

Scabies Fact Sheet

What are scabies?

Scabies is an infestation of the skin by the human itch mite *Sarcoptes scabiei* var. *hominis*. The microscopic mite burrows into the upper layer of the skin where it lives and lays its eggs.

Crusted scabies (also called Norwegian) is a severe form of scabies that can occur in some persons who are immunocompromised (have a weak immune system), elderly, or debilitated. This type of scabies may occur in people who have conditions that prevent them from itching and or scratching (spinal cord injury, paralysis, loss of sensation or mental deficit). Crusted scabies is characterized by vesicles and thick crusts over the skin that can contain many mites. These patients may not show the usual signs and symptoms of scabies such as rash or itching, but they are infested with large numbers of mites and are very contagious.

Where do scabies come from?

The human itch mite undergoes four stages in its life cycle: egg, larva, nymph and adult. Females deposit 2-3 eggs per day as they burrow under the skin. The burrows appear as tiny raised serpentine lines that are grayish or skin colored and can be a centimeter or more in length. Eggs are oval and 0.10 to 0.15 mm in length and hatch in 3-4 days. Larva will then migrate to the skin surface and burrow into a molting pouch and remain there 3-4 days before becoming a nymph. The nymph becomes a larger nymph before molting into an adult. Adults are round, sac-like eyeless mites. Females are 0.3 to 0.45 mm long and 0.25 to 0.35 mm wide. Males are about half the size of females. Mating takes place only once and leaves the female fertile for the rest of her life. Impregnated females then move to the skin surface and burrow into the skin where they remain and lay eggs for the rest of their life (1-2 months). About 10% of her eggs will develop into adult mites. Males will make temporary shallow pits in the skin to feed until they locate a female's burrow and mate.

What are the symptoms of scabies infestation?

The most common symptoms of scabies are itching and skin rash. Severe itching, especially at night, is the earliest and most common symptom. A pimple-like itchy scabies rash is also common. This may affect much of the body or be limited to common sites such as: between the fingers, wrist, elbow, armpit, penis, nipple, waist, buttocks, or shoulder blades. In infants and very young children the head, face, neck, palms, and soles may be involved, but these sites are not common in adults and older children.

The burrows may be seen on the skin and appear as tiny raised and crooked grayish-white or skin colored lines on the skin. Because there are usually only 10-15 mites per person, these burrows may be difficult to find.

How soon do symptoms appear after exposure?

When a person is infested with scabies mites for the first time, symptoms usually do not appear for up to two months (2-6 weeks) after being infested. A person who is infested can still spread scabies during this time even though they do not have symptoms.

If a person has had scabies before, symptoms may appear 1-4 days after exposure. An infested person can transmit scabies, even if they do not have symptoms, until they are successfully treated and the mites and eggs are destroyed.

People with crusted scabies may not show the usual signs and symptoms.

How are scabies spread?

Scabies can be passed easily by an infested person to his or her household members and sexual partners. Scabies usually is spread by direct, prolonged, skin-to-skin contact with a person who has scabies. Sleeping with or having sex with any scabies infested person presents a high risk for transmission. The longer a person has skin-to-skin exposure, the greater is the likelihood for transmission to occur. Although briefly shaking hands with a person who has non-crusted scabies could be considered as presenting a relatively low risk, holding the hand of that person for 5-10 minutes could be considered to present a relatively high risk of transmission. Scabies may occasionally be spread indirectly by sharing articles such as clothing, towels, or bedding used by an infested person. This indirect spread occurs more easily when the infested person has crusted scabies.

Because they are infested with such large numbers of mites, persons with crusted (Norwegian) scabies are very contagious to other persons. In addition to spreading scabies through brief direct skin-to-skin contact, persons with crusted scabies can transmit scabies indirectly by shedding mites that contaminate items such as their clothing, bedding, and furniture. Transmission can occur after brief skin-to-skin contact such as a handshake with a person who has crusted scabies. Persons with crusted scabies should receive quick aggressive medical treatment to prevent outbreaks of scabies.

An infested person can spread scabies even if they have no symptoms. Animals do not spread human scabies.

How are scabies diagnosed?

Diagnosis of a scabies infestation is usually made based upon the customary appearance and distribution of the rash and presence of burrows. When possible, the diagnosis of scabies should be confirmed by identifying the mite, mite eggs, or mite fecal matter. This can be done by a health care provider removing the mite from the end of its burrow or from a skin scraping to examine under a microscope. Since typically fewer than 10-15 mites will be present on the entire body, a person can still be infested even if the mites, eggs, or fecal matter cannot be found. A person with crusted scabies can be infested with thousands of mites.

Are there long-term complications of a scabies infestation?

The intense itching can lead to scratching that can lead to skin sores. The sores sometimes become infected with bacteria on the skin such as *Staphylococcus aureus* or beta-hemolytic streptococci. Sometimes the bacterial skin infection can lead to an inflammation of the kidneys called post-streptococcal glomerulonephritis.

How are scabies treated?

Products used to treat scabies are called scabicides because they kill scabies mites; some also kill mite eggs. No

over the counter products have been tested and approved to treat scabies. Scabicides are available only with a doctor's prescription. The instructions in the box or on the printed label should always be followed carefully. Contact a doctor or pharmacist if you are unsure how to use a particular medication.

Never use a scabicide intended for veterinary or agriculture use to treat a human. Use of insecticide sprays or fumigants is not recommended.

In addition to the infested person, treatment is also recommended for household members and sexual contacts. Both sexual and close personal contacts that have had direct prolonged skin-to-skin contact with an infested person within the preceding month should be examined and treated. All persons should be treated at the same time to prevent re-infestation.

Clean clothing should be worn after treatment. Bedding, clothing and towels used by the infested persons or their household, sexual, and close contacts anytime during the three days before treatment should be decontaminated by washing in hot water and drying in a hot dryer, by dry cleaning, or by sealing in a plastic bag for a minimum of 72 hours. Mites usually do not survive more than 2-3 days away from human skin.

Because the symptoms of scabies are due to reaction to mites and their feces, itching may still continue for several weeks after treatment. If itching continues for more than 2-4 weeks after initial treatment or if new burrows or rash continue to appear because retreatment with the same or a different treatment may be needed. If this occurs you should seek the advice of a physician.

Skin sores that become infected should be treated with an appropriate antibiotic prescribed by a doctor.

Who gets scabies?

Scabies is a common condition found worldwide. Scabies affects people of all races and social classes. Scabies can be passed easily by an infested person to their household members and sexual partners. Scabies can spread easily under crowded conditions where close body and skin contact is common. Institutions such as nursing homes, extended-care facilities, and prisons are often sites of scabies outbreaks. Child care facilities are also a common site of scabies infestations.

How long can a person carry scabies?

Scabies of human origin can continue as long as the patient remains infested and untreated. An untreated person can have scabies as long as there are females laying eggs which develop into scabies mites. On a person, scabies mites can live for as long as 1-2 months. During this time they are reproducing which results in a continuous cycle of new scabies. Off of a person, scabies mites usually do not survive more than 48-72 hours.

How common are scabies?

Scabies is not a reportable condition so exact numbers are not available, but it is known that they are common worldwide and affect people of all races and social classes. Cases are more prevalent in crowded conditions where close body and skin contact occurs.

How can scabies be prevented?

Scabies is prevented by avoiding direct skin to skin contact with an infested person or with items such as clothing or bedding used by an infested person. Scabies treatment is usually recommended for members of the same household, particularly for those who have had prolonged skin to skin contact. Household members and other potentially exposed persons should be treated at the same time as the infested person to prevent possible re-exposure and re-infestation. Bedding or clothing used by the infested person anytime during the 3 days before treatment should be washed and dried using hot water and hot dryer cycle or be dry cleaned. If items cannot be washed or dry cleaned they should be sealed in a plastic bag and left unopened for several days to a week. Rooms used by a case with crusted scabies should be thoroughly cleaned and vacuumed. Environmental disinfection using pesticide sprays or fogs is generally unnecessary and is discouraged.

Are there any restrictions for people with scabies?

Children and adults can usually return to school, childcare, or work the day after treatment.

Where can I get more information?

More information can be obtained from your local health department, your healthcare provider, or at <http://www.cdc.gov/parasites/scabies>.

Sources:

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