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Viral Gastroenteritis

What is viral gastroenteritis?

Acute infectious gastroenteritis is a common illness seen around the world. Viral pathogens cause most of these cases. It is commonly known as “stomach flu”. Acute enteritis is generally self-limiting in industrialized nations but can have significant morbidity for young and elderly patients. Isolated cases can occur, but viral gastroenteritis more commonly occurs in outbreaks within close communities such as daycare centers, nursing facilities, and cruise ships. Many different viruses contribute to this illness, regardless of the viral cause, treatment is generally uniform and directed toward symptomatic improvement with a focus on hydration status.

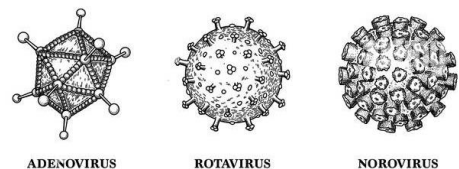


Etiology of viral gastroenteritis.

Several different viruses including rotavirus, norovirus, adenovirus, and astroviruses account for most cases of acute viral gastroenteritis.

Rotavirus :

Rotavirus infection usually presents with acute vomiting followed by several days of diarrhea, crampy abdominal pain, anorexia, and low grade fevers. **Infants and young children** are more likely to have an infection from rotavirus than other viral gastroenteritis pathogens.



Norovirus

It is the most common cause of epidemic diarrheal illness, accounting for over 90% of viral gastroenteritis outbreaks and approximately 50% of cases worldwide, it can withstand freezing, heating, and common disinfectant products containing alcohol or chlorine.

Norovirus presents most commonly with **abdominal cramps** and nausea followed by vomiting and/or diarrhea. Onset can be abrupt. Symptoms also include myalgias, malaise, and low-grade fevers up to 39°C. Diarrhea is non-bloody and can consist of multiple bowel movements per day. The illness is self-limiting.

How common is viral gastroenteritis?

It's hard to estimate exactly how many people get it each year. Many different viruses cause it, and most people don't get clinically tested for it. Experts estimate that norovirus, the most common cause, infects 685 million people every year.

What are the symptoms of viral gastroenteritis?

- Loss of appetite.
- Abdominal pain and cramping.
- Diarrhea.
- Nausea and vomiting.

These symptoms come from inflammation in the stomach and intestines. (Although the name, gastroenteritis, refers to the stomach and small intestine, inflammation can spread to the large intestine, too). Inflammation activates the immune system to fight the virus.

If the infection is more severe, or if the immune system reacts more strongly to it, the patient may have what are known as systemic symptoms. These symptoms come from inflammation in other body systems outside of the **digestive system**. This is the next level of immune response to the virus.

Systemic symptoms may include:

- Fever.
- Chills.
- Body aches.
- Headaches.
- Swollen lymph nodes

How long does viral gastroenteritis last?

Viral gastroenteritis usually only lasts a few days, but it may last up to a week or two in severe cases. People with weaker immune systems may have a harder time defeating the virus, and it may take longer.

How long is viral gastroenteritis contagious?

It is most contagious during the acute phase of the infection (when the symptoms are present) and for a few days after. However, the patient may still be a little contagious for up to two weeks after recovering.



Diarrhea.



Nausea and vomiting.



Loss of appetite.



Abdominal pain and cramping.

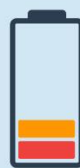
Systemic symptoms may include:



Fever.



Chills.



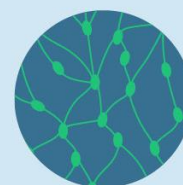
Fatigue.



Body aches.



Headaches.



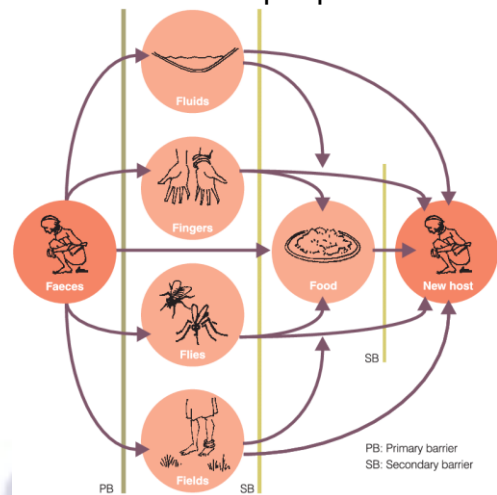
Swollen lymph nodes.

How does viral gastroenteritis spread?

Viral gastroenteritis usually spreads by the “fecal-to-oral route”. The virus lives in the fecal matter and vomit of infected people. Microscopic traces of infected poop or vomit may stay on people’s hands or surfaces. These traces can transfer to food and water sources. The virus might be ingested through contaminated food or water, or by touching an infected person or surface and then touching the mouth.

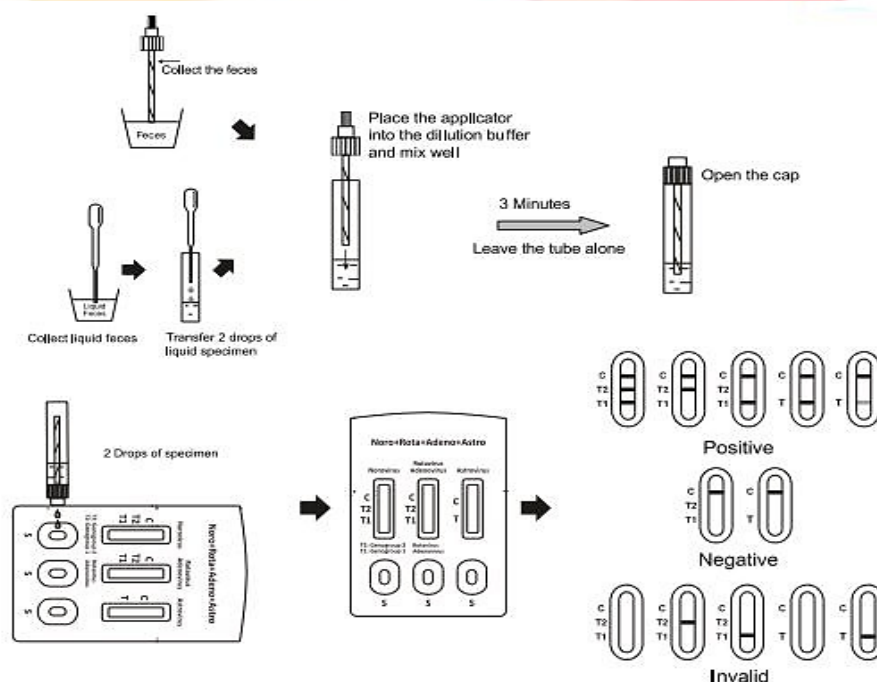
Susceptible groups.

Anyone can get stomach flu, but certain people are more vulnerable. People with a weaker-than-average immune system might be more likely to get an infection or get a more severe infection. The immune system is generally weakened with a chronic disease that affects immunity or take immunosuppressant medications for example people receiving organ transplants. Infants and elderly people are also more susceptible to infections.

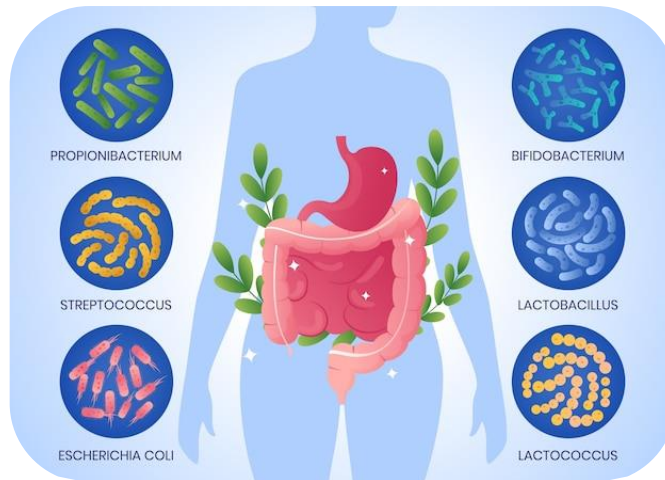


How do healthcare providers diagnose stomach flu?

Healthcare providers often diagnose gastroenteritis based on the symptoms. They won’t know if it’s viral or which virus it is without doing a lab test to find out. But most of the time, this isn’t necessary. Since there isn’t any specific medicine for stomach flu, there’s no need to identify it, or the virus, however there’s an immunochromatography test commercially available. The Norovirus Rapid Test (Feces) is a rapid chromatographic immunoassay for the qualitative detection of norovirus in human fecal specimen. The test utilizes antibody specific for norovirus to selectively detect norovirus in human fecal specimens. It might benefit the clinical assessment process and the subsequent selection of the befitting treatment protocol.



Management and Treatment



The immune system gets rid of Viral gastroenteritis through its own natural processes. It just takes a few days to do its work. There's no medicine for it. Antibiotics don't work on viruses — they're for bacterial infections.

The best thing to do to help the immune system do its work is to stay home and rest, stay hydrated, and eat a little if you can. the body should be given the energy it needs to fight the infection. To stay hydrated, take small sips throughout the day, before thirst kicks in.

Some research shows that taking **probiotics** may help stomach flu go away faster. Probiotics are helpful bacteria that live in your gastrointestinal system. Having enough helpful bacteria in the gut is part of having a healthy immune system

What should be eaten when you have Viral gastroenteritis?

The type of food eaten won't improve stomach flu, but it can make it worse. Foods high in fat, sugar, caffeine, or dairy milk might increase the desire to vomit or have diarrhea appetite may decrease, or one may feel nauseous at the thought of food. Focus on foods that are easy to digest and provide a quick dose of energy, like fruit juice popsicles, broths, and saltine crackers. The salt can help replace the electrolytes.

When should I see a healthcare provider?

Contact a healthcare provider in case of :

- The symptoms haven't improved after **four days**.
- There's a high fever (above 102 degrees Fahrenheit or 39 degrees Celsius) for four days.
- Loss of the ability to urinate or defecate for two days.
- Suspected dehydration.
- blood in feces.
- Severe abdominal pain.

Sources:

1. <https://my.clevelandclinic.org/health/diseases/12418-stomach-flu#diagnosis-and-tests>
2. *Stuempfig ND, Seroy J. Viral Gastroenteritis. [Updated 2023 Jun 12]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from <https://www.ncbi.nlm.nih.gov/books/NBK518995/>*

Keratoconjunctivitis Sicca

What is keratoconjunctivitis sicca?

Keratoconjunctivitis sicca is chronic, bilateral **desiccation** of the conjunctiva and cornea due to an inadequate tear film. Symptoms include itching, burning, irritation, and photophobia. Diagnosis is clinical; the Schirmer test may be helpful. Treatment is with topical tear supplements and sometimes blockage of the nasolacrimal openings.



Etiology of Keratoconjunctivitis Sicca.

The conjunctival and corneal surface epithelial cells need to be hydrated. If there is interruption of a continuous, unbroken layer of tears over the exposed surface, desiccation of surface cells leads to tissue damage and inflammation.

There are 2 main types:

- Aqueous tear-deficient keratoconjunctivitis sicca is caused by insufficient coverage of the ocular surface by tears due to inadequate tear volume.
- **Evaporative keratoconjunctivitis sicca** (more common) is caused by insufficient coverage of the ocular surface by tears due to accelerated tear evaporation resulting from poor tear quality.

There are a few things that can dry the eyes out during the **warmer months**. They include:

1. **Dry climate.** Places with low humidity are hot spots for dry eye. the body will make less tears in a dry climate, and the tears it does make will evaporate quicker.
2. **Air conditioning.** The forced air makes the tears evaporate faster.
3. **Smoke and dust.** Nothing says summer like the smell of the grill. But the smoke can irritate and dry out the eyes. So can dust particles in homes, cars, or offices.
4. **Swimming pools.** The chlorine in pools can wash away your tear film. That's the mix of oil, water, and mucus that keeps the eyes moist. However, salt water is much gentler on the eyes than swimming pools. That said, if saltwater is in the eyes, it will sting.



Symptoms and Signs of Keratoconjunctivitis Sicca

Patients report itching; burning; a gritty, pulling, or foreign body sensation; or photosensitivity. A sharp stabbing pain, eye strain or fatigue, and blurred vision may also occur. Certain factors can worsen symptoms:

- Prolonged visual efforts (eg, reading, working on the computer, driving, watching

television)

- Local environments that are dry, windy, dusty, or smoky
- Certain systemic drugs, including isotretinoin, sedatives (eg, that have anticholinergic effects), diuretics, beta-blockers, oral contraceptives, and all anticholinergics (including antihistamines and many gastrointestinal drugs)
- Dehydration

Treatment and management

- Wear sunglasses. Wraparound sunglasses are best to protect the eyes from the sun, wind, and dry air.
- Use eye drops. Over-the-counter drops can help mild cases of dry eye.



Sources

1. <https://www.webmd.com/eye-health/dry-eye-summer-months->
2. https://www.msmanuals.com/professional/eye-disorders/corneal-disorders/keratoconjunctivitis-sicca#Treatment_v955456

Real Enquiries

At the “ Drug Information Center” we respond to enquiries from the professional health team as well as from others. Here’s one of the enquiries received at the center

Inquiry: Does anise have antiviral properties?

Summary of the answer:

The antiviral activity of anise is still under investigation. Trans-anethole and anise oil demonstrated highly selective antiviral activity against herpes simplex virus *in vitro*. Another study has shown that anise oil could inhibit the growth and development of BHV-1 in *in vitro* cultured cells, another study demonstrated that star anise may exert its preventive effects against COVID -19 by modulating immune responses, apoptosis, and viral infections.

Sources

1. Allah, Fatma & Sobhy, Hany & Enan, Gamal. (2013). Evaluation of Antiviral Activity of Selected Anise Oil as An Essential Oil Against Bovine Herpes Virus Type -1 *In vitro*. *Global Veterinaria*. 10. 496-499. 10.5829/idosi.gv.2013.10.5.7338.
2. Li, N., Gao, Y., Liu, L., Hu, Q., Xiao, L., & Guan, T. (2024). Exploring the pharmacological mechanisms of star anise against COVID-19 using network pharmacology and molecular docking. *Food Safety and Health*, 2(1), 145-157.

Test Your Knowledge



- 1. Valproic acid is also indicated in the treatment of**
 - a) anxiety attacks
 - b) absence of seizures
 - c) tonic-clonic seizures
 - d) obsessive-compulsive disorder
- 2. The generic name for Prozac is :**
 - a) Fluoxetine
 - b) Sertraline
 - c) Paroxetine
 - d) Imipramine
- 3. Lithium therapy should be withheld if the patient's serum concentration exceeds :**
 - a) 0.5 mEq /L
 - b) 1 mEq /L
 - c) 2 mEq /L
 - d) 5 mEq /L
- 4. It is important that the patient recognizes all the following signs as possible lithium side effects Except :**
 - a) Hand tremors
 - b) Diarrhea
 - c) Constipation
 - d) Muscle weakness

Ask the expert

Does Chamomile tea help with anxiety?

Chamomile is commonly used as an herbal remedy for anxiety and anxiety-related sleeplessness. It's known for its relaxing scent, making it one of the most popular teas on the market.

A 2016 study^{Trusted Source} of chamomile given to patients with generalized anxiety disorder (GAD) showed a reduction of moderate to severe GAD symptoms.

It also showed some reduction in anxiety relapses during a 5-year study period. However, researchers said it was not statistically significant.

More studies are needed; however, this preliminary research may point out a correlation between chamomile and reduced stress.



Answers:

1. (b) 2. (a) 3. (c) 4. (c)