**EMETICS**

The vomiting reflex is initiated by conditions that stimulate the emetic center of the medulla. (see[Vomiting](http://www.merckmanuals.com/vet/digestive_system/vomiting/overview_of_vomiting.html).) Emetics stimulate either peripheral receptors or directly stimulate central vomiting centers. The peripheral-acting emetics directly stimulate the pharynx, which triggers the emetic center via the ninth cranial nerve, or the visceral afferent nerves of the stomach and intestines by causing irritation, inflammation, or distention. Vomiting can be initiated centrally by intracranial stimuli (head trauma, increased intracranial pressure, or psychic stimuli) or by stimulation of the vestibular apparatus (motion sickness, vestibulitis). Toxins or drugs, such as digoxin and anticancer drugs, directly stimulate the chemoreceptor trigger zone (CTZ) because it is not protected by a complete blood-brain barrier. Acetylcholine is the primary neurotransmitter acting on the emetic center. The CTZ is stimulated by dopamine, α2-adrenergic drugs, serotonin, and histamine.

Emetic Drugs e are usually administered in emergency situations after ingestion of a toxin. They generally remove <80% of the stomach contents.

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| **Emetic Drugs** |
| **Drug** | **Dosage** |
| Apomorphine | Dogs: 4 mg/kg, PO; 0.02 mg/kg, IV; 0.3 mg/kg, SC; 0.25 mg in the conjunctival sac |
| Xylazine | Cats: 0.4–0.5 mg/kg, IV or IM |
| Syrup of ipecac | 3–6 mL/kg, PO |
| Hydrogen peroxide | Dogs: 5–10 mL, PO |

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**Apomorphine** is an opiate drug that acts as a potent central dopamine agonist to directly stimulate the CTZ. It can be administered PO, IV, or SC; the IM route is not as effective. It can also be applied directly to conjunctival and gingival membranes, using the tablet formulation, which can easily be removed once emesis is initiated. Vomiting usually occurs in 5–10 min. Although apomorphine directly stimulates the CTZ, it has a depressant effect on the emetic center. Therefore, if the first dose does not induce emesis, additional doses are not helpful. Because the vestibular apparatus may also be involved in apomorphine-induced vomiting, animals that are sedate and motionless will not vomit as readily as animals that are active. Because it can cause CNS stimulation, apomorphine is used cautiously in cats. Opiate-induced excitement in cats can be treated with naloxone (an opiate antagonist).

**Xylazine** is an α2-adrenergic agonist used primarily for its sedative and analgesic action. It is a reliable emetic, particularly in cats, in which it stimulates the CTZ. Because xylazine can produce profound sedation and hypotension, animals should be closely monitored after administration. The IV route is preferred over IM administration.

**Syrup of ipecac** is an over-the-counter preparation that contains emetine, a toxic alkaloid that produces vomiting by acting as a stomach irritant. It usually, but not consistently, produces vomiting in 15–30 min. If repeated use fails to induce emesis, then gastric lavage is necessary to remove the emetine to prevent additional toxicosis.

**Hydrogen peroxide** (3%) applied to the back of the pharynx stimulates vomiting via the ninth cranial nerve. Small doses (5–10 mL) of hydrogen peroxide can be administered via oral syringe until emesis occurs. It should be administered cautiously, especially in cats, because aspiration of hydrogen peroxide foam causes severe aspiration pneumonia.

Emesis induction is contraindicated in cases where toxin was ingested more than one hour ago, comatose or seizuring patients, patients in shock or having dyspnoea, brachycephalic breeds & species that do not vomit (eg. Horses and rabbits), as well as patients with decreased gag reflex or patients with any other medical condition that may predispose them to aspiration. Emetics should not be used if the toxin ingested is corrosive/ caustic, salt or hydrocarbon.