phenothiazines. Metoclopramide hydrochloride also acts directly on the gastro-intestinal tract and it may be superior to the phenothiazines for emesis associated with gastroduodenal, hepatic, and biliary disease. Due to the risk of neurological side effects, metoclopramide hydrochloride should only be used in children as second line therapy in postoperative and cytotoxic induced nausea and vomiting.

Domperidone p. 268 acts at the chemoreceptor trigger zone; it has the advantage over metoclopramide hydrochloride and the phenothiazines of being less likely to cause central effects such as sedation and dystonic reactions because it does not readily cross the blood-brain barrier.

Granisetron p. 271 and ondansetron p. 271 are specific $5HT_3$-receptor antagonists which block $5HT_3$ receptors in the gastro-intestinal tract and in the CNS. They are of value in the management of nausea and vomiting in children receiving cytotoxics and in postoperative nausea and vomiting.

Aprepitant p. 269 is a neurokinin 1-receptor antagonist, licensed for the prevention of nausea and vomiting associated with highly and moderately emetogenic cancer chemotherapy; it is given in combination with a $5HT_3$-receptor antagonist (with or without a corticosteroid).

Nabilone p. 267 is a synthetic cannabinoid with antiemetic properties. It may be used for nausea and vomiting caused by cytotoxic chemotherapy that is unresponsive to conventional antiemetics.

Dexamethasone p. 455 has antiemetic effects. Dexamethasone may also have a role in cytotoxic-induced nausea and vomiting.

Vomiting during pregnancy

Nausea in the first trimester of pregnancy is generally mild and does not require drug therapy. On rare occasions if vomiting is severe, short-term treatment with an antihistamine, such as **promethazine**, may be required. Prochlorperazine or metoclopramide hydrochloride are alternatives. If symptoms do not settle in 24 to 48 hours then specialist opinion should be sought. Hyperemesis gravidarum is a more serious condition, which requires regular antiemetic therapy, intravenous fluid and electrolyte replacement and sometimes nutritional support. Supplementation with thiamine p. 650 must be considered in order to reduce the risk of Wernicke's encephalopathy.

Postoperative nausea and vomiting

The incidence of postoperative nausea and vomiting depends on many factors including the anaesthetic used, and the type and duration of surgery. Other risk factors include female sex, non-smokers, a history of postoperative nausea and vomiting or motion sickness, and intraoperative and postoperative use of opioids. Therapy to prevent postoperative nausea and vomiting should be based on the assessed risk. Drugs used include **$5HT_3$-receptor antagonists**, droperidol p. 275, dexamethasone, some **phenothiazines** (e.g. prochlorperazine), and **antihistamines** (e.g. cyclizine below). A combination of two or more antiemetic drugs that have different mechanisms of action is often indicated in those at high risk of postoperative nausea and vomiting or where postoperative vomiting presents a particular danger (e.g. in some types of surgery). When a prophylactic antiemetic drug has failed, postoperative nausea and vomiting should be treated with one or more drugs from a different class.

Opioid-induced nausea and vomiting

Cyclizine, ondansetron, and prochlorperazine are used to relieve opioid-induced nausea and vomiting; ondansetron has the advantage of not producing sedation.

Motion sickness

Antiemetics should be given to prevent motion sickness rather than after nausea or vomiting develop. The most effective drug for the prevention of motion sickness is hyoscine hydrobromide p. 273. For children over 10 years old, a transdermal hyoscine patch provides prolonged activity but it needs to be applied several hours before travelling. The sedating antihistamines are slightly less effective against motion sickness, but are generally better tolerated than hyoscine. If a sedative effect is desired **promethazine** is useful, but generally a slightly less sedating antihistamine such as cyclizine or cinnarizine p. 272 is preferred. Domperidone, metoclopramide hydrochloride, $5HT_3$-receptor antagonists, and the phenothiazines (except the antihistamine phenothiazine promethazine) are **ineffective** in motion sickness.

Other vestibular disorders

Management of vestibular diseases is aimed at treating the underlying cause as well as treating symptoms of the balance disturbance and associated nausea and vomiting. **Antihistamines** (such as cinnarizine), and **phenothiazines** (such as prochlorperazine) are effective for prophylaxis and treatment of nausea and vertigo resulting from vestibular disorders; however, when nausea and vertigo are associated with middle ear surgery, treatment can be difficult.

Nausea caused by cytotoxic chemotherapy, palliative care, and migraine

Antiemetics have a role in the management of nausea and vomiting induced by cytotoxic chemotherapy, in palliative care, and associated with migraine.

Other drugs used for Nausea and labyrinth disorders
Promethazine hydrochloride, p. 183

ANTIEMETICS AND ANTINAUSEANTS › ANTIHISTAMINES

Cyclizine

30-Jun-2018

● INDICATIONS AND DOSE

Nausea and vomiting of known cause | Nausea and vomiting associated with vestibular disorders

- ▶ BY MOUTH, OR BY INTRAVENOUS INJECTION
- Child 1 month–5 years: 0.5–1 mg/kg up to 3 times a day (max. per dose 25 mg), intravenous injection to be given over 3–5 minutes, for motion sickness, take 1–2 hours before departure
- Child 6–11 years: 25 mg up to 3 times a day, intravenous injection to be given over 3–5 minutes, for motion sickness, take 1–2 hours before departure
- Child 12–17 years: 50 mg up to 3 times a day, intravenous injection to be given over 3–5 minutes, for motion sickness, take 1–2 hours before departure
- ▶ BY RECTUM
- Child 2–5 years: 12.5 mg up to 3 times a day
- Child 6–11 years: 25 mg up to 3 times a day
- Child 12–17 years: 50 mg up to 3 times a day
- ▶ BY CONTINUOUS INTRAVENOUS INFUSION, OR BY SUBCUTANEOUS INFUSION
- Child 1–23 months: 3 mg/kg, dose to be given over 24 hours
- Child 2–5 years: 50 mg, dose to be given over 24 hours
- Child 6–11 years: 75 mg, dose to be given over 24 hours
- Child 12–17 years: 150 mg, dose to be given over 24 hours