



Nausea and Vomiting

Overview

- [What is nausea and vomiting?](#)

Nausea is the unpleasant sensation of needing to vomit. Increased saliva in the mouth can occur with nausea. Vomiting is the forceful movement of stomach contents out through the mouth. Muscles in the abdominal wall squeeze tightly to increase pressure inside the abdomen necessary for vomiting. Retching results from abrupt increase in abdominal pressure without vomiting, also called 'dry heaving', which can precede or follow vomiting. Similarly, nausea can occur without vomiting or may precede vomiting.

Regurgitation is the effortless movement of swallowed food contents or stomach acid from the stomach back into the mouth. Regurgitation is not associated with nausea or retching. When sour and bitter, regurgitation may be a manifestation of reflux disease, but when it tastes the same as ingested food, it indicates a problem with food movement from the swallowing tube into the stomach. Rumination consists of regurgitation of ingested food followed by rechewing and reswallowing, and is a learned behavior that may be considered pleasurable by the patient. Both regurgitation and rumination need to be differentiated from vomiting by taking a good history.

- [How can nausea and vomiting affect you?](#)

Nausea and vomiting are distressing symptoms that can make it difficult to go to work or perform normal activities. Nausea and vomiting after surgery, associated with pregnancy and acute infectious illnesses can cause absence from work and medical expenses. In the United States, it is estimated that the cost of acute stomach infections causing nausea and vomiting exceeds \$1 billion dollars per year in medical expenses alone; the cost of absence from work and lost productivity may be even higher. Some patients feel that nausea and vomiting after surgery is worse than pain after surgery. Nausea and vomiting following a surgical procedure can result in longer hospital stays and higher costs of hospitalization. As many as 8 out of 10 pregnant women develop nausea and vomiting in the early stages of their pregnancy, resulting in time away from work or home. Nausea and vomiting due to cancer chemotherapy can reduce ability to complete household tasks, enjoy meals, spend time with others and perform day-to-day activities.

- [Common causes of nausea and vomiting](#)

Common causes of nausea and vomiting include the following:

- a. Medicines. Nausea and vomiting can result from almost any medication. Certain medicines such as chemotherapy for cancer and anesthetic agents often cause nausea and vomiting.
- b. Infections of the gastrointestinal tract. These may be caused by viruses or bacteria and includes gall bladder infections (cholecystitis), appendicitis, viral hepatitis and diverticulitis.
- c. Infections outside the intestines such as pneumonia, bladder and kidney infections, meningitis and ear infections.
- d. Bacterial toxins in food (food poisoning)
- e. Pregnancy
- f. Motion sickness
- g. Alcohol intoxication
- h. Inflammation of the abdominal organs such as pancreatitis, Crohn's disease or ulcerative colitis.
- i. Intestinal blockage from stomach or intestinal ulcers, cancers, tumors or inflammatory diseases like Crohn's disease.
- j. Slow intestinal movement such as slow emptying of stomach (gastroparesis), ileus or pseudoobstruction. .
- k. Migraine headaches
- l. Other brain and nervous system disorders including tumors of the brain, seizures, head trauma and multiple sclerosis.
- m. Hormonal disorders including diabetes, overactive thyroid (hyperthyroid) and underactive adrenal glands (Addison's disease).
- n. Kidney failure
- o. Radiation therapy
- p. Psychiatric disorders such as anxiety, depression, anorexia nervosa and bulimia.
- q. Cyclic vomiting syndrome
- r. Physical or emotional pain
- s. Heart attack can sometimes manifest as nausea and vomiting

Symptoms of nausea and vomiting

Nausea is often described as a "queasy sensation" or a feeling of being "sick to the stomach." Nausea may occur with or without vomiting and vomiting can occur without nausea. These symptoms may be accompanied by a sensation of flushing, sweating, salivation, lightheadedness and upper abdominal discomfort. Important associated symptoms include: a decreased interest in eating (anorexia), a fear of eating due to unpleasant symptoms (sitophobia), and feeling full early after eating only a small amount of food (early satiety). Associated symptoms and illnesses prior to the onset of nausea and vomiting can help your doctor determine the cause. The cause of acute nausea and vomiting can very often be diagnosed by doctors just by listening to the patient's history and performing a physical examination. However, chronic nausea and vomiting, when symptoms have lasted longer than 1 month, is more challenging to diagnose and treat.

Evaluation of nausea and vomiting

The cause of an acute episode of nausea and vomiting is often diagnosed by the doctor asking questions and examining you. Tests are only performed if the cause is unclear, or to find out if there are harmful results from nausea and vomiting. If nausea and vomiting are due to a minor illness or short-term problem, there may be no reason to worry, and simple medicines may help. However, your doctor will decide if hospital admission or tests are needed, or if simple medicines are needed. Hospital admission may be needed for very old and very young persons, as they can become dehydrated quickly. If diarrhea or dehydration are present, intravenous fluids may be needed, so it may be better to see a doctor in the office or emergency room, to decide if hospital admission is needed. Finally, even if symptoms are not particularly severe, hospital admission may be needed for tests and further treatment if symptoms do not improve after several days.

First step: identify and treat harmful results of nausea and vomiting, such as dehydration or alteration in chemical levels in the blood (electrolyte imbalance).

Second step: determine the cause of nausea and vomiting, and treat this if found.

Third step: If no cause is found, treat symptoms.

Potential harmful consequences of nausea and vomiting

Dehydration (reduced body fluids) and/or imbalance of the body's chemicals and minerals circulating in the blood are the most important acute harmful effects of nausea and vomiting. The doctor will measure vital signs (pulse, blood pressure, temperature), perform a physical examination to look for signs of dehydration, check levels of chemicals in the blood, test the kidney and liver with blood tests, and sometimes order testing of the heart. Treatment with intravenous fluids, sometimes with added chemicals (such as Ringer's lactate, fluids with added potassium or magnesium), and medications to reduce nausea and vomiting may be used.

When nausea and vomiting last for a long time, there may be weight loss or malnutrition. Feeding into the intestines (enteral nutrition) or sometimes directly into a large vein (parenteral nutrition) may be needed.

Violent retching or vomiting can cause painful bruises or tears in the abdominal wall muscles, with pain and soreness to touch. Sometimes tears develop in the lining where the swallowing tube joins the stomach, called Mallory-Weiss tears. These tears may bleed, and the vomit may contain blood, or stools may turn black and sticky. Very rarely, the entire wall of the esophagus can tear, with escape of stomach contents into the chest or abdomen, called Boerhaave's syndrome. This is a serious condition and can lead to abscess formation or fluid collection, typically around the bottom of the left lung.

Diagnosing causes of nausea and vomiting

After talking to you and examining you, your doctor will often know why you have nausea and vomiting. Your doctor will try to understand what was going on before you started having nausea and vomiting.:

- a. t. If your nausea and vomiting started suddenly, and if you also have fevers, body aches, runny nose, cough and diarrhea, you might have a virus or a bacterial infection.
- b. u. If your nausea and vomiting began after anesthesia or chemotherapy, the medicines used are likely to blame. You can also develop nausea and vomiting after use of recreational drugs (marijuana, cocaine) or alcohol.
- c. v. Early morning vomiting may be from pregnancy or sometimes from kidney failure.
- d. w. Vomiting several hours after a meal may suggest blockage in the stomach or intestines.
- e. x. Abdominal pain followed by vomiting might be from inflammation in the abdomen such as pancreatitis or intestinal obstruction.
- f. y. Forceful or projectile vomiting might be from increased pressure inside the brain such as meningitis or tumors.
- g. z. Vomiting right away after eating may be from blockage in the stomach or from psychiatric disorders such as anorexia or bulimia.
- h. aa. Long standing or chronic nausea and vomiting may be from hormonal disorders (diabetes, pregnancy) or from disorders without specific abnormalities on tests, which are called functional disorders or disorders of gut-brain interaction.
- i. bb. Cyclic vomiting syndrome has a particular pattern of intense vomiting lasting a few hours or a few days with long periods without symptoms.
- j. cc. Loss of weight, malnutrition and dehydration can happen from long standing nausea and vomiting, because of reduced or poor oral intake of nutrients.

If the diagnosis is not made after the doctor takes a history and performs an examination, some of the following tests may be requested by your doctor:

- dd. Blood tests (blood count, measurement of chemical levels in the blood, liver and pancreatic enzymes)
- ee. X rays of the gastrointestinal tract, abdomen, or brain. These can include plain x rays, barium x rays or specialized scans such as CT scans or MRI scans.
- ff. Endoscopy, the use of a long flexible tube with a video camera to look at the lining of the swallowing tube, stomach and first part of the small intestine.
- gg. Tests to look at the movement of food through the stomach and intestines, called gastrointestinal motility testing.

If the cause of nausea and vomiting is not clear after a thorough search and if the symptoms are not controlled with standard therapy, psychological tests and evaluation or psychiatric consultation are considered. Psychogenic vomiting and eating disorders such as anorexia nervosa or bulimia can also cause long-standing nausea and vomiting.

Treatment for nausea and vomiting

The treatment of nausea and vomiting depends on the cause, but certain general measures are suitable for any patient with nausea and vomiting.

- a. **Correction of Fluid and Chemical Imbalance:** Loss of body fluids results in dehydration and alteration in levels of minerals in the blood. Fluid replacement is usually performed with intravenous saline solution containing potassium. Potassium and sometimes magnesium levels may be low in the blood and may need to be added to the intravenous fluid.
- b. **Nutritional Support:** When nausea and vomiting are severe, eating may not be possible. When nausea and vomiting improve, clear liquids are given first and slowly advanced to full liquids, soft foods and finally, normal food. When obstruction or long-standing symptoms makes feeding by mouth impossible, a tube can be placed through the nose into the small intestine so that feeding solutions may be pushed directly into the intestines (enteral feeding or tube feeding). Sometimes, a feeding tube can be directly placed through the abdominal wall into the stomach (percutaneous endoscopic gastrostomy or PEG tube) or intestines (percutaneous endoscopic jejunostomy or PEJ tube). A long, flexible tube is inserted into an arm vein or chest vein to infuse a prepared solution containing essential nutrients and vitamins directly into the blood stream, called total parenteral nutrition or hyperalimentation, if feeding into the intestines is not possible.
- c. **Treatment to Improve nausea and vomiting symptoms.** If there is nausea and vomiting with upper abdominal discomfort from blockage in the stomach or intestines a tube can be placed through the nose into the stomach to suction out stomach contents. Medications for nausea and vomiting may be given to prevent symptoms (e.g., before chemotherapy or immediately after surgery) or to reduce symptoms after they have begun. Several types of medicines are available and include phenothiazines (such as Compazine and Phenergan), 5-HT₃ antagonists (such as Zofran), dopamine receptor antagonists (such as Reglan), antihistamines (Antivert, Dramamine, Benadryl) and anticholinergics (Scopolamine). Other medicines for chronic nausea and vomiting, especially when a cause is not found in the stomach or intestines, include benzodiazepines (Ativan) and tricyclic antidepressants (Elavil, Pamelor). Medicine to reduce acid production may also be given in patients with prolonged vomiting. These agents are administered to protect the esophagus from acidic content of the vomitus.

- d. **Several other treatments are available for nausea and vomiting. The best-studied alternative therapy is the use of acupressure wristbands for pregnancy related nausea and vomiting which are commercially available, inexpensive, safe and have been shown to provide relief of mild nausea and vomiting. Ginger and vitamin B6 can also help. Electrical stimulation, usually at the wrist, can prevent postoperative nausea and vomiting with some success. Hypnosis can reduce the fear of vomiting in patients with psychogenic nausea and vomiting, chemotherapy and pregnancy-related nausea and vomiting. This treatment gives hypnotic suggestions for relaxation, symptom reduction and distraction through guided imagery.**
- e. **Gastric stimulation:**An implanted device with attached electrodes into the gastric wall can be an option for patients with refractory nausea and vomiting. This is utilized in patients with prolonged and persistent nausea and vomiting, usually in the setting of decreased ability of the stomach muscles to push food into the intestines, especially when medical treatment with multiple different medication regimens has failed in controlling symptoms. Gastric stimulation involves a surgical procedure to implant an electronic device into the abdomen, with wires (electrodes) that are attached to the stomach wall. While stomach emptying is typically not improved with this device, nausea and vomiting may improve in about half the patients where this device is implanted.
- [Can nausea and vomiting be prevented or successfully cured?](#)
Nausea and vomiting with a known cause such as motion sickness, chemotherapy, or surgical anesthesia can be prevented with medicines taken just before the causative event or medication. Nausea and vomiting from medicines and toxins improve when the drug or toxin is stopped. Morning sickness of pregnancy improves as the pregnancy progresses or with delivery of the baby. Nausea and vomiting from chronic disorders such as functional problems, psychiatric disorders, endocrine disorders or cancer may be difficult to cure and may need chronic medications to control the symptoms. If nausea and vomiting are related to an infectious or inflammatory condition, symptoms will generally go away completely with treatment of the primary condition.

Author(s) and Publication Date(s) Loss of body fluids results in dehydration and alteration in levels of chemicals and minerals in the blood. Fluid is replaced with intravenous saline solution containing potassium. Potassium and sometimes magnesium levels may be low in the blood and may need to be added to the intravenous fluid.

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