

## Human pathogen information sheet

### What is scabies?

Scabies is a contagious human skin infection caused by itch mites. The disease usually does not pose a danger to health, but is very annoying and unpleasant. It is caused by tiny, hardly visible itch mites of only 0.3 to 0.5 mm in size, which burrow under the upper skin layer of humans. They live for four to six weeks; during this time, they deposit several eggs per day, in addition to faeces, in the skin, which causes skin reactions after a while. Outside the host, itch mites can still survive in clothing or bed linen for about one to two days. Itch mites are more likely to spread where people live close together, which is why clustering of the disease occasionally occurs, especially in community or care facilities.

### How is scabies transmitted?

#### *Person-to-person*

Itch mites can spread between humans, especially during prolonged skin contact, for example during playing, personal hygiene, cuddling, when sharing a bed or during sexual intercourse. Shaking hands or a brief hug usually does not lead to transmission. In the case of crusted scabies, a highly contagious form of scabies, the number of mites on the skin is very high, which is why even short-term skin contact may lead to an infection.

#### *From animals to humans*

Although itch mites may occasionally pass on to humans from infested domestic animals, they quickly die there. The skin irritations usually disappear within a short period of time without requiring treatment.

#### *Via clothing or objects*

Transmission via shared bed linen, blankets or clothing is rather rare and may predominantly occur in the case of crusted scabies due to the large number of itch mites.

### What symptoms do the patients show?

The first symptoms of scabies often include skin burning and itching, which are made worse by warmth. Itching may even affect skin areas that are not directly infested by itch mites. The spaces between fingers and toes, the wrists, ankles, armpits, elbows, nipples and genitals are affected primarily. Especially in infants and young children, the scalp, face as well as the palms and soles may also be affected.

Typical symptoms include fine, dark and irregular lines on the skin that are difficult to see with the naked eye. They are caused by the burrow tracks of the mites. After a while, the skin reacts by developing blisters the size of a pinhead, reddened raised nodules or pustules. In addition, suppurative inflammation of injured skin areas may occur as a result of scratching. In the case of prolonged infestation, a large-scale allergic skin rash may develop in response to the mites' excretions.

People with a weakened immune system are at particular risk of developing crusted scabies, a highly contagious form of scabies, which involves the presence of a great number of mites on the skin, accompanied by pronounced incrustation.

### What is the incubation period and how long are you contagious?

Upon first infection, the symptoms become apparent after two to five weeks, while they already occur after one to two days on reinfection. Scabies is contagious as long as the itch mites are present on the skin. The number of mites increases during the first few months of the infection and then usually decreases, provided that the immune system is intact. The skin changes may be minor and remain unnoticed for a long time in patients who maintain strict personal hygiene and use cosmetics. If left untreated, scabies often becomes chronic, but may also heal up spontaneously after some time.

### Who is most at risk?

Scabies occurs worldwide and may affect people of any age. Children, seniors in nursing care and people with a weakened immune system are affected more frequently.

Clustering of the disease typically occurs in community facilities such as nurseries and nursing homes, where the supervisory and care staff are also at increased risk.

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### What should I do if I fall ill?

- ▶ If you experience the above-described symptoms or suspect that you have scabies, you should consult a doctor immediately.
- ▶ Scabies can be treated effectively by medication referred to as scabicides. They are usually applied to the skin in the form of creams, sprays or ointments.
- ▶ To protect others from getting infected, ill persons should temporarily limit their contact with other people and, in particular, avoid direct skin contact. After applying scabicides once or twice, patients are usually no longer contagious. Crusted scabies may require a longer treatment period until the patients are no longer contagious. Itching may persist for one to two weeks after the treatment.
- ▶ Close contacts, i.e. persons who live in the same household with the affected persons or had close or prolonged skin contact with them, should also be examined for itch mites by a doctor. Even if no skin changes are apparent, close contacts should receive simultaneous treatment. In the case of crusted scabies, even persons who only had brief contact with ill persons should be treated.
- ▶ Change the clothing, underwear as well as the towels and bedding of ill persons once a day and wash them at a minimum temperature of 60°C. Objects with prolonged body contact such as shoes or cuddly toys that cannot be washed or cleaned should be stored in a dry place in sealed plastic bags at temperatures above 20°C for at least four days. Upholstered furniture can be cleaned with the vacuum cleaner or should not be used for at least four days.
- ▶ Scabies is subject to the regulations of the German Prevention of Infection Act. Persons diagnosed with or suspected to have scabies are temporarily prohibited from attending or working at community facilities such as schools or nurseries. Affected persons must inform the community facility of the diagnosed or suspected infection.
- ▶ The community facility will notify the competent health authority of the diagnosed or suspected infection. The competent health authority or the attending doctor will determine when the affected person may resume attending or working at the community facility.

### How can I protect myself?

- ▶ Safety precautions are usually almost impossible to take, since scabies can be transmitted without being noticed before any symptoms appear. In the event of a diagnosed or suspected infestation, you should avoid close contact with affected persons as long as they are contagious.
- ▶ If you cannot avoid contact with ill persons, for example when assisting children or persons in need of care with personal hygiene, you should wear long-sleeved clothing and disposable gloves.

### Where can I find out more?

Your local health authority can provide you with further advice and information. They will also have the latest information and be very experienced in dealing with the disease. More (specialist) information is also available online from the Robert Koch Institute ([www.rki.de/skabies](http://www.rki.de/skabies)). For more information about infection prevention, please visit the website of the Federal Centre for Health Education ([www.infektionsschutz.de](http://www.infektionsschutz.de)).



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#### Editor:

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Drawn up in cooperation with the Bundesverband der Ärztinnen und Ärzte des Öffentlichen Gesundheitsdienstes e.V. and in coordination with the Robert Koch Institute.

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