

# Scabies

## What is scabies?

Scabies is 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.

Scabies is found worldwide and affects people of all races and social classes. Scabies can spread rapidly under crowded conditions where close body and skin contact is frequent. Institutions such as nursing homes, extended-care facilities, and prisons are often sites of scabies outbreaks. Child-care facilities also are a common site of scabies infestations.

## What is crusted (Norwegian) scabies?

Crusted scabies is a severe form of scabies that can occur in some persons who are immunocompromised (have a weak immune system), elderly, disabled, or debilitated. It is also called Norwegian scabies. Persons with crusted scabies have thick crusts of skin that contain large numbers of scabies mites and eggs. Persons with crusted scabies are very contagious to other persons and can spread the infestation easily both by direct skin-to-skin contact and by contamination of items such as their clothing, bedding, and furniture. Persons with crusted scabies may not show the usual signs and symptoms of scabies such as the characteristic rash or itching (pruritus). Persons with crusted scabies should receive quick and aggressive medical treatment for their infestation to prevent outbreaks of scabies.

## How soon after infestation do symptoms of scabies begin?

If a person has never had scabies before, symptoms may take 4-8 weeks to develop. It is important to remember that an infested person can spread scabies during this time, even if he/she does not have symptoms yet.

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In a person who has had scabies before, symptoms usually appear much sooner (1-4 days) after exposure

## **What are the signs and symptoms of scabies infestation?**

The most common signs and symptoms of scabies are intense itching (pruritus), especially at night, and a pimple-like (papular) itchy rash. The itching and rash each may affect much of the body or be limited to common sites such as the wrist, elbow, armpit, webbing between the fingers, nipple, penis, waist, belt-line, and buttocks. The rash also can include tiny blisters (vesicles) and scales. Scratching the rash can cause skin sores; sometimes these sores become infected by bacteria.

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. Because mites are often few in number (only 10-15 mites per person), 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 head, face, neck, palms, and soles often are involved in infants and very young children, but usually not adults and older children.

Persons with crusted scabies may not show the usual signs and symptoms of scabies such as the characteristic rash or itching (pruritus).

## **How did I get scabies?**

Scabies usually is spread by direct, prolonged, skin-to-skin contact with a person who has scabies. Contact generally must be prolonged; a quick handshake or hug usually will not spread scabies. Scabies is spread easily to sexual partners and household members. Scabies in adults frequently is

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sexually acquired. Scabies sometimes is spread indirectly by sharing articles such as clothing, towels, or bedding used by an infested person; however, such indirect spread can occur much more easily when the infested person has crusted scabies.

## How long can scabies mites live?

On a person, scabies mites can live for as long as 1-2 months. Off a person, scabies mites usually do not survive more than 48-72 hours. Scabies mites will die if exposed to a temperature of 50°C (122°F) for 10 minutes.

## Can scabies be treated?

Yes. Products used to treat scabies are called *scabicides* because they kill scabies mites; some also kill eggs. Scabicides to treat human scabies are available only with a doctor's prescription; no "over-the-counter" (non-prescription) products have been tested and approved for humans.

Always follow carefully the instructions provided by the doctor and pharmacist, as well as those contained in the box or printed on the label. When treating adults and older children, scabicide cream or lotion is applied to all areas of the body from the neck down to the feet and toes; when treating infants and young children, the cream or lotion also is applied to the head and neck. The medication should be left on the body for the recommended time before it is washed off. Clean clothes should be worn after treatment.

In addition to the infested person, treatment also is recommended for household members and sexual contacts, particularly those who have had prolonged skin-to-skin contact with the infested person. All persons should be treated at the same time in order to prevent reinfestation. Retreatment may be necessary if itching continues more than 2-4 weeks after treatment or if new burrows or rash continue to appear.

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Never use a scabicide intended for veterinary or agricultural use to treat humans!

## **Who should be treated for scabies?**

Anyone who is diagnosed with scabies, as well as his or her sexual partners and other contacts who have had prolonged skin-to-skin contact with the infested person, should be treated. Treatment is recommended for members of the same household as the person with scabies, particularly those persons who have had prolonged skin-to-skin contact with the infested person. All persons should be treated at the same time to prevent reinfestation.

Retreatment may be necessary if itching continues more than 2-4 weeks after treatment or if new burrows or rash continue to appear.

## **How soon after treatment will I feel better?**

If itching continues more than 2-4 weeks after initial treatment or if new burrows or rash continue to appear (if initial treatment includes more than one application or dose, then the 2-4 time period begins after the last application or dose), retreatment with scabicide may be necessary; seek the advice of a physician.

## **Did I get scabies from my pet?**

No. Animals do not spread human scabies. Pets can become infested with a different kind of scabies mite that does not survive or reproduce on humans but causes "mange" in animals. If an animal with "mange" has close contact with a person, the animal mite can get under the person's skin and cause temporary itching and skin irritation. However, the animal mite cannot reproduce on a person and will die on its own in a couple of days. Although the person does not need to be treated, the animal should be

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treated because its mites can continue to burrow into the person's skin and cause symptoms until the animal has been treated successfully.

Can scabies be spread by swimming in a public pool?

Scabies is spread by prolonged skin-to-skin contact with a person who has scabies. Scabies sometimes also can be spread by contact with items such as clothing, bedding, or towels that have been used by a person with scabies, but such spread is very uncommon unless the infested person has crusted scabies.

Scabies is very unlikely to be spread by water in a swimming pool. Except for a person with crusted scabies, only about 10-15 scabies mites are present on an infested person; it is extremely unlikely that any would emerge from under wet skin.

Although uncommon, scabies can be spread by sharing a towel or item of clothing that has been used by a person with scabies.

## **How can I remove scabies mites from my house or carpet?**

Scabies mites do not survive more than 2-3 days away from human skin. Items such as bedding, clothing, and towels used by a person with scabies can be decontaminated by machine-washing in hot water and drying using the hot cycle or by dry-cleaning. Items that cannot be washed or dry-cleaned can be decontaminated by removing from any body contact for at least 72 hours.

Because persons with crusted scabies are considered very infectious, careful vacuuming of furniture and carpets in rooms used by these persons is recommended.

Fumigation of living areas is unnecessary.

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## How can I remove scabies mites from my clothes?

Scabies mites do not survive more than 2-3 days away from human skin. Items such as bedding, clothing, and towels used by a person with scabies can be decontaminated by machine-washing in hot water and drying using the hot cycle or by dry-cleaning. Items that cannot be washed or dry-cleaned can be decontaminated by removing from any body contact for at least 72 hours.

My spouse and I were diagnosed with scabies. After several treatments, he/she still has symptoms while I am cured. Why?

The rash and itching of scabies can persist for several weeks to a month after treatment, even if the treatment was successful and all the mites and eggs have been killed. Your health care provider may prescribe additional medication to relieve itching if it is severe. Symptoms that persist for longer than 2 weeks after treatment can be due to a number of reasons, including:

- Incorrect diagnosis of scabies. Many drug reactions can mimic the symptoms of scabies and cause a skin rash and itching; the diagnosis of scabies should be confirmed by a skin scraping that includes observing the mite, eggs, or mite feces (scybala) under a microscope. If you are sleeping in the same bed with your spouse and have not become reinfested, and you have not retreated yourself for at least 30 days, then it is unlikely that your spouse has scabies.
- Reinfestation with scabies from a family member or other infested person if all patients and their contacts are not treated at the same time; infested persons and their contacts must be treated at the same time to prevent reinfestation.
- Treatment failure caused by resistance to medication, by faulty application of topical scabicides, or by failure to do a second application when necessary; no new burrows should appear 24-48 hours after effective treatment.

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- Treatment failure of crusted scabies because of poor penetration of scabicide into thick scaly skin containing large numbers of scabies mites; repeated treatment with a combination of both topical and oral medication may be necessary to treat crusted scabies successfully.
- Reinfestation from items (fomites) such as clothing, bedding, or towels that were not appropriately washed or dry-cleaned (this is mainly of concern for items used by persons with crusted scabies); potentially contaminated items (fomites) should be machine washed in hot water and dried using the hot temperature cycle, dry-cleaned, or removed from skin contact for at least 72 hours.
- An allergic skin rash (dermatitis); or
- Exposure to household mites that cause symptoms to persist because of cross-reactivity between mite antigens.

If itching continues more than 2-4 weeks or if new burrows or rash continue to appear, seek the advice of a physician; retreatment with the same or a different scabicide may be necessary.

## **If I come in contact with a person who has scabies, should I treat myself?**

No. If a person thinks he or she might have scabies, he/she should contact a doctor. The doctor can examine the person, confirm the diagnosis of scabies, and prescribe an appropriate treatment. Products used to treat scabies in humans are available only with a doctor's prescription.

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,

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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 a person with scabies for 5-10 minutes could be considered to present a relatively high risk of transmission. However, transmission can occur even after brief skin-to-skin contact, such as a handshake, with a person who has crusted scabies. In general, a person who has skin-to-skin contact with a person who has crusted scabies would be considered a good candidate for treatment.

To determine when prophylactic treatment should be given to reduce the risk of transmission, early consultation should be sought with a health care provider who understands:

1. the type of scabies (i.e. non-crusted vs crusted) to which a person has been exposed;
2. the degree and duration of skin exposure that a person has had to the infested patient;
3. whether the exposure occurred before or after the patient was treated for scabies; and,
4. whether the exposed person works in an environment where he/she would be likely to expose other people during the asymptomatic incubation period. For example, a nurse or caretaker who works in a nursing home or hospital often would be treated prophylactically to reduce the risk of further scabies transmission in the facility.

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