



Pinworm Infection

What is a pinworm?

A pinworm ("threadworm") is a small, thin, white roundworm that sometimes lives in the colon and rectum of humans. Pinworms are about the length of a staple. While an infected person sleeps, female pinworms leave the intestine through the anus and deposit their eggs on the surrounding skin.

What are symptoms of a pinworm infection?

Pinworm infection causes itching around the anus which can lead to difficulty sleeping and restlessness. Symptoms are caused by the female pinworm laying her eggs. Symptoms of pinworm infection usually are mild and some infected people have no symptoms.

Who is at risk for pinworm infection?

Pinworm infection occurs worldwide and affects persons of all ages and socioeconomic levels. Pinworm infection occurs most commonly among

- school-aged and preschool-aged children,
- institutionalized persons, and
- household members and caretakers of persons with pinworm infection.

Pinworm infection often occurs in more than one person in household and institutional settings. Child care centers often are the site of cases of pinworm infection.

How is pinworm infection spread?

Pinworm eggs can be spread within a few hours after being deposited on the skin around the anus and can survive for 2 to 3 weeks on clothing,

bedding, or other objects. People become infected, usually unknowingly, by swallowing (ingesting) infective pinworm eggs that are on fingers, under fingernails, or on clothing, bedding, and other contaminated objects and surfaces. Because of their small size, pinworm eggs sometimes can become airborne and ingested while breathing.

Pinworm infection is spread by the transfer of infective pinworm eggs from the anus to someone's mouth, either directly by hand or indirectly through contaminated clothing, bedding, food, or other articles.

How is pinworm infection diagnosed?

Itching during the night in a child's anal area strongly suggests pinworm infection. Diagnosis is made by identifying the worm or its eggs. Worms can sometimes be seen on the skin near the anus or on underclothing, pajamas, or sheets about 2 to 3 hours after falling asleep.

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. Because washing/bathing or having a bowel movement can remove eggs from the skin, 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.

Because itching and scratching of the anal area is common in pinworm infection, samples taken from under the fingernails may also contain eggs.

Pinworm eggs rarely are found in routine stool or urine samples.

How is pinworm infection treated?

Pinworm can be treated with either prescription or over-the-counter medications. A health care provider should be consulted before treating a suspected case of pinworm infection. All household contacts and caretakers of the infected person should be treated at the same time.

Re-infection can occur easily so strict hand hygiene is essential (e.g. proper hand-washing, maintaining clean short fingernails, avoiding nail biting, avoiding scratching the area around the anus).

What should be done if the pinworm infection occurs again?

Re-infection occurs easily. Good hand hygiene is the most effective means of prevention. If pinworm infection occurs again, the infected person should be retreated. The infected person's household contacts and caretakers also should be treated. If pinworm infection continues to occur, the source of the infection should be sought and treated. Playmates, schoolmates, close contacts outside the home, and household members should be considered possible sources of infection.

Each infected person should receive the recommended treatment.

How can pinworm infection and re-infection be prevented?

Strict observance of good hand hygiene is the most effective means of preventing pinworm infection. This includes washing hands with soap

and warm water after using the toilet, changing diapers, and before handling food.

Daily morning bathing and changing of underclothes helps remove a large proportion of pinworm eggs and can help prevent infection and re-infection. Showering may be preferred to avoid possible contamination of bath water.

Infected persons should keep fingernails clean and short, avoid fingernail-biting, and avoid scratching the skin in the perianal area. Trimming and scrubbing the fingernails and bathing after treatment is important to help prevent re-infection and spread of pinworms.

Careful handling (avoid shaking) and frequent laundering of underclothes, night clothes, towels, and bed sheets using hot water also helps reduce the chance of infection and re-infection by reducing environmental contamination with eggs.

Control can be difficult in child care centers and schools because the rate of re-infection is high.

Persons with pinworms do not need to be excluded from school or work.

Adapted from:
Parasites - Enterobiasis (also known as Pinworm Infection).
Centers for Disease Control and Prevention, 2010
(<http://www.cdc.gov/parasites/pinworm/>, accessed 26 February 2014)