



Nausea & vomiting

Nausea and vomiting (N & V) are two of the most unpleasant symptoms that may occur in a variety of benign cases & may be associated with several medical disorders. Nausea usually precedes vomiting.

As a community pharmacist we can handle non-Rx antiemetics to prevent or control the symptoms of N & V that are primarily caused by **motion sickness, pregnancy, & mild infection disease (viral gastroenteritis and food poisoning)**.

Whereas N & V associated with cancer chemotherapy, radiation therapy, serious metabolic, CNS, GI or endocrine disorder, should not be self-treated with non-Rx medication.

Primary causes of N & V:

1) Mechanical obstruction:

Gastric Carcinoma.

Pancreatic disease.

Small intestinal obstruction.

2) Motility disorders:

Irritable bowel syndrome.

Anorexia nervosa.

3) Peritoneal irritation:

Appendicitis

Bacterial peritonitis.

4) Infections

Viral gastroenteritis (Rota virus).

Food poisoning (a bacterial toxin such as Bacillus, staph & clostridia)

Hepatitis A & B.

5) Pregnancy

6) Others: Cardiac disease (MI & CHF).

Urologic disease (stones & pyelonephritis)

7) CNS disorders:

Motion sickness (vestibular disorder).

CNS tumor.

Infections (meningitis and encephalitis).

Migraine headache.

8) Irritation of chemoreceptor trigger zone

Cytotoxic chemotherapy.

Opiate drug withdrawal.

Theophyllin and digitalis toxicity.

Radiation therapy.

Estrogens.

Bromocriptin

9) Systemic disorder: uremia & diabetic ketoacidosis.

Exclusion to self treatment of N & V:

- 1-A sign of dehydration.
- 2-Suspected food poisoning that is severe and /or doesn't clear up after 12 hours.
- 3-A blood in vomitus (could be ulcer or gastric carcinoma).
- 4-Yellow skin or eye discoloration (hepatitis).
- 5-Stiff neck (meningitis).
- 6-Head injury with blurred vision.
- 7-Severe abdominal pain in the middle or right lower quadrant (appendicitis).
- 8-Severe right upper quadrant pain especially after eating fatty foods (cholecystitis).

Exclusion to self treatment of N& V in infant

- 1- Sever signs of dehydration.
- 2- Child refuses to drink.
- 3- Child not urinated in past 8-12 hours.
- 4- A child has stiff neck.
- 5- A child has weight loss.
- 6- Vomiting occurs with each feeding.
- 7- Continued vomiting longer than 8 hours.
- 8- Vomits contain red or black fluid.
- 9- Vomiting after head injury.
- 10) A (N & V) in neonates up to 1 month (congenital disorder) such as pyloric stenosis. This is occur at first week of life in which a vomit expelled aconsiderable distance (require surgery).

* All the previous condition should referred for further evaluation.

Common situation that involve N&V & can be self treated by pharmacist:

1) motion sickness associated, N&V:

Rarely occur in infants, more common in children from age 2-12 years, susceptibility declines there after. Symptoms include paler, dizziness, nausea followed by vomiting.

* Non pharmacological treatment include: Don't read during travel & avoid excess food or alcohol before or during travel.

2) Nausea & vomiting during pregnancy:

N & V may be one of the earliest symptoms of pregnancy, also called morning sickness (early in the day).

A sever form called hyperemesis gravidarum, that may cause dehydration, electrolyte disturbance, malnutrition & weight loss.

N&V of pregnancy occur during first trimester & resolve by the 20th week of pregnancy.

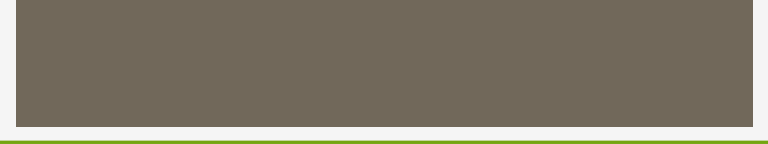
Non pharmacological treatment include eating crackers & take 4-5 small meals instead of 3 large meals & drink small liquid between meals. If N&V continue, the patient should be referred.

Nausea & vomiting in infant and children:

A severe vomiting may lead to acid-base disturbances and dehydration, if not properly managed, may result in death.

The patient should be observed for the following signs of dehydration like :(require referral).

- Dry oral mucous membranes.
- Decrease urine output or a darkened urine
- Fast heart beats.
- Thirst and no tears on crying & Weight loss.



** Some time in infant a milk spill gently from the mouth known as regurgitation, it should be distinguished from vomiting (this is back flow of small amounts of liquid and food between meals or at feed time). Such cases doesn't require medical attention, may be due to over feeding or feeding too rapidly.

- A common cause of vomiting in children is acute viral gastroenteritis. A vomiting in gastroenteritis may represent a host defense process that sheds the pathogen and should not suppressed.

Oral rehydration solution (ORS) may be used to treat mild cases. If sever vomiting persist for more than 24-48 hours the children should referred for evaluation and or parenteral fluid and electrolyte replacement.

Nausea and vomiting related to food poisoning:

Signs and symptoms usually include vomiting in addition to diarrhoea, abdominal cramps and possible fever.

Symptomatic treatment include fluid and electrolyte replacement, dietary modifications include a diet of clear liquids & simple CHO at the first 24 hr.

Food poisoning resolved with in 24-36hrs of symptoms but if continued longer a referral is necessary.

Pharmacological therapy of N & V

Antihistamens: Major antiemetic agents include:
meclizine, cyclozin, dimenhydrirate, diphenhydramine, doxylamine, cinnarizine, and promethazine.

The rational for its use in motion sickness is that histamine level increase in hypothalamus and medulla ablongata and is commonly associated with N&V.

Antihistamine that cross the blood brain barrier may prevent and control motion sickness in varying age.



Meclizine and promethazine have long duration of action and are useful for long journeys taken once daily.

Cinnarazine and promethazine are not recommended for children younger than 5 years of age.

To prevent motion sickness, these agents should be taken 30-60 min before departure and continue use during travel if necessary.

Drowsiness is the most common SE, patient should be cautioned not to combine with alcohol containing product.

In large dose anticholinergic SE may occur. Advanced age patient may experience confusion while using it while children may exhibit paradoxical stimulation.

Domperidone (Motilium):

Used to relief postprandial symptoms that includes nausea associated with over eating disagreeable food.

Bismuth salts:

Bismuth subsalicylate, as suspension and chewable tablet to relieve nausea associated dyspepsia and heart burn. It causes gray color to tongue and stool, have some drug interaction.

Phosphated CHO solution

A mixture of phosphoric acid and glucose. It is hyperosmolar solution. Reduce N & V and decrease smooth muscle construction.