CONDITION

Pinworms

Pinworms are tiny intestinal worms that often cause itching around the anus at night.

WHAT IT IS
Intestinal infection with tiny white parasitic worms

BODY SYSTEM
Digestive system and skin around the anus

MAIN SYMPTOMS
Anal itching, disturbed sleep, irritability, vulvar itching

WHAT CAUSES IT
Swallowing microscopic pinworm eggs

HOW IT IS DIAGNOSED
Morning tape test or seeing adult worms

MAIN TREATMENT
Antiparasitic medicine plus household hygiene

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

IS IT AN EMERGENCY?
No - urgent symptoms usually suggest another problem

LONG-TERM OUTLOOK
Usually clears, but reinfection is common

Overview

Pinworms are small, thin, white worms that live in the intestine. The medical name for the worm is Enterobius vermicularis . They are also called threadworms in some countries.

Pinworms can affect anyone, but they are especially common among school-aged children and people who share a home with them. The infection is not a sign that a person or household is dirty.

At night, female worms travel to the skin around the anus and lay microscopic eggs. This can cause intense itching and disturb sleep. Scratching can move the eggs onto fingers, under fingernails, and then onto bedding, clothing, food, toys, or other surfaces.

Pinworms are usually uncomfortable rather than dangerous. Treatment can clear the worms, but the medicines do not reliably kill their eggs. A second treatment and careful hygiene are

therefore often needed to prevent the infection from starting again.

Symptoms

Some people with pinworms have no symptoms. When symptoms occur, itching around the anus is the most typical sign. It is often worse at night, when the worms lay their eggs.

Possible symptoms include:

Adult pinworms look like short pieces of white cotton thread. They may move and are usually several millimetres long. They can sometimes be seen around the anus two to three hours after a person falls asleep. They may also appear on underwear, bedding, or the outside of a bowel movement.

Pinworms do not usually cause major digestive symptoms. Mild abdominal discomfort can occur, but severe pain, repeated vomiting, bloody stool, or ongoing weight loss is not typical and should not automatically be blamed on pinworms.

- Itching or irritation around the anus, especially at night
- Restless sleep, waking frequently, or irritability
- Scratches or sore skin around the anus
- Tiny white worms around the anus or in underwear
- Vulvar or vaginal itching if worms move to that area

Causes and risk factors

Pinworms spread when someone swallows their microscopic eggs. This can happen after touching a contaminated surface and then touching the mouth or handling food.

After the eggs are swallowed, they hatch in the intestine. The worms mature and reproduce. Female worms then lay new eggs on the skin around the anus, usually during sleep. The eggs become able to infect another person within hours and can remain on indoor objects for days to weeks.

Scratching itchy skin is an important part of the cycle. Eggs can collect under the fingernails and spread through hand-to-mouth contact. A person may also reinfect themselves this way.

Factors that make spread more likely include:

Human pinworms do not come from dogs, cats, or other household pets. Pets do not need pinworm treatment.

- Living with someone who has pinworms
- Attending or working in a school, nursery, or childcare setting
- Sharing bedrooms, bedding, towels, or washcloths
- Nail biting or thumb sucking
- Crowded living arrangements

Diagnosis

A clinician may suspect pinworms from the pattern of nighttime itching or from seeing a worm. The main test is a tape test, which collects eggs from the skin around the anus.

For this test, clear adhesive tape is pressed gently against the anal skin first thing in the morning. It should be done before washing, using the toilet, getting dressed, or applying creams. The sample is then examined under a microscope.

Because eggs may not be laid every night, testing on three mornings in a row improves the chance of finding them. A healthcare service may provide a collection kit or explain how to prepare the samples safely.

Another approach is to look for adult worms around the anus two to three hours after the person falls asleep. A flashlight may help. Finding a typical moving white worm can support the diagnosis, although similar-looking fibres can sometimes cause confusion.

A standard stool test often misses pinworms because most eggs are laid on the skin rather than passed in stool. Blood tests and scans are not normally needed.

Treatment and management

Pinworms are treated with antiparasitic medicine. Commonly used medicines include mebendazole, pyrantel pamoate, and albendazole. Which options are available without a prescription differs by country.

Treatment usually involves a second dose after about two weeks. This is because the medicine kills worms but may not kill their eggs. The later dose treats worms that have hatched since the first treatment. Follow the product instructions or the directions given by a pharmacist or clinician.

People who live together are often treated at the same time, even if some have no symptoms. This helps prevent the infection from passing back and forth. A pharmacist or clinician can

advise whether this is appropriate for a particular household.

Ask for professional advice before using pinworm medicine for a child younger than 2 years, during pregnancy, or while breastfeeding. The safest choice may depend on the medicine and the person's circumstances.

Hygiene is important alongside medicine. For at least two weeks after the final treatment:

Medicine can sometimes cause temporary stomach upset or other side effects. Read the information supplied with the product and seek advice if an unexpected reaction occurs.

Herbal remedies and household chemicals have not been shown to clear pinworms safely. Bleach, disinfectant, or essential oils should never be applied to the skin around the anus.

- Wash hands with soap after using the toilet and before eating
- Keep fingernails short and clean
- Avoid nail biting and scratching around the anus
- Shower in the morning to remove eggs laid overnight
- Change underwear and sleepwear each morning
- Wash bedding, towels, sleepwear, and underwear regularly
- Avoid shaking laundry, which can scatter eggs
- Clean bathroom and kitchen surfaces and vacuum living areas
- Do not share towels or washcloths

Complications

Complications are uncommon. The most frequent problems come from repeated itching and poor sleep rather than from damage to the intestine.

Frequent scratching can break the skin. This may lead to soreness or, occasionally, a bacterial skin infection. Signs can include increasing redness, warmth, swelling, pain, or pus.

Worms can sometimes move into the vulvar or vaginal area, causing itching, irritation, or discharge. More extensive inflammation in the female reproductive or urinary tract is rare.

Ongoing sleep disruption can affect mood, concentration, and school or work performance. These problems usually improve once the infection and itching have cleared.

Severe abdominal illness is not a usual feature of pinworms. Although pinworms have occasionally been found during investigations or surgery for abdominal conditions, their role is not always clear. Significant abdominal or pelvic symptoms need their own medical

assessment.

Prevention

There is no vaccine for pinworms, and exposure cannot always be prevented. Hygiene can reduce the chance of infection and, most importantly, lower the risk of reinfection after treatment.

Regular handwashing with soap and water is the most useful measure. Alcohol hand gel may not physically remove eggs as well as thorough washing.

Morning showers, clean underwear, short fingernails, and regular laundering help remove eggs before they are swallowed or spread. Clean frequently touched surfaces and wash toys that children often put in their mouths.

If one household member has pinworms, coordinated treatment and hygiene are more effective than focusing only on the person with itching. Routine daily activities can usually continue, although local schools or childcare services may have their own policies.

Living with it and what to expect

Treatment usually clears the adult worms quickly, but itching may take several days to settle. Irritated skin can remain uncomfortable even after the worms have died.

The full treatment plan often lasts at least two weeks because a repeat dose is commonly used. Hygiene needs to continue during this period so that eggs left in the home do not restart the cycle.

Reinfection is common, particularly in households with children. This does not necessarily mean that treatment failed or that cleaning was inadequate. Pinworm eggs are tiny, spread easily, and can be picked up again from other people.

Repeated infections do not usually cause lasting harm. If symptoms keep returning, a clinician can check whether everyone who needs treatment has been treated, whether doses were completed correctly, and whether another condition could be causing the itching.

Most people can continue school, work, exercise, and other normal activities during treatment. Sleep may improve as nighttime itching settles.

When to get medical help

A pharmacist or primary care clinician can help if pinworms are suspected, particularly when no worm has been seen or the correct treatment is uncertain.

Arrange routine medical advice if:

Seek prompt medical care for spreading redness, swelling, pus, fever, painful urination, or worsening abdominal or pelvic pain. These symptoms are not typical of a simple pinworm infection and may have another cause.

Pinworms do not normally require emergency treatment. Seek emergency help for severe abdominal pain with collapse, marked confusion, or difficulty waking. These are not expected pinworm symptoms.

- Symptoms continue after the full treatment course and hygiene measures
- Infections repeatedly return
- The skin around the anus is persistently sore
- There is vulvar or vaginal itching or discharge
- Treatment is being considered during pregnancy or breastfeeding
- The affected child is younger than 2 years

Common questions

Can I see pinworms in poop?

Sometimes. Adult worms may appear on the outside of a bowel movement, but they are more often seen around the anus at night or on underwear in the morning. A negative stool test does not rule out pinworms.

How did I get pinworms?

You may have swallowed microscopic eggs after touching a contaminated hand, object, food, or surface. Because the eggs cannot be seen without a microscope, most people never know where the exposure happened.

Do pinworms go away on their own?

Adult worms have a limited lifespan, but untreated infection can continue because new eggs are repeatedly swallowed. Medicine and household hygiene provide a more reliable way to break this cycle.

Does everyone in the house need treatment?

Treating household members at the same time is often advised because people can carry

pinworms without symptoms. A pharmacist or clinician can help if someone is very young, pregnant, breastfeeding, or unable to take the usual medicine.

Can my dog or cat give me pinworms?

No. Human pinworms infect people, not household pets. Dogs and cats can have other kinds of worms, but they do not spread human pinworm infection.

Why are the symptoms worse at night?

Female worms usually leave the intestine and lay eggs around the anus while the person is asleep. The eggs and a sticky substance around them irritate the skin, causing nighttime itching.

Sources

- Centers for Disease Control and Prevention. About Pinworm Infection
- Centers for Disease Control and Prevention. Diagnosing Pinworms
- Centers for Disease Control and Prevention. Clinical Overview of Pinworm Infection
- Centers for Disease Control and Prevention. Preventing Pinworm Infection
- NHS. Threadworms
- Wendt S, Trawinski H, Schubert S, Rodloff AC, Mössner J, Lübbert C. The Diagnosis and Treatment of Pinworm Infection. Deutsches Ärzteblatt International. 2019;116:213-219