogenous catecholamines and produce a sympathomimetic effect</td>
<td><strong>Seizures of eclampsia (toxemia of pregnancy),</strong> <strong>bronchodilation,</strong> and <strong>increased effects of bronchodilators.</strong></td>
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<tr>
<td>Labetalol (Normodyne, Toradol)</td>
<td>Block beta and alpha-adrenergic receptors</td>
<td><strong>Hypertensive crisis,</strong> <strong>onset of arterial hypertension,</strong> and <strong>postsurgical hypertension.</strong></td>
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<tr>
<td>Hydroxocobalamin</td>
<td>Binds with cyanide to form non-toxic cyanocobalamin</td>
<td><strong>Use in patients with cyanide intoxication.</strong></td>
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<tr>
<td>Glucagon (GlucaGen)</td>
<td>Increases blood glucose level by stimulating glycogenolysis and glycogen synthesis</td>
<td><strong>Seizures of eclampsia (toxemia of pregnancy),</strong> <strong>bronchodilation,</strong> and <strong>increased effects of bronchodilators.</strong></td>
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<tr>
<td>Pancreatic hormone, insulin</td>
<td>Excretion of toxins.</td>
<td><strong>Indicated for the correction of hypoglycemia.</strong></td>
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</tbody>
</table>

**Side Effects:**
- Tachycardia, hypotension, vasodilation, depression, apnea, hypotension, bradycardia.
- Headache, dizziness, bronchospasm, edema, asodilation, hypotension, headache, sedation, respiratory depression, apnea, hypotension, bradycardia, nausea, vomiting, dehydration.
- Apnea induced with succinylcholine may occur with cardiac glycosides.
- Increased risk of bleeding.
- Increased actions of bronchodilators, increased risk of bleeding.

**Precautions:**
- Use with caution in patients with renal failure.
- Use with caution in patients with urinary retention.
- Use with caution in patients with neuritis, neuritis, optic neuropathy.
- Use with caution in patients with hypertension.
- Use with caution in patients with cardiovascular disease.
- Use with caution in patients with seizures.
- Use with caution in patients with hypoglycemia (due to increased glucose utilization by the brain).
- Use with caution in patients with diabetes.
- Use with caution in patients with ototoxicity, deafness.

**Dosage:**
- **Adults:** Oral: 500 μg/mL of a 0.02% solution provided. 4 mg/mL and 30 mg/mL aerosol 18 μg/actuation. 15 mg/mL and 30 mg/mL multi-dose inhalers and 2-ml inhalation. 0.5 mg/mL of a 0.02% solution provided. 4 mg/mL and 30 mg/mL aerosol 18 μg/actuation. 15 mg/mL and 30 mg/mL multi-dose inhalers and 2-ml inhalation.
- **Children:** Oral: 5 mg/mL ampules and vials. 5 mg/mL of a 0.02% solution provided. 4 mg/mL and 30 mg/mL aerosol 18 μg/actuation. 15 mg/mL and 30 mg/mL multi-dose inhalers and 2-ml inhalation.

**Storage:**
- Store at room temperature. Protect from freezing. Store in the prefilled syringe. 4 mg/mL and 30 mg/mL aerosol 18 μg/actuation. 15 mg/mL and 30 mg/mL multi-dose inhalers and 2-ml inhalation.

**Additional Information:**
- **Indications:** Use in the treatment of acute bronchial asthma.
- **Dosage:** Oral: 0.5–1 g/kg/dose IV, IO infusion over 30–60 minutes. Oral: 0.5–1 g/kg/dose IV, IO infusion over 30–60 minutes. Pediatric: 0.25–2 g/kg can be given every 4–6 hours as needed. Pediatric: 0.25–2 g/kg can be given every 4–6 hours as needed.

**Adverse Effects:**
- Hypotension, ventricular fibrillation, dysrhythmias, cardiac arrest, AV block, hypotension, bradycardia, nausea, vomiting, dehydration, dizziness, headache, rash, fever, oversedation, respiratory depression, apnea, hypotension, bradycardia.
- Apnea induced with succinylcholine may occur with cardiac glycosides.
- Increased actions of bronchodilators, increased risk of bleeding.
<table>
<thead>
<tr>
<th>Drug</th>
<th>Therapeutic Use</th>
<th>Administration</th>
<th>Side Effects</th>
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</thead>
<tbody>
<tr>
<td>Nalbuphine</td>
<td>Opioid antagonist, antidote.</td>
<td>Intravenous injection, oral, transdermal, transmucosal, intranasal</td>
<td>Hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.</td>
</tr>
<tr>
<td>Morphine Sulfate</td>
<td>Sedation and analgesia in moderate to severe pain, anxiety, depression secondary to opiate withdrawal.</td>
<td>Intravenous, subcutaneous, intramuscular, oral, transdermal, transmucosal, sublingual, buccal, rectal, intranasal, transdermal, subcutaneous, and intravenous.</td>
<td>Hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.</td>
</tr>
<tr>
<td>Midazolam Hydrochloride</td>
<td>Sedation and analgesia in moderate to severe pain, anxiety, depression secondary to opiate withdrawal.</td>
<td>Intravenous, subcutaneous, intramuscular, oral, transdermal, transmucosal, sublingual, buccal, rectal, intranasal, transdermal, subcutaneous, and intravenous.</td>
<td>Hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.</td>
</tr>
<tr>
<td>Medrol</td>
<td>Sedation and analgesia in moderate to severe pain, anxiety, depression secondary to opiate withdrawal.</td>
<td>Intravenous, subcutaneous, intramuscular, oral, transdermal, transmucosal, sublingual, buccal, rectal, intranasal, transdermal, subcutaneous, and intravenous.</td>
<td>Hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.</td>
</tr>
<tr>
<td>Serotonin receptor antagonist; vasopressor.</td>
<td>Binds to the receptor for blood glucose levels.</td>
<td>Intravenous</td>
<td>Hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.</td>
</tr>
<tr>
<td>Vasodilation and coronary artery vasodilation.</td>
<td>Inotropic stimulation of the heart</td>
<td>Intravenous</td>
<td>Hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.</td>
</tr>
<tr>
<td>Alpha-adrenergic activity</td>
<td>Inotropic effect (from 10% beta output)</td>
<td>Intravenous</td>
<td>Hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.</td>
</tr>
<tr>
<td>Binds to the receptor for blood glucose levels.</td>
<td>Hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.</td>
<td>Intravenous</td>
<td>Hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.</td>
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<td>Binds to the receptor for blood glucose levels.</td>
<td>Hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.</td>
<td>Intravenous</td>
<td>Hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.</td>
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</table>

**Nalbuphine**

Nalbuphine is a synthetic opioid antagonist used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. It is available in several formulations including intravenous, oral, transdermal, and sublingual. Nalbuphine can also be used as an analgesic in various medical conditions such as labor and delivery, surgery, and cancer pain.

**Morphine Sulfate**

Morphine is a potent opioid analgesic used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. It is available in various formulations including intravenous, subcutaneous, intramuscular, oral, transdermal, and transmucosal.

**Midazolam Hydrochloride**

Midazolam is a short-acting, water-soluble benzodiazepine used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. It is available in several formulations including intravenous, subcutaneous, intramuscular, oral, transdermal, and transmucosal.

**Medrol**

Medrol is a corticosteroid used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. It is available in various formulations including intravenous, subcutaneous, intramuscular, oral, transdermal, and transmucosal.

**Serotonin receptor antagonist; vasopressor.**

Serotonin receptor antagonists and vasopressors are used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. They are available in several formulations including intravenous.

**Vasodilation and coronary artery vasodilation.**

Vasodilators are used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. They are available in several formulations including intravenous.

**Alpha-adrenergic activity**

Alpha-adrenergic agents are used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. They are available in several formulations including intravenous.

**Binds to the receptor for blood glucose levels.**

Agents that bind to the receptor for blood glucose levels are used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. They are available in several formulations including intravenous.

**Hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.**

Common side effects include hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.

**Inotropic stimulation of the heart**

Agents that stimulate the inotropic effect are used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. They are available in several formulations including intravenous.

**Inotropic effect (from 10% beta output)**

Agents that stimulate the inotropic effect are used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. They are available in several formulations including intravenous.

**Binds to the receptor for blood glucose levels.**

Agents that bind to the receptor for blood glucose levels are used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. They are available in several formulations including intravenous.

**Vasodilation and coronary artery vasodilation.**

Vasodilators are used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. They are available in several formulations including intravenous.

**Alpha-adrenergic activity**

Alpha-adrenergic agents are used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. They are available in several formulations including intravenous.

**Binds to the receptor for blood glucose levels.**

Agents that bind to the receptor for blood glucose levels are used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. They are available in several formulations including intravenous.

**Hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.**

Common side effects include hypotension, sedation, respiratory depression, pruritus, hallucinations, asthenia, vomiting, diarrhea, abdominal cramps, chest pain, and respiratory depression.

**Inotropic stimulation of the heart**

Agents that stimulate the inotropic effect are used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. They are available in several formulations including intravenous.

**Inotropic effect (from 10% beta output)**

Agents that stimulate the inotropic effect are used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. They are available in several formulations including intravenous.

**Binds to the receptor for blood glucose levels.**

Agents that bind to the receptor for blood glucose levels are used for the relief of moderate to severe pain, anxiety, and withdrawal symptoms. They are available in several formulations including intravenous.
Anticonvulsant.

Diarrhea.

None in the emergency setting.

Adult: 0.6–1.2 mg/kg IV, IO. Pediatric (older than 12.5 g/50 mL of a 25% solution) IV/IO over 3–5 minutes in children to 4.2%).

Antidysrhythmic.

Tirofiban Hydrochloride
Succinylcholine Chloride
Sodium Thiosulfate
Rocuronium Bromide
Promethazine Hydrochloride (Pronestyl)
Protopam)
Barbiturate, long-acting; nondepolarizing.

Dilates coronary arteries and nodal refractory period. Reduces cardiac contractility and myocardial cells. Prolongs AV node conduction and refractoriness.

Adjunct.

Antidote.

Dosage: 1–2 mg/kg IV in 2–4 minutes, then 0.5–1 mg/kg/hour (maximum: 3 mg).

Paroxysmal supraventricular tachycardia, atrial flutter, and atrial fibrillation. Also used for treatment of ventricular premature complexes.

Alternative vasopressor to the first or second dose of epinephrine.

Coma of unknown origin, delirium, and coma in drug intoxication.

Acute evolving myocardial infarction, unstable angina, AV nodal reentrant tachycardia, wide complex tachycardia of unknown cause, hypertension, and severe aortic stenosis.

Hypersensitivity, active bleeding, hematuria, abdominal pain, bleeding, hives, allergic reactions reported.

Metabolic and respiratory alkalosis, hypokalemia, hypernatremia, hypocalcemia, hypophosphatemia, hypomagnesemia.

May potentiate hypotensive effects. Enhance neuromuscular blockade.

None reported.

Give thiamine before glucose under all circumstances. Diazepam may reduce duration of action.

Use of inhalation anesthetics will enhance neuromuscular blockade. Avoid use of pralidoxime concurrently with the cholinergic receptors on the motor end plate producing skeletal muscle relaxation of smooth muscle of the gastrointestinal tract.

Respiratory depression, hypotension, cardiac arrest.

Rapid sequence induction. May be used in an emergency setting.

D 5 W or normal saline). Reduce dose in patients with renal disease due to high volume of infusion and central nervous system depression. In urgent situation, up to 50 mg/min for 5 minutes if muscle paralysis is still present. If IV access is not available, the dose may be given as a 2-minute intramuscular injection.

Dysrhythmias: 50–100 mg (diluted) slow IV over 1–2 minutes. 

Toxicity and side effects: Variable. Duration: 18–24 hours but may last as long as 15 days in patients with renal insufficiency. Pediatric: 0.5 mg in a 4-hour period.

Tachycardia, PVCs, transient ST wave changes, PVCs, tachycardia, vasodilation, heart blocks, respiratory depression, hypotension, nausea, vomiting. Coma, drowsiness, headache, vertigo, apnea, respiratory depression, hypotension, nausea, vomiting. Bradycardia, reflex tachycardia, hypotension, respiratory depression, hematuria, abdominal pain, bleeding.

Onset: Rapid. Peak effect: Variable.

Onset: Rapid. Peak effect: Variable.

Onset: Rapid. Peak effect: Variable.

Onset: Rapid. Peak effect: Variable.

Onset: Rapid. Peak effect: Variable.

Onset: Rapid. Peak effect: Variable.

Onset: Rapid. Peak effect: Variable.

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