CONDITION

Rumination disorder

Rumination disorder causes recently eaten food to return to the mouth repeatedly without nausea or forceful vomiting.

WHAT IT IS
Repeated, effortless return of recently eaten food

BODY SYSTEM
Digestive system and brain-gut connection

MAIN SYMPTOMS
Regurgitation, rechewing, reswallowing, spitting out food

WHAT CAUSES IT
Learned body reflex, sometimes after illness or stress

HOW IT IS DIAGNOSED
Symptom history, sometimes pressure and impedance testing

MAIN TREATMENT
Diaphragmatic breathing and behavioural therapy

CAN IT BE CURED?
Sometimes - the learned reflex can stop

IS IT AN EMERGENCY?
Sometimes - severe dehydration or bleeding needs emergency care

LONG-TERM OUTLOOK
Often improves with recognition and consistent treatment

Overview

Rumination disorder is a condition in which recently eaten food repeatedly comes back into the mouth. This is called regurgitation. It usually happens during a meal or soon afterward.

The food often returns without nausea, gagging or the forceful muscle contractions of vomiting. It may taste similar to when it was swallowed because it has not been in the stomach for long. You may rechew it, swallow it again or spit it out.

The process is usually not deliberate. It is linked to a learned reflex involving the stomach, breathing muscles and abdominal wall. After eating, the abdominal muscles tighten and raise pressure inside the stomach. The valve between the stomach and food pipe then relaxes, allowing food to move upward.

Rumination disorder is sometimes called rumination syndrome. It can affect infants, children, teenagers and adults, including people without other medical or developmental conditions. It is different from "ruminating" in the mental health sense, which means repeatedly thinking about distressing events.

The condition matters because persistent regurgitation can affect nutrition, teeth, comfort and social life. It is also often mistaken for acid reflux, vomiting or an eating disorder. A correct diagnosis can help you receive treatment aimed at the reflex itself.

Symptoms

The main symptom is repeated regurgitation of food that was eaten recently. It commonly begins within minutes of eating and may continue for up to one or two hours.

Typical features include:

Some people burp before food comes back. Others notice abdominal tightening but have little warning. The regurgitation often stops once the stomach contents become acidic, so it may not continue long enough to produce a sour taste.

Rumination disorder does not usually cause nausea before an episode. However, nausea, heartburn, bloating or stomach discomfort can occur alongside it. Symptoms can overlap with gastro-oesophageal reflux, in which acidic stomach contents flow into the food pipe.

You may start eating less or avoiding certain situations because you expect food to return. Some people take a long time to finish meals, hide their symptoms or avoid eating with others. Weight loss can occur if enough food is brought back up and not reswallowed.

Babies may repeatedly bring up food, make sucking or chewing movements, arch their backs, or appear hungry again after feeding. Regurgitation is common in infancy for many reasons, so an assessment is needed rather than assuming rumination disorder.

- Food returning without forceful vomiting or retching
- Rechewing, reswallowing or spitting out the returned food
- A feeling of pressure, movement or discomfort before regurgitation
- Symptoms after most meals, although the pattern may be less frequent

Causes and risk factors

Rumination disorder is thought to develop when the body learns an unintended pattern after

eating. The abdominal wall contracts, pressure in the stomach rises, and food moves upward. Once established, this sequence can become automatic.

The exact reason it begins is not always clear. In some people, it starts after:

Stress may trigger or worsen episodes, but the condition is not simply caused by anxiety. Regurgitation can continue even when you feel calm. It is also not a sign that you are choosing the behaviour.

Rumination disorder can occur with anxiety, depression, eating disorders or developmental conditions. These do not explain every case. If an eating disorder is also present, both conditions need appropriate assessment and support.

- A stomach infection, vomiting illness or physical injury
- Acid reflux or another period of digestive symptoms
- A stressful experience or major life change
- Changes in eating patterns
- An episode of choking or discomfort during a meal

Diagnosis

Diagnosis is mainly based on a detailed account of what happens before, during and after meals. A healthcare professional may ask when food returns, whether you feel nauseated, what the food tastes like, and whether there is retching or abdominal tightening.

There is no single routine test that confirms every case. The pattern may be enough when it is typical and there are no signs of another condition.

Tests may be used to check for other causes of regurgitation, vomiting or swallowing difficulty. Depending on your symptoms, these can include blood tests, imaging, or an endoscopy. During an endoscopy, a thin flexible camera is passed into the food pipe and stomach.

If the diagnosis remains uncertain, combined high-resolution manometry and impedance monitoring may help. This test measures pressure and the movement of material through the food pipe, often during and after a meal. It can show the rise in stomach pressure and upward movement associated with rumination.

Other possible explanations include acid reflux, delayed stomach emptying, blockage, swallowing disorders and certain eating disorders. Describing the effortless return of recognisable food soon after eating can help distinguish rumination from forceful vomiting.

Treatment and management

Treatment focuses on interrupting and replacing the learned muscle pattern. The main approach is diaphragmatic breathing, sometimes called belly breathing.

This technique uses the diaphragm, the broad breathing muscle below the lungs. You learn to breathe so that your abdomen gently rises while your chest remains relatively still. Practising during meals and for a period afterward can make it physically harder for the abdominal wall to create the pressure that brings food back up.

A clinician or therapist familiar with rumination disorder can check the technique and help you use it at the right times. Practising when you do not have symptoms may make it easier to use after meals.

Behavioural treatment may also include:

A dietitian can assess whether you are receiving enough energy, protein, vitamins and minerals. Nutritional drinks or temporary feeding support may be needed when weight loss or malnutrition is significant. This support protects nutrition while treatment addresses the regurgitation reflex.

Medication is not the main treatment. A specialist may sometimes consider medicine when behavioural treatment has not been enough or when another digestive problem is contributing. Medicines should not replace learning the breathing response, and their possible benefits and side effects need individual review.

Treatment can take practice. An episode is not a personal failure, and symptoms returning during stress or illness does not mean the skills have stopped working.

- Biofeedback showing how your breathing or muscles are working
- Habit-reversal strategies to recognise and interrupt early sensations
- Cognitive behavioural therapy for thoughts, distress or avoidance linked to symptoms
- Adjustments to posture, meal setting and eating pace
- Treatment for anxiety, reflux or another condition occurring alongside rumination

Complications

Many people have no lasting physical damage, especially when the condition is recognised and treated. Persistent or frequent regurgitation can nevertheless cause complications.

Possible effects include:

Repeated symptoms can also cause embarrassment and distress. Some people are wrongly assumed to be vomiting on purpose. Clear explanations for family members, schools or workplaces may reduce misunderstanding.

- Weight loss, poor growth or malnutrition
- Dehydration or disturbances in body salts
- Tooth enamel damage from repeated exposure to stomach contents
- Bad breath, sore throat or irritation of the food pipe
- Food entering the airway, which is uncommon but can affect breathing
- Avoidance of meals, school, work or social activities

Prevention

There is no established way to prevent every case of rumination disorder. It often begins without a clear, avoidable cause.

Early recognition may stop the reflex from becoming more established. If repeated effortless regurgitation develops, recording when it happens and seeking an assessment can help distinguish it from ordinary reflux or vomiting.

Once you have learned diaphragmatic breathing, regular practice around meals may reduce recurrences. Managing a digestive condition or emotional stress that triggers episodes may also help, but stress management alone does not treat the physical reflex.

Living with it and what to expect

Rumination disorder may last for months or years if it is not recognised. Symptoms can remain steady, occur in phases or become more noticeable during illness, stress or changes in routine.

Many people improve when they understand what is happening and consistently use diaphragmatic breathing or another behavioural treatment. Some stop regurgitating altogether. Others continue to have occasional episodes but find them easier to interrupt. A specific outcome cannot be promised.

You may be asked to keep a brief record of meals, symptoms and breathing practice. This can reveal patterns without requiring you to monitor every bite. Follow-up is useful for checking weight, nutrition, dental health and how well treatment fits daily life.

Eating with other people can feel difficult. It may help to practise first in a private, calm setting

and then gradually use the technique in ordinary situations. Children may need support from parents, caregivers and school staff without punishment or repeated attention to each episode.

If symptoms return after improving, refreshing the breathing technique is often part of follow-up. A reassessment may be needed if the pattern has changed, swallowing has become difficult or weight is falling.

When to get medical help

Arrange a routine appointment if food repeatedly returns after meals, even if it is painless. Assessment is particularly important if symptoms are affecting eating, weight, growth, teeth or social activities.

Seek prompt medical advice if you have:

Seek emergency care for vomiting or regurgitating blood, black material resembling coffee grounds, black tar-like stools, severe breathing difficulty, fainting, confusion or an inability to keep down fluids. These are not typical features of uncomplicated rumination disorder and may indicate bleeding, severe dehydration or another urgent problem.

- Ongoing weight loss or poor growth
- Trouble swallowing or food becoming stuck
- Frequent coughing, choking or breathing symptoms during episodes
- Signs of dehydration, such as very dark urine or urinating much less
- New pain, fever, persistent vomiting or symptoms that no longer fit your usual pattern

Common questions

Is rumination disorder the same as acid reflux?

No. Acid reflux usually involves acidic liquid flowing backward and may cause heartburn or a sour taste. Rumination commonly brings up recognisable food soon after eating through a learned pressure pattern. The two conditions can occur together.

Am I doing it on purpose?

Usually not. The abdominal and stomach response becomes automatic, even though you may learn to notice it starting. Treatment teaches a competing breathing pattern rather than blaming you for the symptoms.

Is rumination disorder an eating disorder?

It is classified as a feeding and eating disorder in psychiatric diagnostic systems, but it is not necessarily driven by concerns about weight or body shape. It can exist alongside anorexia, bulimia or another eating disorder, so clinicians assess the reason for regurgitation as well as the physical pattern.

Can rumination disorder go away on its own?

It sometimes improves, but persistent symptoms may continue without targeted treatment. Diaphragmatic breathing and behavioural therapy can help weaken or stop the learned reflex.

Why does food come back up without nausea?

The process is driven mainly by pressure from the abdominal muscles rather than the vomiting reflex. This allows recently eaten food to return with little effort and usually without retching.

Can children grow out of rumination disorder?

Some children improve, but it should not be assumed that every child will grow out of it. Repeated regurgitation, poor growth or feeding difficulty needs assessment. Treatment can be adapted to the child's age and development.

Sources

- National Institute of Diabetes and Digestive and Kidney Diseases: Symptoms and causes of rumination syndrome
- National Institute of Diabetes and Digestive and Kidney Diseases: Diagnosis of rumination syndrome
- National Institute of Diabetes and Digestive and Kidney Diseases: Treatment for rumination syndrome
- Halland M, Pandolfino J, Barba E. "Diagnosis and Treatment of Rumination Syndrome." Clinical Gastroenterology and Hepatology . 2018;16(10):1549-1555.
- Stanghellini V, Chan FKL, Hasler WL, et al. "Gastroduodenal Disorders." Gastroenterology . 2016;150(6):1380-1392.
- Sasegbon A, Vasant DH. "Rumination syndrome: pathophysiology, diagnosis and practical management." Frontline Gastroenterology . 2022;13(5):440-446.