

- Chapter 34
- Drugs Used to Treat Nausea and Vomiting
- Learning Objectives
- Compare the purposes of using antiemetic products
- State the therapeutic classes of antiemetics
- Discuss scheduling of antiemetics for maximum benefit
- Nausea and Vomiting
- **Nausea:** the sensation of abdominal discomfort that is intermittently accompanied by a desire to vomit
- **Vomiting** (emesis): the forceful expulsion of gastric contents up the esophagus and out of the mouth
- **Regurgitation:** the rising of gastric or esophageal contents to the pharynx as a result of stomach pressure
- Common Causes of Nausea and Vomiting
- Postoperative nausea and vomiting
- Motion sickness
- Pregnancy
 - **Hyperemesis gravidarum:** a condition in pregnancy in which starvation, dehydration, and acidosis are superimposed on the vomiting syndrome
- Common Causes of Nausea and Vomiting (cont'd)
- **Psychogenic vomiting:** self-induced or involuntary vomiting in response to threatening or distasteful situations

- **Chemotherapy-induced emesis (CIE)**
 - **Anticipatory nausea and vomiting:** triggered by sight and smell associated with treatment
 - **Acute CIE:** stimulated directly by chemotherapy 1 to 6 hours after treatment
 - **Delayed emesis:** occurs 24 to 120 hours after treatment; may be induced by metabolic by-products of chemotherapy
- Drug Therapy for Selected Causes of Nausea and Vomiting
- Postoperative nausea and vomiting (PONV)
- Antiemetics include:
 - Dopamine antagonists
 - Anticholinergic agents
 - Serotonin antagonists
 - H₂ antagonists (cimetidine, ranitidine)
- Nursing Process for Nausea and Vomiting
- Nausea and vomiting are associated with illnesses of the gastrointestinal tract and other body systems
- Often a side effect of medication and food intolerance
- Care must be individualized to the patient's diagnosis
- Nursing Process for Nausea and Vomiting (cont'd)
- Assessment
 - Obtain history of symptoms, patient's perception of precipitating factors, medications
 - Individualize assessment, monitoring vital signs, all four quadrants of the abdomen, hydration
 - Planning: schedule prescribed medicines, monitor oral hygiene, record intake and outputs, obtain orders for nutrition and further laboratory tests

- Nursing Process for Nausea and Vomiting (cont'd)
Implementation
- Maintain hydration
 - Adults: discontinue solids, ingest clear fluids with gradual return to bland or normal diet
 - Children: discontinue formula, milk products, and solids, and offer fluids every 30 to 60 minutes
- Learning Objectives
- Compare the purposes of using antiemetic products
- Drug Therapy for Selected Causes of Nausea and Vomiting
- Motion sickness: most medications chemically related to antihistamines, probably because of anticholinergic properties
- Psychogenic vomiting
 - Diagnosis made after all other causes eliminated
 - Metoclopramide or anti-anxiety drug may be prescribed with counseling
- Drug Therapy for Selected Causes of Nausea and Vomiting (cont'd)
- Nausea and vomiting in pregnancy
 - Morning sickness controlled by diet
 - Antihistamines (diphenhydramine, dimenhydrinate, meclizine, cyclizine) recommended first
 - Phenothiazines (promethazine and prochlorperazine)
 - Metoclopramide effective in treating hyperemesis gravidarum
 - Ginger used in many cultures
- Drug Therapy for Selected Causes of Nausea and Vomiting (cont'd)

- **Chemotherapy-induced nausea and vomiting:** combination of drugs often used because emesis likely produced by more than one mechanism
 - Ondansetron, dolasetron, or granisetron
 - High doses of metoclopramide; dexamethasone; lorazepam and diphenhydramine often used
 - Haloperidol may be substituted for metoclopramide
- Should be treated prophylactically
- Drug Therapy for Selected Causes of Nausea and Vomiting (cont'd)
- Anticipatory nausea and vomiting: treatments include progressive muscle relaxation, mind diversion, hypnosis, self-hypnosis, and systematic desensitization
- Delayed emesis: combination of prochlorperazine, lorazepam, and diphenhydramine given orally 1 hour before meals
- Drug Class: Dopamine Antagonists
- Actions: inhibit dopamine receptors that are part of the pathway to the vomiting center
- Uses: treatment of mild to moderate nausea and vomiting associated with anesthesia, surgery, radiation therapy, and cancer chemotherapy
- Drug Class: Serotonin Antagonists
- Actions: block the serotonin 5-HT₃ receptors located in the chemoreceptor trigger zone of the medulla and in specialized cells of the GI tract
- Significantly reduce nausea and vomiting associated with cancer chemotherapy, radiation, and postoperative nausea and vomiting
- Drug Class: Anticholinergic Agents
- Actions: counterbalance the excessive amounts of acetylcholine thought to cause motion sickness
- Uses: scopolamine and antihistamines used in the treatment of motion sickness; antihistamines used for nausea and vomiting associated with pregnancy

- Drug Class: Corticosteroids
- Actions: dexamethasone and methylprednisolone shown to be effective but the action is unknown
- Uses: a particular advantage is the lack of side effects; because fewer doses are administered, complications associated with long-term therapy do not arise
- Drug Class: Benzodiazepines
- Actions: combination of effects including sedation, reduction in anxiety, possible depression of the vomiting center, and an amnesic effect
- Uses: used clinically with a combination of other antiemetics to treat vomiting and nausea as well as anxiety associated with chemotherapy
- Drug Class: Cannabinoids
- Actions: act through several mechanisms to inhibit pathways to the vomiting center
- Uses: equally effective as prochlorperazine in patients receiving moderate emetogenic chemotherapy
- Drug Class: Neurokinin-1 Receptor Antagonists
- Actions: block the effects of substance P, a neuropeptide in the CNS, responsible for vomiting
- Uses: prevent acute and delayed chemotherapy-induced nausea and vomiting