

Scabies

What is human scabies?

Human scabies is caused by an infestation of the skin by the human itch mite (*Sarcoptes scabiei* var. *hominis*). The microscopic scabies mite burrows into the upper layer of the skin where it lives and lays its eggs. The most common symptoms of scabies are intense itching and a pimple-like skin rash. The scabies mite usually is spread by direct, prolonged, skin-to-skin contact with a person who has scabies.

How is human scabies spread?

The adult female scabies mites burrow into the upper layer of the skin (epidermis) where they live and deposit their eggs. The microscopic scabies mite almost always is passed by direct, prolonged, skin-to-skin contact with a person who already is infested. An infested person can spread scabies, even if he or she has no symptoms. Humans are the source of infestation; animals do not spread human scabies.

What are the symptoms of human scabies?

When a person is infested with scabies mites the first time, symptoms may not appear for up to two months (2-6 weeks) after being infested; however, an infested person still can spread scabies during this time, even though he/she does not have symptoms.

If a person has had scabies before, symptoms appear much sooner (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.

Common symptoms of human scabies include itching (may be severe, especially at night) and papular skin rash (pimple-like skin rash). Itching and rash may affect much of the body or be limited to common sites such as:

- between the fingers
- wrist
- elbow
- armpit
- penis
- nipple
- waist
- buttocks
- shoulder blades



Source of images: <http://en.wikipedia.org/wiki/Scabies>

The head, face, neck, palms, and soles often are involved in infants and very young children, but usually not adults and older children.

Tiny burrows sometimes are seen on the skin; these are caused by the female scabies mite tunneling just beneath the surface of the skin. These burrows appear as tiny raised and crooked (serpiginous) grayish-white or skin-colored lines on the skin surface. These burrows may be difficult to find. They are found most often in the webbing between the fingers, in the skin folds on the wrist, elbow, or knee, and on the penis, breast, or shoulder blades.

The intense itching of scabies leads 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 an inflammation of the kidneys called post-streptococcal glomerulonephritis.

Are certain people at risk of getting human scabies?

Scabies occurs worldwide and affects people of all races and social classes. Scabies can spread rapidly under crowded conditions where close body contact is frequent. Institutions such as nursing home and extended-care facilities are often sites of scabies outbreaks.

Some immunocompromised, elderly, disabled, or debilitated persons are at risk for a severe form of scabies called crusted, or Norwegian scabies. Persons with crusted scabies have thick crusts of skin that contain large numbers of scabies mites and eggs. The mites in crusted (Norwegian) scabies are not more virulent than in non-crusted scabies; however, they are much more numerous (up to 2 million per patient). 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. Persons with crusted scabies should receive quick and aggressive medical treatment for their infestation to prevent outbreaks of scabies.

What is the treatment for human scabies?

Products used to treat scabies are called scabicides because they kill scabies mites; some also kill mite eggs. Scabicides used to treat human scabies are available only with a doctor's prescription.

Scabicide lotion or cream should be applied to all areas of the body from the neck down to the feet and toes. In addition, when treating infants and young children, scabicide lotion or cream also should be applied to their entire head and neck because scabies can affect their face, scalp, and neck, as well as the rest of their body. The lotion or cream should be applied to a clean body and left on for the recommended time before washing it off. Clean clothing should be worn after treatment.

Because the symptoms of scabies are due to a hypersensitivity reaction (allergy) to mites and their feces (scybala), itching still may continue for several weeks after treatment even if all the mites and eggs are killed. If itching still is present more than 2-4 weeks after treatment or if new burrows or pimple-like rash lesions continue to appear, retreatment may be necessary.

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

In addition to the infested person, treatment also is recommended for household members and anyone who has had prolonged direct skin-to-skin contact with the infested person. Close personal contacts who 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.

How can human scabies be prevented in the healthcare setting?

In general 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.

Early detection, treatment, and implementation of appropriate isolation and infection control practices are essential in preventing scabies outbreaks. Institutions should maintain a high index of suspicion that undiagnosed skin rashes and conditions may be scabies, even if characteristic signs or symptoms of scabies are absent (e.g., no itching).

New patients and employees should be screened carefully and evaluated for any skin conditions that could be compatible with scabies. The onset of scabies in a staff person who has had scabies before can be an early warning sign of undetected scabies in a patient. Skin scrapings should be obtained and examined carefully by a person who is trained and experienced in identifying scabies mites.

Appropriate isolation and infection control practices (e.g., gloves, gowns, avoidance of direct skin-to-skin contact, etc.) should be used when providing hands-on care to patients who might have scabies. Epidemiologic and clinical information about confirmed and suspected scabies patients should be collected and used for systematic review in order to facilitate early identification of and response to potential outbreaks.

Bedding and clothing worn or used next to the skin anytime during the three days before treatment should be machine washed and dried using the hot water and hot dryer cycles or be dry-cleaned. Items that cannot be dry-cleaned or laundered can be disinfested by storing in a closed plastic bag for several days to a week. Scabies mites generally do not survive more than 2-3 days away from human skin.

Persons with crusted (Norwegian) scabies and their close contacts, including household members, should be treated rapidly and aggressively to avoid outbreaks. Institutional outbreaks can be difficult to control and require a rapid, aggressive, and sustained response.

Rooms used by a patient with crusted scabies should be thoroughly cleaned and vacuumed after use. The use of pesticide sprays or fogs generally is unnecessary and is discouraged.

For more information regarding human scabies, visit the following resources:

- <http://www.cdc.gov/scabies/hcp/institutions.html>
- <http://www.dpd.cdc.gov/dpdx/HTML/scabies.htm>