

Parasitic worms (soil-transmitted helminths)

Parasitic worms that infect humans who come into contact with worm eggs or larva in soil

Soil-transmitted helminths are parasitic worms that infect humans who come into contact (either by eating contaminated food or by walking barefoot in infected areas) with worm eggs or larva in soil. These worms live in the intestines (guts) and their eggs pass into soil from faeces (human waste) when infected humans defecate outside or when human waste is used as a crop fertiliser.

They are one of the commonest infections worldwide, especially in hot, humid areas where sanitation and hygiene are poor. There is no direct person-to-person spread or transmission via fresh faeces, as the eggs need about three weeks in soil before they become infectious.

The main soil-transmitted helminths that infect people are: hookworms (*Necator americanus* and *Ancylostoma duodenale*), roundworms (e.g. *Ascaris lumbricoides*) and whipworms (*Trichuris trichiura*).

Humans get infected with roundworm or whipworm by eating fruit and vegetables that have not been carefully cooked, washed or peeled. The eggs can also be spread by dirty cooking utensils and by putting hands or fingers contaminated with dirt into the mouth.

Symptoms include abdominal pain, appetite loss, diarrhoea and general weakness. Hookworms can also cause anaemia if bleeding from the intestines occurs. Long-term infection can stop food being absorbed properly and can cause complications, such as intestinal obstruction, that needs surgery.

A type of hookworm infection sometimes seen in travellers is Cutaneous Larvae Migrans. Skin contact with soil or sand contaminated with hookworm larvae in animal (e.g. dog or cat) faeces can result in an itchy, red tracking of the skin, which moves as the larvae migrate about the skin.

Drug treatment, with mebendazole or albendazole, is safe and effective.

Prevention

There is no vaccine or drug to prevent infection. Avoiding food that may be contaminated with soil or human faeces by following [good food, water and personal hygiene](#) advice helps protect against roundworm and whipworm infection.

Travellers should avoid walking barefoot in regions where hookworm is common, including beaches and any area that may have been contaminated with human and animal waste.

Travellers who are immunocompromised are at risk of overwhelming infection with [Strongyloides stercoralis](#) so good prevention measures are particularly important.

Resources

- [World Health Organization: Soil-transmitted helminthiases](#)
- [World Health Organization: Soil-transmitted helminth infections](#)
- [Centers for Disease Control and Prevention: Helminths, Soil-Transmitted](#)
- [Centers for Disease Control and Prevention: Strongyloidiasis](#)
- [Office for Health Improvement and Disparities: Helminth infections: migrant health guide](#)