

## **Scabies**

**Also known as** Norwegian scabies, which is a more severe form of scabies

### **What is scabies?**

Scabies is a condition that occurs as a result of infestation with a tiny mite (parasite) called *Sarcoptes scabiei* var *hominis*. The mite lives exclusively on human skin and is different to mites that cause conditions in other animals. Scabies is highly contagious (spreads from person to person) and causes an extremely itchy rash. The itchy rash is due to an allergic reaction to the mite.

It can take a month or more after first being infested before the itch develops, so people with a very new infestation may not yet be itchy.

Approximately 100-300 million people worldwide are affected with scabies each year. Scabies can affect any person of any age or social status. Infestation is not prevented by good personal hygiene or cleanliness.

A more severe subtype of scabies is known as “Norwegian scabies”. This occurs when there are a large number of mites on the body. Norwegian scabies is seen in elderly or institutionalised people, e.g. those living in nursing homes or hospitals, or in people who are immunosuppressed (weak immune system) or mentally impaired.

### **How is scabies spread?**

A person affected by scabies may have 10 to 12 mites present on the body whereas a person affected by Norwegian scabies can have hundreds of thousands of mites present on the body.

Scabies is spread by close personal contact (e.g. skin to skin) with someone who is infested with scabies. This includes sharing the same bed, holding hands or even living in the same house as a person infested with scabies. Generally scabies cannot be caught from contact with shared objects such as clothes or bedding, unless the contact has highly infectious Norwegian scabies. The chance of catching scabies is increased in warm conditions such as prolonged physical contact, sharing a bed with a person infested by scabies or in warm and humid environments such as northern Australia where the mite may survive longer away from a human host.

After infestation it may take an average of 4 to 8 weeks before any symptoms such as a rash or itch develop. Infestation can therefore occur without a person’s knowledge at the time. Anyone can get scabies, even dermatologists who often catch it from their patients!

### **When should scabies be considered possible?**

If there is a new extremely itchy rash without any known cause

If there has been contact with someone who has had scabies

If a friend or partner or family member is experiencing itchy skin at the same time

If there are itchy pustules (small blisters or pimples containing pus) seen on the hands or feet of young children and infants

If itchy red nodules or lumps are seen on the penis

If small mite burrows (squiggly lines) can be seen on the skin especially on the hands.

### **How is scabies diagnosed?**

Scabies should be suspected in anyone with an unexplained and severe itch of recent (weeks to months) onset. The person may have a history of contact with someone who has scabies or has an itchy rash.

Itching is often worse at night. It can be experienced all over the body but usually doesn't affect the face or scalp in adults. Itching in the genital region, buttocks and nipples is common. The skin appears red and swollen and sometimes can be scaly or with crusted scabs. Itchy lumps or nodules can occur on the penis and are characteristic of scabies. Pustules (blisters or pimples containing pus) on the hands and feet can occur in infants who have scabies. People who are very sensitive (hypersensitive) to the mite may develop hives or blisters.

The scabies mite cannot be seen with the naked eye or without magnification. The mite however leaves squiggly lines (burrows) in the skin which are usually less than a centimetre long. These burrows are characteristic and diagnostic of scabies. Burrows are most commonly found on the hands (particularly between the fingers), wrists and feet. A microscope or dermatoscope may be used to identify the mite and confirm the diagnosis. Scrapings from a number of burrows will reveal the mite, eggs or faeces when examined under magnification.

The dermatologist may take a skin scraping to confirm the diagnosis.

### **Who should be treated if scabies is suspected?**

It is important that all people who have been in close contact with a person who has scabies are treated at the same time. All members of an affected household, including those who have been in close physical contact with members of an infested household, should be treated, regardless of whether they are experiencing any itchiness or not. In extended families this will include grandparents, uncles, aunts and other relatives who have been in close physical contact with affected people.

### **How is scabies treated?**

All members of the same house should be treated at the same time. Success depends on the thoroughness and step-by-step treatment of scabies rather than the choice of scabicide (medication used to treat scabies).

Permethrin is the treatment of choice in Australia because of its effectiveness and low toxicity. Permethrin is a cream that is available from the chemist without a script.

The doctor should be informed if there is a chance of pregnancy before any cream or tablet is used to treat scabies in women so that a scabies diagnosis is more definitively established.

Permethrin is safe to use in pregnancy and breast feeding. Special precautions may be required to treat babies, young infants and/or old and frail people.

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Other treatments include: topical lindane, benzoyl benzoate, malathione, sulphur or crotamiton creams and oral ivermectin or co-trimoxazole.

### **How to treat scabies with permethrin?**

Before going to bed apply the permethrin cream to the whole body from the neck down (also treat the head and neck in infants and adults over the age of 55 years). It takes

approximately 30mg (one tube) to cover the average adult body. It is important to apply the cream all over the body and not just to the itchy areas. Make sure the cream is applied to all body parts paying particular attention to the elbows, breasts, groin/genitals, hands and feet (including under the nails). Any areas that are missed may cause the infestation to persist. Everyone in the household should be treated at the same time even if they are not itchy.

The cream should be left on for at least 8 hours (usually overnight) before washing. If the hands are washed during this eight-hour period, then the cream should be reapplied to the hands.

The next morning (or 8 hours later) all bed linen and clothes should be removed, changed and washed with hot water as this kills the mite and its eggs. If the items are unable to be washed in hot water, then dry cleaning, ironing, or hot clothes drying are also effective methods of killing the mite and its eggs.

Any clothing or bedding that cannot be treated as prescribed in step 3 should be placed in a plastic bag and sealed for at least 7 days. The mite and eggs will die during this time. Mites usually only survive for about 72 hours away from the human body so professional fumigation services are not generally required.

The treatment of all household members (steps 1 to 4) is repeated again 7 to 10 days later to maximise the chance of clearing the scabies. In general, further application of permethrin is not warranted and can cause complications if overused. Discuss this with your doctor if there are any concerns.

Permethrin cream may sometimes sting or irritate the skin. If this is severe, wash off the cream immediately and contact the dermatologist to discuss other treatment options.

### **Why is the skin still itchy after treatment?**

It is common for itchiness to persist for 4 to 6 weeks after scabies has been treated as outlined above.

There are several reasons why an itch/ rash may continue after treatment.

The allergic reaction to mites and their products usually takes several weeks to settle even when all mites have been killed. This condition is often called "post-scabetic itch". The dermatologist may prescribe a cream to help soothe this itch. Nodules (lumps) due to scabies occasionally take up to several months to totally clear and can be treated by the dermatologist. Post-scabetic itch or nodules are not contagious.

The treatment for scabies can irritate the skin and cause the development of an irritant dermatitis. The use of moisturisers and bath oils can help settle this type of itch. A topical corticosteroid can be prescribed to help soothe the dermatitis.

There has been re-infestation. Re-infestation with scabies will occur if a close contact has not been treated adequately. This is why all household members and close physical contacts should be treated thoroughly and at the same time.

There are still mites present because the treatment was not done correctly.

Resistance to the scabicide treatment is very rare.

The skin should be re-examined by a dermatologist if the itch fails to settle over the course of a few weeks.

**What is the outcome of scabies?**

Scabies infestation can be treated effectively and safely and cleared without any long-term complications.

Recovery from scabies infestation may be complicated by other additional infections such as bacterial infections (impetigo or cellulitis), especially if the skin has been scratched and damaged. Vigorous scratching can damage the skin and result in permanent marks.