

Cutaneous larva migrans

What is cutaneous larva migrans?

Cutaneous larva migrans is a parasitic skin infection caused by hookworm larvae that usually infest cats, dogs and other animals. Humans can be infected with the larvae by walking barefoot on sandy beaches or contacting moist soft soil that have been contaminated with animal faeces. It is also known as creeping eruption as once infected, the larvae migrate under the skin's surface and cause itchy red lines or tracks.

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What causes cutaneous larva migrans?

Many types of hookworm can cause cutaneous larva migrans. Common causes are:

- * *Ankylostoma braziliense*: hookworm of wild and domestic dogs and cats found in central and southern US, Central and South America, and the Caribbean
- * *Ankylostoma caninum*: dog hookworm found in Australia
- * *Uncinaria stenocephala*: dog hookworm found in Europe
- * *Bunostomum phlebotomum*: cattle hookworm

Who is at risk?

People of all ages, sex and race can be affected if they have been exposed to the larvae. It is most commonly found in tropical or subtropical geographic locations. Groups at risk include those with occupations or hobbies that bring them into contact with warm, moist, sandy soil. These may include:

- * Barefoot beachcombers and sunbathers
- * Children in sandpits
- * Farmers
- * Gardeners
- * Plumbers
- * Hunters
- * Electricians
- * Carpenters
- * Pest exterminators

Most larva migrans seen in New Zealand arises during overseas holidays, but it has rarely been reported in those who have never been out of the country.

How does infection occur?

Parasite eggs are passed in the faeces of infested animals to warm, moist, sandy soil, where the larvae hatch. On contact with human skin, the larvae can penetrate through hair follicles, cracks or even intact skin to infect the human host. Between a few days and a few months after the initial infection, the larvae migrate beneath the skin. In an animal host the larvae are able to penetrate the deeper layers of the skin (the dermis) and infect the blood and lymphatic system. Once in the intestine they mature sexually to create more eggs that are then excreted to start the cycle again. However, in a human host, the larvae are unable to penetrate the basement membrane to invade the dermis so the disease remains confined to the outer layers of the skin.

What are the signs and symptoms?

At the site of penetration a non-specific eruption occurs. There may be a tingling or prickling sensation within 30 minutes of the larvae penetrating. The larvae can then either lie dormant for weeks or months or immediately begin creeping activity that create 2-3mm wide, snakelike tracks stretching 3-4cm from the penetration site. These are slightly raised, flesh-coloured or pink and cause intense itching. Tracks advance a few millimetres to a few centimetres daily and if many larvae are involved a disorganised series of loops and tortuous tracks may form.

Sites most commonly affected are the feet, spaces between the toes, hands, knees and buttocks.

What treatment is available?

This disease is self-limiting. Humans are an accidental and "dead-end" host so the larvae eventually die. The natural duration of the disease varies considerably depending on the species of larvae involved. In most cases, lesions will resolve without treatment within 4-8 weeks.

However, effective treatment is available to shorten the course of the disease. Anthelmintics such as thiabendazole, albendazole, mebendazole and ivermectin are used. Topical thiabendazole is considered the treatment of choice for early, localised lesions. Oral treatment is given when the lesions are widespread or topical treatment has failed. Itching is considerably reduced within 24-48 hours of starting treatment and within 1 week most lesions/tracks resolved.

Any secondary skin infections may require treatment with appropriate antibiotics.