CONDITION

Childhood cyclic vomiting

Childhood cyclic vomiting causes repeated, similar attacks of intense vomiting separated by periods of usual health.

WHAT IT IS
Repeated vomiting attacks separated by periods of usual health

BODY SYSTEM
Digestive and nervous systems

MAIN SYMPTOMS
Repeated vomiting, nausea, pallor, abdominal pain

WHAT CAUSES IT
Unknown; likely altered brain-gut and migraine pathways

HOW IT IS DIAGNOSED
Typical episode pattern and exclusion of other causes

MAIN TREATMENT
Episode relief, hydration, trigger management, preventive medicines

CAN IT BE CURED?
Sometimes - many children improve with age

IS IT AN EMERGENCY?
Sometimes - dehydration, green vomit, or altered awareness

LONG-TERM OUTLOOK
Many improve, though migraine may develop later

Overview

Childhood cyclic vomiting, usually called cyclic vomiting syndrome or CVS, causes repeated attacks of severe nausea and vomiting. Each attack tends to resemble earlier ones. It may begin at a similar time of day, last about as long, and cause a similar set of symptoms.

Between attacks, most children return to their usual health. These well periods may last for weeks or months. Some children have milder nausea, abdominal pain, or tiredness between episodes.

CVS is linked to migraine, although it is not simply a stomach form of migraine in every child. It appears to involve communication between the brain, nerves, and digestive system. A child with CVS may have a personal or family history of migraine.

Repeated vomiting can cause dehydration and disrupt sleep, school, travel, and family life. Recognising the pattern matters because other conditions can also cause recurrent vomiting. It also allows families to make a plan for treating attacks early.

Symptoms

An episode may begin with a warning phase, called a prodrome. A child might become pale, unusually tired, sweaty, quiet, or irritable. They may report nausea or abdominal pain before vomiting starts.

During the main phase, vomiting can be frequent and forceful. The child may have difficulty drinking enough to replace lost fluid. Retching may continue even after the stomach is empty.

Symptoms can include:

Some children also have diarrhoea, a mild fever, or increased saliva. These symptoms do not occur in every episode.

Attacks often begin during the night or early morning and last for hours or days. The timing and length differ between children, but episodes are usually predictable for that particular child.

A recovery phase follows. Vomiting stops, appetite returns, and energy gradually improves. A child may want to sleep for several hours before feeling well again.

- Severe nausea and repeated vomiting
- Pale skin, sweating, tiredness, or reduced activity
- Abdominal pain, headache, dizziness, or sensitivity to light
- Loss of appetite and signs of dehydration

Causes and risk factors

The exact cause of CVS is unknown. Research suggests that several systems may be involved, including the brain-gut connection, the automatic nerves that control functions such as digestion and heart rate, stress-response pathways, and cellular energy production.

CVS and migraine share features. Both can involve nausea, pale skin, sensitivity to light, and episodes triggered by stress or lack of sleep. Having migraine or a close relative with migraine may increase the likelihood of CVS.

Possible triggers include:

A trigger is not always found. Stress can contribute to an episode, but this does not mean the

symptoms are imagined or under the child's control.

Rare metabolic, neurological, hormonal, digestive, or genetic conditions can resemble CVS. Certain medicines, cannabis exposure in adolescents, and accidental ingestion can also cause repeated vomiting. This is why a medical assessment is important before symptoms are labelled as CVS.

- Infections, excitement, emotional stress, or anxiety
- Too little sleep, physical exhaustion, fasting, or dehydration
- Menstrual periods in some adolescents
- Travel, motion sickness, or certain foods in an individual child

Diagnosis

There is no single test that confirms CVS. Diagnosis is based on a repeated, recognisable pattern of vomiting, periods of usual health between attacks, and an evaluation that does not find another explanation.

A clinician will ask when episodes started, how long they last, how often vomiting occurs, and whether each attack follows the same pattern. They will also ask about headaches, abdominal pain, medicines, cannabis or toxin exposure, growth, development, family history, and symptoms between attacks.

Keeping an episode diary can help. Useful details include:

The examination may include hydration, growth, blood pressure, the abdomen, and the nervous system.

Testing is chosen according to the child's age, symptoms, and examination. It may include blood and urine tests or imaging of the digestive tract. Tests during an attack may be especially useful if a metabolic condition is suspected. Brain imaging, endoscopy, or other specialist tests are usually reserved for concerning findings or an unusual pattern.

Green vomit, progressive symptoms, poor growth, persistent symptoms between attacks, or an abnormal neurological examination require investigation for other causes.

- Start and end times, symptoms, possible triggers, and menstrual timing
- What the child ate and drank and whether they passed urine
- Medicines used and whether they helped
- Symptoms that differed from previous episodes

Treatment and management

Treatment has three aims: reducing symptoms during an attack, preventing dehydration, and making future episodes less frequent or severe.

A written plan can explain what to do during the warning phase, which treatments have been recommended, and when to seek hospital care. Sharing the plan with school staff and emergency teams may help treatment begin promptly.

At the start of an episode, a quiet, dark room and sleep may reduce discomfort. Small amounts of an oral rehydration drink may be easier to tolerate than a full glass. Oral rehydration solutions contain a balance of water, sugar, and salts designed to replace fluid losses.

A clinician may recommend an anti-sickness medicine. Some children with migraine features may be offered a migraine treatment early in an attack. The choice depends on age, symptoms, other health conditions, and the child's previous response.

Hospital treatment may be needed if vomiting prevents drinking. Care can include fluid and sugar through a vein, correction of salt imbalances, anti-sickness treatment, pain relief, and a low-stimulation environment.

Preventive treatment may be considered when attacks are frequent, severe, prolonged, or regularly disrupt school and daily life. Options include medicines that also prevent migraine. Some specialists use nutritional supplements related to cellular energy, but evidence for these is limited. Supplements can still cause side effects or interact with medicines, so they should be discussed with the child's healthcare team.

Regular sleep, meals, hydration, and moderate activity may reduce episodes in some children. Psychological support can help with anxiety, coping, or stress-related triggers. It is part of overall care and does not imply that the vomiting is "all in the mind."

Complications

The main short-term complication is dehydration. Warning signs include a dry mouth, few tears, dark urine, passing much less urine, dizziness, unusual sleepiness, and a fast heartbeat.

Vomiting can also disturb the body's balance of salts and acids. Low blood sugar may develop, particularly in younger children or during prolonged fasting. These problems sometimes require blood tests and intravenous fluids.

Forceful vomiting may irritate the food pipe, called the oesophagus. Occasionally, a small tear causes blood in the vomit. Repeated exposure to stomach acid can also damage tooth enamel.

Over time, frequent episodes may affect nutrition, growth, school attendance, friendships, and family routines. Fear of the next attack can lead to anxiety or avoidance of travel and activities. These effects deserve attention even if the child is physically well between episodes.

Prevention

CVS cannot always be prevented because its underlying cause is not fully understood. Episodes may occur even when a family follows the treatment plan carefully.

An episode diary may reveal triggers that can reasonably be reduced. Consistent sleep, regular meals, enough fluids, and avoiding long periods without food can help some children. Any changes should be practical and should not make the child feel responsible for an attack.

Avoid broad or highly restrictive diets unless a clear food trigger has been identified with professional guidance. Unnecessary restriction can make it harder for a growing child to get enough nutrition.

For children with disabling or frequent attacks, preventive medicine may reduce how often episodes happen. It does not guarantee that vomiting will stop completely.

Living with it and what to expect

The course of CVS is different for each child. Episodes may come in clusters, disappear for months, or change in frequency over time. Illness, stress, puberty, and changing sleep patterns can affect the pattern.

Many children improve as they grow older, and some stop having vomiting episodes. Others continue to have CVS into adulthood or later develop migraine headaches. It is not possible to predict an individual child's course with certainty.

Between episodes, children can usually take part in ordinary school, play, exercise, and family activities. A school plan may cover early symptoms, access to fluids and a quiet room, approved medicines, and when a parent should be contacted. Plans for missed work can reduce pressure after an attack.

Routine follow-up is useful if episodes continue. It allows the healthcare team to review growth, nutrition, school impact, possible triggers, and whether the treatment plan is still effective. A change from the child's usual pattern should not automatically be assumed to be CVS.

When to get medical help

Arrange a routine appointment if a child has repeated vomiting episodes, even if they recover fully between them. Follow-up is also appropriate when episodes become more frequent, interfere with school, affect eating or growth, or are not responding to the existing plan.

Seek same-day medical advice if the child cannot keep fluids down, is passing much less urine, has worsening pain, or has an episode that is longer or different from usual. Infants and children with diabetes, metabolic conditions, or other significant health problems may need earlier assessment.

Seek emergency help for:

These signs can have causes other than CVS and need prompt assessment.

- Green vomit, which may contain bile
- Blood or material resembling coffee grounds in vomit
- Severe or localised abdominal pain, a swollen abdomen, or severe chest pain
- Confusion, a seizure, fainting, unusual weakness, or difficulty waking
- A severe headache with a stiff neck, weakness, or other new neurological symptoms
- Serious dehydration, breathing difficulty, suspected poisoning, or recent head injury

Common questions

Is cyclic vomiting contagious?

No. CVS is not an infection and cannot spread between people. However, an infection can sometimes trigger an episode. A first or unusual attack may still be caused by a contagious stomach infection.

How is it different from a stomach bug?

A stomach bug usually occurs as a single illness and may affect other people nearby. CVS causes repeated, similar episodes with a return toward usual health between them. Testing and medical assessment may be needed because the symptoms can overlap.

Is childhood cyclic vomiting a type of migraine?

It is closely linked to migraine and may share some of the same brain pathways and triggers. Some children later develop migraine headaches, but not every child with CVS does.

Will my child grow out of it?

Many children improve with age, and some stop vomiting entirely. Others continue to have episodes or develop migraine later. Past episode frequency cannot guarantee what will happen for one child.

What can my child drink during an episode?

If the child's care plan allows drinking, small, frequent sips of oral rehydration solution may be easier to keep down. Large drinks can trigger more vomiting. If fluids will not stay down or urine output falls, seek medical advice.

Can my child go to school between episodes?

Usually, yes, if they feel well enough. CVS itself is not contagious. Flexible attendance and a written school plan can help with warning symptoms, rest, fluids, medicines, and missed work.

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