

SCABIES

What is scabies?

Scabies is a distressing contagious infestation caused by a parasitic mite called *Sarcoptes scabiei*. The scabies mite is a tiny arthropod creature (0.3mm or less) without wings or eyes. Its body is oval and flat with eight stumpy legs and several bristles. The head area is called the capitulum. Many domestic and wild animals can also be infested with various other species of *Sarcoptes* mites (causing mange), but they rarely infest man. Only *Sarcoptes scabiei* is adapted to the human host.

The life cycle of the scabies mite

Adult males and females meet and mate on the surface of human skin. The female then burrows into the upper layer of the skin using her jaws and front legs. She tends to select places on the body where the skin is thin and wrinkled, such as the skin on the elbows, wrists, feet, between the fingers, the buttocks, nipples, penis or scrotum. As she digs, she feeds on the skin, lays eggs and defaecates. The burrows she makes can be one inch long and contain about 20 eggs each. The eggs hatch into six-legged larvae (which otherwise resemble the adults) after about five days. The larvae move to the surface of the skin and make their own burrows. They moult three times to become the eight-legged adults. The males tend to stay on the surface, looking for females. The average number of adult female scabies mites on an infested person is about 11; less than 5% have more than 50 mites. The whole life cycle from egg to adult takes two to three weeks. The adult mites live for four to five weeks, but away from its human host a scabies mite will die in a few hours.

How is scabies spread?

Transmission of scabies is by close, prolonged, skin-to-skin contact. It can spread easily from one person to another, especially in families and in institutions (e.g. boarding schools, crowded prisons, hospitals). Holding hands, sharing beds, hugging, close dancing and caring for patients are just some of the ways in which scabies can be spread. The incidence of scabies often increases during times of disaster such as wars, earthquakes and floods, when people are forced together into over-crowded conditions.

Where is scabies found and who gets it?

Scabies can infest anybody although it is more common among children than adults. It is cosmopolitan but tends to be commoner in the tropics, in urban, crowded situations, especially where standards of hygiene are poor.

Symptoms of scabies

Symptoms of scabies often do not develop for about six weeks after the initial contact but this period is shorter with re-infestations. The first sign is itching, which is often worse at

night. Itching is accompanied by the appearance of very small, slightly raised tracks, often between the fingers, which are easier to see on fair-skinned people. A papular eruption rapidly develops which spreads to several areas of the body. Vesicles, pustules, crusts and boils may complicate the originally rash, especially because constant, vigorous scratching may lead to secondary bacterial infection. The rash is an allergic reaction to the mites and their faeces and because of this, the distribution of the rash is not necessarily related to the distribution of the mites. The rash tends to appear on the buttocks and around the waist. It can also occur on the inner sides of the arms and legs but does not appear on the centre of the chest or back or on the soles of the feet or palms of the hands. On adults the rash rarely reaches the head or neck but these areas are frequently involved in infants.

The scabies mite does not transmit any disease but it can lead to a condition called Crusted or Norwegian itch, which is a rare, severe type of scabies accompanied by crusting, pustulation and the presence of thousands of mites. It is therefore highly contagious. It tends to occur more in bedridden or debilitated persons, or persons with poor immunity.

Diagnosis of scabies

Diagnosis is often based on the presence of a nocturnal itch accompanied by a typical distribution of lesions. Often the rash is misdiagnosed because of its variable appearance. Microscopic identification of the mites or eggs from a skin scraping are very useful but scrapings are often negative. Scabies should always be suspected if close contacts have the same symptoms.

Treatment of scabies

An insecticidal lotion or cream which is applied once to the whole body below the neck (not just on the rash) and left on for several hours e.g. overnight, is generally very effective. Hot baths before treatment should be avoided since they may increase the absorption of the insecticide and therefore the risk of toxicity. Infants often must be treated all over, including the head – but taking great care to avoid the eyes. Itching can persist for days, even after the mites have been killed, and should not be interpreted as treatment failure. Treatments can be obtained from a good pharmacy and include creams or lotions which contain gamma benzene hexachloride, benzyl benzoate, crotamiton or permethrin.

Control of scabies

Since it can take several weeks for symptoms to develop, an infested person can spread scabies innocently to many people. Once discovered on an individual, all persons known to have had close contact with the infested person should also be treated. Alternatively, one can wait for the onset of symptoms in the contacts before treating them but several more persons may become infected in the meantime.

Although mites do not survive for long off the body, there is a slight risk of transmission from sharing bedding or clothing from an infested person. Such items can be washed in hot water to kill any mites.