

LOS ANGELES

COLON AND RECTAL SURGICAL ASSOCIATES

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PINWORMS YUCH!!!

"Doc, I can't sleep because I'm scratching my bottom all night! I swear, I either have pinworms or I'm crazy!" Such is a common complaint in the colorectal surgeon's office, from a patient sitting uncomfortably and sideways. While there are many causes of anal itching (pruritus ani), patients and parents seem to focus on pinworm as the probable cause of their misery.

the anus and emerge onto the perineal region to obtain oxygen for the developing eggs. The eggs are deposited onto the anus by the adult pregnant female worm. The eggs mature in 4 to 6 hours, resulting in infective eggs. This deposition occurs because the human host scratches the area, thus rupturing the worm, or the pregnant female naturally expels the eggs, or

Enterobius vermicularis (pinworm) is the most common helminthic infection in the United States, with humans being the only natural host. Pinworm infection, or enterobiasis, occurs in both temperate and tropical climates. It is common in school children and in crowded, close conditions. In fact, it is estimated that 20-40% of U.S. children carry pinworms at any given time.



"With care and attention given to hygiene, pinworm infestation can be eradicated and sleepless nights spent scratching will become a distant memory."

HOW DID I GET PINWORM? I WASH MY HANDS A LOT.

The pinworm life cycle starts with the oral ingestion of pinworm eggs. The eggs hatch in the duodenum and begin their relentless march to the anus and perineum. They mature in the small intestine and the males and females mate in the ileum. While the males die, the females advance toward

by death of the female with release of the eggs. Reinfection (autoinfection) occurs with scratching the anal area and transmitting the eggs to the mouth by contaminated hands. Eggs can also be transferred to the mouth by infected food. Hence, the importance of hand washing. Eggs can be deposited onto bed linens or other surface areas. Eggs can be airborne, inhaled,

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and ingested whereupon the eggs hatch, releasing larvae into the small bowel. The adult worms then migrate and inhabit mainly the cecum and appendix. Although pinworms can be found in appendiceal specimens after surgery, it is uncertain if the worms actually cause appendicitis. Migration to extra intestinal sites can occur, such as the genitourinary tract and even the nasal mucosa. Eggs may survive up to 2 weeks in cool, humid conditions.

ITCH! ITCH! SCRATCH! SCRATCH! NONSTOP!!!!

Although many patients may be asymptomatic, the most common symptom is a perianal inflammatory reaction to the worm or eggs, whereupon the individual scratches the perianal skin at night, with the eggs lodging underneath the fingernails. Nausea, vomiting, and abdominal pain can occur with a high worm burden. Rectal bleeding is rare, since the worms do not invade the intestinal wall.

Diagnosis is confirmed with a pinworm paddle test or "tape test", performed first thing in the morning before bathing. A clear plastic paddle coated with adhesive or a piece of transparent tape is pressed against the perianal skin and placed on a glass slide. The eggs or worms can be visualized under a microscope. Eggs (25 to 50 microns in length) have a bean-shaped appearance and the female adult worm (8-13 mm long) appears white and pin-shaped. Stool cultures are not helpful since the eggs are not usually passed in stool.

THE CURE.

Treatment is with albendazole (Albenza™) 400 mg orally once, and repeated in 2 weeks. Mebendazole (Vermox™) is also used but has not been available in the United States since December 2011. These medications effectuate a cure through the inhibition of microtubular function and glycogen blockade in the adult worm. The pinworm is effectively starved. More commonly, pyrantel pamoate (11 mg/kg) is used since it is inexpensive, effective and sold over the counter. Pyrantel pamoate is marketed under the brand names Pin-X™ and Reese's Pinworm Medicine™. It is also given twice, two weeks apart. It works through neuromuscular blockade.

DO TRY THIS AT HOME.

Many patients resort to home remedies due to embarrassment or reluctance to seek medical attention. Since the pinworm's lifespan is 6 weeks, it is possible to adhere to strict hygiene and cleaning measures to eradicate the pinworms without reinfection. Dietary changes, such as avoiding sugars and carbohydrates which pinworms thrive on, can help, as well as adding high fiber foods to add bulk to stool and help evacuation. Probiotics create an inhospitable environment for pinworms. Garlic (not powdered) added to food and garlic paste made by crushing raw garlic cloves in Vaseline™ can be applied to the rectal area to ease the itch and kill the worms. Other foods that have been purported to help are grapefruit seed extract, apple cider vinegar, bitter melon, onions, squash and pumpkin seeds, clove and flaxseed, white willow bark, carrots, coconut, and wormwood.



OH NO! NOT AGAIN.

Reinfection is common so it is wise to treat the entire household all at once. All bed linens, clothes, and towels should be washed daily. Linens should not be shaken, as eggs can be launched airborne and inhaled. Therefore, it is a wise idea to wear a mask when changing linens and washing clothes. Carpets should be vacuumed and floors mopped daily. Personal hygiene with bathing in the morning, hand washing, and clipping of the fingernails is also recommended, especially with nail biters and thumb sucking children. With care and attention given to hygiene, pinworm infestation can be eradicated and sleepless nights spent scratching will become a distant memory.