



# Pinworms



## What are Pinworms?

Pinworms (also called threadworms) are an intestinal infection caused by tiny parasitic worms called *Enterobius vermicularis*. It is a common infection that affects millions of people each year, particularly toddlers and school-age children. Infection often occurs in more than one family member.

Pinworms are thin and white, measuring about six to 13 millimetres in length.

## Symptoms

The most common signs of a pinworm infection are:

- Itching around the anus or vagina
- Troubled sleep
- Irritability and restlessness
- Loss of appetite

The itching is usually worse at night because the worms move to the area around the anus to lay their eggs (up to 10,000 to 15,000 eggs). In girls, pinworm infection can spread to the vagina and cause a vaginal discharge. If the itching breaks the skin, it could also lead to a bacterial skin infection. Pinworms can also cause bedwetting at night.

Some infected people have no symptoms at all.

## Causes and Risk Factors

Pinworms get into the body when people ingest or breathe in the microscopic pinworm eggs. These eggs are light and float in the air and can be found on contaminated hands and surfaces, such as:

- Bed linens
- Towels
- Clothing (especially underwear and pyjamas)
- Toilet seats, bathtub
- Toys

- Desks or lunch tables at school
- Sandboxes

The eggs pass into the digestive system and hatch in the small intestine. From the small intestine, pinworm larvae go to the large intestine, where they live as parasites (with their heads attached to the inside wall of the bowel).

About one to two months later, adult female pinworms leave the large intestine through the anus (the opening where bowel movements come out). They lay eggs on the skin right around the anus, which triggers itching in that area, usually at night.

When someone scratches the itchy area, microscopic pinworm eggs transfer to their fingers. Contaminated fingers can then carry pinworm eggs to the mouth, where they go back into the body, or stay on various surfaces, where eggs can survive for two to three weeks.

Fortunately, most eggs dry out within 72 hours. In the absence of host autoinfection, infestation usually lasts only four to six weeks.

## Can pets transmit pinworms?

Animals do not carry pinworms and therefore pinworms are not caused by animals.

## Diagnosis

Itching during the night in a child's perianal area strongly suggests pinworm infection. Diagnosis is made by identifying the worm or its eggs.

If your child has a pinworm infection, you can see worms on the skin near the anal region or on underwear, pyjamas or sheets, about two or three hours after your

child has fallen asleep. You also might see the worms in the toilet after your child goes to the bathroom. They look like tiny pieces of white thread and are really small — about as long as a staple. You might also see them on your child's underwear in the morning.

Pinworm eggs can be collected and examined using the "tape test" as soon as the person wakes up. This "test" is done by firmly pressing the adhesive side of clear, transparent cellophane tape to the skin around the anus. The eggs stick to the tape and the tape can be placed on a slide and looked at under a microscope. This test should be done as soon as the person wakes up in the morning before they wash, bathe, go to the toilet, or get dressed. The "tape test" should be done on three consecutive mornings to increase the chance of finding pinworm eggs.

## Treatments

Oral medication such as mebendazole or albendazole should be given to everybody in the household. There is a risk of transmission between family members; so the chances of being infected if somebody has been diagnosed are high, even if no symptoms are present.

Both medications block the worm's ability to absorb glucose, effectively killing it within a few days. Treatment involves two doses of medication, best administered on an empty stomach, with the second dose being given two weeks after the first dose. All household contacts and caretakers of the infected person should be treated at the same time.

Hygiene measures should be continued for another two weeks following the initial treatment.

Although medicine takes care of the worm infection, the itching may continue for about a week. Apply a zinc ointment or other medicine to help stop the itching.

Reinfection can occur easily so strict observance of good hand hygiene is essential (e.g. proper handwashing, maintaining clean short fingernails, avoiding nail biting, avoiding scratching the perianal area).

## Prevention

Everyone in a household with pinworms must adhere to the following:

### Do's

- ✓ Wash your hands thoroughly and frequently with soap and water, and scrub under the fingernails. Before eating, after going to the toilet, and after changing diapers, make sure to wash hands.
- ✓ At night, wear close-fitting underwear. Be sure to change underwear every morning. Wash underwear hot water > 40°C. Use a hot iron to iron the underwear.
- ✓ Wear cotton gloves, which may help prevent scratching during sleep.
- ✓ Shower every morning and change underwear daily. This helps remove a large proportion of eggs. During showers, thoroughly clean the body, paying particular attention to the anal and vaginal areas. Showering is preferred to avoid contaminating bath water.
- ✓ Wash towels, bedding and cuddly toys in hot water > 40°C especially after each treatment of the infected person and after each usage of washcloths until infection is cleared.
- ✓ Cut fingernails short.
- ✓ Vacuum the home thoroughly, especially the bedrooms including the mattress, floors and toys. Vacuuming needs to be regular and thorough throughout the six-week period.
- ✓ Damp-dust surfaces in the kitchen and bathroom, washing the cloth often in hot water regularly.
- ✓ Open curtains in bedrooms during the day as the eggs are sensitive to light.

## Don'ts

- ✗ Do not co-shower or co-bathe with other family members.
- ✗ Do not share towels or flannels.
- ✗ Do not shake things that may have eggs on them, such as clothing, pyjamas, bed linen, or towels, in order to prevent eggs from spreading through the air.
- ✗ Do not eat in the bedroom. There is a risk of swallowing eggs that have shaken off the bedclothes.
- ✗ Refrain from nail biting and finger sucking for every member of the household.

When the infestation has gone, good hand-washing practice and hygiene will help prevent re-infection. Good hygiene can prevent another outbreak even if children pick up another pinworm infection from friends at school.

## Can the infected child return to school?

Yes. There is no need to exclude the child from group settings.

## Useful telephone number

Central Appointments

6294-4050



KK Women's and  
Children's Hospital  
SingHealth

100 Bukit Timah Road  
Singapore 229899  
Tel: 6-CALL KKH (6-2255 554)  
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