CONDITION

Tapeworm infection - hymenolepis

A hymenolepis infection is an intestinal tapeworm infection usually spread through contaminated food, water, hands, or insects.

WHAT IT IS
Intestinal infection with a small tapeworm

BODY SYSTEM
Digestive system

MAIN SYMPTOMS
Abdominal pain, diarrhoea, nausea, reduced appetite

WHAT CAUSES IT
Infection with Hymenolepis tapeworms

HOW IT IS DIAGNOSED
Microscopic examination of stool samples

MAIN TREATMENT
Antiparasitic medicine

CAN IT BE CURED?
Yes, treatment usually clears the infection

IS IT AN EMERGENCY?
Sometimes, if severe dehydration develops

LONG-TERM OUTLOOK
Usually full recovery after effective treatment

Overview

Hymenolepis infection is caused by a small tapeworm that lives in the intestine. It is also called hymenolepiasis. The main species affecting people are Hymenolepis nana , known as the dwarf tapeworm, and Hymenolepis diminuta , sometimes called the rat tapeworm.

H. nana causes most human infections. It can spread directly from person to person when microscopic eggs from stool reach another person's mouth. This may happen through contaminated hands, food, water, or surfaces. Unlike many other tapeworms, H. nana can complete its life cycle inside one person.

Many infections cause no symptoms. When symptoms occur, they are more likely with larger numbers of worms and may be more noticeable in children. Treatment with antiparasitic medicine is usually effective.

This infection is different from pork tapeworm infection. Hymenolepis does not cause cysticercosis, the condition in which pork tapeworm larvae form cysts in body tissues.

Symptoms

Many people do not know they have hymenolepis because they feel well. Symptoms are more likely when the infection is heavy, meaning many worms are present.

Possible symptoms include:

These symptoms are not specific to tapeworm infection. Many digestive conditions can cause the same problems, so symptoms alone cannot confirm hymenolepis.

Unlike some larger tapeworms, hymenolepis is not usually noticed as visible worm segments in stool. Its eggs are microscopic and must be identified in a laboratory.

- Cramping or aching abdominal pain
- Diarrhoea or frequent loose stools
- Nausea
- Reduced appetite
- Tiredness or weakness
- Headache
- Irritability, especially in children
- Itching around the anus
- Poor weight gain or weight loss

Causes and risk factors

Infection begins when tapeworm eggs or infected insects are swallowed.

With H. nana , eggs pass in the stool of an infected person. They may then contaminate hands, food, drinking water, toilets, or nearby surfaces. If swallowed, the eggs hatch in the small intestine. The young worms briefly develop within the intestinal lining before becoming adult tapeworms.

H. nana can also cause autoinfection. This means eggs hatch inside the same person's intestine instead of leaving the body. The infection may continue or increase without a new exposure, particularly when it is not treated.

People can occasionally become infected after swallowing small insects, such as grain beetles or fleas, carrying tapeworm larvae. This is the usual route for H. diminuta . Rodents are important hosts for this species, while insects act as intermediate hosts that carry its immature stage.

Factors that can increase exposure include:

Children may be exposed more easily because of hand-to-mouth behaviour. Having these risk factors does not mean that a person has the infection.

- Limited access to safe water or sanitation
- Inadequate handwashing after using the toilet
- Crowded living conditions
- Food stored where insects or rodents can reach it
- Living in or visiting places where the infection occurs
- Close contact with contaminated household environments

Diagnosis

Hymenolepis is usually diagnosed by examining a stool sample under a microscope. The laboratory looks for the tapeworm's eggs and can often distinguish H. nana from H. diminuta by their appearance.

Eggs may not be present in every sample. A healthcare professional may therefore request stool samples collected on separate days. Laboratory methods that concentrate eggs can make a light infection easier to find.

Tell the healthcare professional about recent travel, living conditions, digestive symptoms, and possible exposure to rodents, fleas, or grain insects. They may also consider other causes of diarrhoea or abdominal pain.

Blood tests and scans do not usually confirm hymenolepis. They may be used when symptoms suggest another condition or when complications need to be assessed.

Treatment and management

Hymenolepis is treated with antiparasitic medicine. Praziquantel is commonly used because it damages the tapeworm and allows the body to clear it from the intestine. Other antiparasitic medicines may be considered in some countries or circumstances.

The choice of medicine can be affected by age, pregnancy, other health conditions, medicines already being taken, and local availability. A healthcare professional can explain the expected benefits and possible side effects.

Treatment is usually taken by mouth. Common short-term effects of antiparasitic medicines may include abdominal discomfort, nausea, headache, or dizziness. Symptoms can also come from the infection itself, so report severe or continuing problems rather than assuming they are treatment effects.

A follow-up stool test may be arranged after treatment. This checks whether eggs are still present. Further treatment may be needed if the infection remains, returns through autoinfection, or is followed by a new exposure.

If diarrhoea is present, drinking enough fluid is important. Oral rehydration solution can replace water and salts lost through frequent stools. Children, older adults, and people with other illnesses can become dehydrated more quickly.

Do not use livestock worming products or medicines bought from an unverified source. Products intended for animals may contain unsafe ingredients or strengths.

Complications

Most hymenolepis infections do not cause lasting harm, especially after effective treatment.

A persistent or heavy infection may cause ongoing diarrhoea, abdominal pain, reduced appetite, and weight loss. Children with prolonged symptoms may have difficulty gaining weight. Frequent diarrhoea can lead to dehydration, which means the body has lost too much fluid and salt.

Autoinfection can allow H. nana to remain in the intestine for a long time. This does not mean that every untreated infection will become severe, but continuing symptoms should be assessed.

Severe disease is unusual. People with a weakened immune system may have more difficulty controlling some parasitic infections and should seek medical advice if exposure or symptoms are suspected.

Prevention

There is no routinely used vaccine against hymenolepis. Many infections can be prevented by reducing contact with human stool, contaminated food, insects, and rodents.

Useful measures include:

Hand sanitiser does not remove every type of parasite as reliably as thorough washing with soap and water. When possible, handwashing is especially important after toileting and before handling food.

Someone who has been diagnosed should follow hygiene advice carefully while being treated. This reduces contamination of shared bathrooms and household surfaces. Household members do not automatically need treatment, but testing may be considered if they have symptoms or shared exposure.

- Wash hands with soap and water after using the toilet
- Help children wash their hands carefully
- Wash hands before preparing or eating food
- Use safe drinking water
- Wash produce before eating it
- Keep dry foods in sealed containers
- Clean food spills and crumbs promptly
- Control rodent and insect problems safely
- Avoid eating food from packages damaged by insects or rodents

Living with it and what to expect

Hymenolepis is usually a short-term, curable infection once it is recognised and treated. Digestive symptoms often improve after the worms are cleared, although the timing is not identical for everyone.

Without treatment, H. nana may continue for months or years because of autoinfection. Symptoms may remain mild, come and go, or be absent. A person can still pass eggs in stool even when feeling well.

Treatment does not create lasting immunity. It is possible to become infected again after another exposure. Reinfection is more likely if contaminated water, poor sanitation, insects, or rodents remain in the environment.

Most people can continue their usual activities while being assessed or treated if they feel well enough. Diarrhoea may require temporary changes to school, work, food handling, or childcare activities under local public health rules.

Routine follow-up may include discussing whether symptoms have settled and checking

another stool sample. Continuing symptoms do not always mean the tapeworm remains. Another digestive problem may need to be considered if follow-up testing is negative.

When to get medical help

Arrange a routine medical appointment if you have persistent diarrhoea, unexplained abdominal discomfort, reduced appetite, or weight loss. Mention any known tapeworm exposure, recent travel, unsafe water, or rodent and insect problems.

Seek prompt medical advice if a child has ongoing diarrhoea, is not gaining weight, or is unusually tired. People who are pregnant, have a weakened immune system, or have major ongoing health conditions should also get advice before taking any antiparasitic medicine.

Get urgent medical help for signs of significant dehydration or another serious digestive problem, including:

These signs are not typical of a mild hymenolepis infection and may have another cause. Emergency assessment is appropriate if someone collapses, becomes confused, or cannot stay awake.

- Very little urine or no urine
- A very dry mouth with marked weakness
- Repeated vomiting or inability to keep fluids down
- Blood in the stool or black, tar-like stool
- Severe or rapidly worsening abdominal pain
- Fainting, confusion, or unusual difficulty waking
- Severe symptoms in a baby or young child

Common questions

Can hymenolepis go away on its own?

Some infections may eventually clear, but H. nana can reinfect the same intestine through autoinfection. This allows it to continue for a long time. Confirmed infection is usually treated rather than waiting for it to disappear.

Can I see hymenolepis in my stool?

Usually not. The eggs are microscopic, and the adult dwarf tapeworm is small. Diagnosis normally requires laboratory examination of stool rather than checking it at home.

Is hymenolepis contagious?

H. nana can spread between people when eggs from stool are swallowed. It does not spread through coughing, ordinary conversation, or simply being in the same room. Careful toilet hygiene and handwashing reduce transmission.

Can pets give me this tapeworm?

Rodents are important hosts, and infected insects can carry tapeworm larvae. Ordinary contact with a well-cared-for pet is not the usual route. Flea control, safe food storage, and rodent control can reduce exposure.

Is this the same as a pork or beef tapeworm?

No. Hymenolepis species are different tapeworms with different life cycles. Hymenolepis infection stays mainly in the intestine and does not cause cysticercosis from pork tapeworm larvae.

Can hymenolepis come back after treatment?

Yes. Eggs may remain if treatment did not fully clear the infection, autoinfection may continue, or a person may be exposed again. A follow-up stool test can help determine whether further treatment is needed.

Sources

- Centers for Disease Control and Prevention: DPDx - Hymenolepiasis , laboratory identification, life cycle, and clinical information
- Centers for Disease Control and Prevention: About Hymenolepiasis , symptoms, transmission, diagnosis, and prevention
- Centers for Disease Control and Prevention: Clinical Care of Hymenolepiasis , antiparasitic treatment options
- MSD Manual Professional Edition: Hymenolepis nana infection , diagnosis, treatment, and prevention