

# Scabies

## What is scabies

Scabies is a skin condition which is caused by an infestation of a parasitic mite (*Sarcoptes scabiei*) which burrows underneath and lives in the skin. The itch results from the inflammatory response to mite excreta and other components. Itching and scratching can cause skin sores, which may become infected with bacteria and lead to kidney and heart problems.

Scabies is endemic in many Indigenous communities in northern Australia. The burden of disease has been reported to affect as much as 25% of community members in some areas, with an even higher prevalence in young children (as high as 35%).

## Symptoms

The first time someone is infected with scabies, it may take up to 6 weeks for the onset of itch to occur after mite infestation. If someone has been infected previously, the onset of itch may occur after only a few days.

Look for scratches, small bumps, a red lumpy rash or skin sores. Burrows (often slightly raised, linear lesions approximately 1cm long which can radiate out from bumps) can sometimes be seen.

In **adults** the rash commonly appears around any of the following areas:

- between the fingers and toes (particularly the web-spaces of fingers)
- wrists, elbows
- armpits
- knees, ankles

**Babies and young children** frequently have a more generalised rash across their body and lesions may occur from head to toe, consider a more thorough examination and be sure to also check:

- buttocks
- genitals, groin
- palms of hands, soles of feet (blisters and early pustules often develop here)

**Elderly adults** may present with an uncharacteristic rash in non-exposed sites, consider a more thorough examination and be sure to check:

- back
- abdomen

The rash is very itchy – often more so at night – and scratching the affected area may cause secondary bacterial infections. However, note that the rash associated with crusted scabies is often not itchy (see further information below).

## Complications

Scratching of the affected area often causes secondary infection with *Streptococcus* and *Staphylococcus bacteria*.

Streptococcal infections can be associated with:

- inflammation of the kidneys (post-streptococcal glomerulonephritis) which increases the risk of kidney failure later in life,
- inflammation of the heart (following on from acute rheumatic fever) which can lead to rheumatic heart disease and heart failure,
- Bacterial septicaemia, which can lead to potentially life-threatening complications from an overwhelming response from the immune system.

Early treatment for streptococcal infections is therefore important.

## How it is spread

The scabies mite is spread from person to person after direct physical contact from an infected person. To transmit scabies, direct skin-to-skin contact must be prolonged – a quick handshake or hug will not spread it.

Scabies infection may also be spread from direct contact with clothes and bed linen from an infected person, if used immediately beforehand. The scabies mite can survive away from the human body for up to 2-3 days.

Importantly, people affected by crusted scabies can act as ‘core transmitters’ of scabies within a community and act as mite reservoirs, with an infestation of thousands or millions of mites.

Scabies will continue to be spread until all mites and eggs are destroyed, which is why it is so important to complete two treatment doses for both cream and tablets (7-14 days apart).

A similar condition occurs in dogs, however the mite that causes dog scabies is different from that which causes human scabies.

## Who is most at risk

Scabies occurs across the world, however it is a disease of poverty and is formally recognised as a Neglected Tropical Disease with the World Health Organisation.

It predominantly affects people living in crowded conditions with poor hygiene and malnutrition.

## Treatment

### For the individual

Can use either oral (ivermectin tablets) or topical (5% permethrin cream) for first-line treatment.

Tablets available for the treatment of scabies include:

- For **children 5 years and over and more than 15kgs, and adults**: take 1 oral dose of ivermectin (Stromectol®) tablet with food, then repeat with another dose 7 – 14 days later. Oral dose depends on weight.
  - DO NOT give ivermectin to children under 5 years, or less than 15 kgs, and do not give to women who are or could be pregnant (should do a urine pregnancy test to confirm) or who are breastfeeding.

Creams available for the treatment of scabies include:

- for **babies less than 6 months old**: apply 5% Permethrin (Lyclear®) to entire body except hands, leave on for 6-8 hours (ideally overnight underneath bed clothes) then wash off and repeat treatment 1 week later.
- for **children older than 6 months old and adults**: apply 5% Permethrin (Lyclear®) to entire body, leave on for at least 8 hours (ideally overnight underneath bed clothes) then wash off and repeat treatment 1 week later.

*It is essential that the topical 5% permethrin cream is properly applied:*

- Ideally, the cream should be applied at night before bed to clean and dry skin, underneath bed clothes.
- Apply to the whole body including the scalp, face and behind the ears (but avoid the eyes, lips and mouth)
- For thick hair, or a bad infestation affecting the scalp; it may be necessary to consider shaving the scalp with permission

Cream should be reapplied to hands after washing, with special consideration to ensure good coverage of joint and body creases, as well as between the fingers and toes, and underneath the soles of the feet.

After overnight treatment, the cream should be washed off and clean clothing should be applied after treatment. Treatment should be repeated again in 7 days. Patients should be reminded that itching may continue for up to 6 weeks after treatment, which does not mean that the treatment has not worked.

### For others in the house

For the treatment to be successful, all household contacts, close family members and any close contacts should all be treated at the same time as the infected person. Contacts may be incubating scabies at the time of treatment and may not show any symptoms.

## For the household

In most cases of scabies, it is rare for mites to remain on soft furnishings, clothing or in the household as scabies mites can only live on human hosts. However, it may be helpful to wash recently used clothing, bedding or towels in a hot wash cycle (at least 50°C).

If a hot water washing machine is not available, these items can be sealed in a plastic bag for 8 days, as this will kill any mites and eggs living in them. This process should be repeated each time the scabies treatment (with either topical cream or oral tablet) is undertaken.

Household cleaning is not required to break cycles of scabies transmission (household contact treatment with scabies treatment does this) however, it may be helpful to vacuum floors and soft furnishings, particularly in cases of suspected or confirmed crusted scabies.

## Prevention

Early diagnosis and prompt treatment helps to prevent the spread of scabies.

Healthy Skin Programs are conducted in some communities, for further information about this contact your nearest health centre.

## Crusted (Norwegian) scabies

While most people with simple scabies are infected with about 10 to 15 mites, in crusted scabies, there is infestation with thousands of mites. Sometimes this happens because a person's immune system is not working well due to other illness.

However, in many cases in the NT there are no clear underlying immune problems. Crusted scabies does not look like scabies. Look for thickened, scaly skin patches and crusting of the skin, which may occur in 1 of 2 areas or may cover the whole body with a thick and flaky crust. Scale may have a distinctive creamy colour and may look like other skin conditions. The rash may not be itchy, and often appears on the buttocks, feet, hands, elbows and arms.

Mild cases of crusted scabies may be treated in the community with creams and oral ivermectin. Moderate and severe cases will require admission to hospital, with support from the infectious diseases specialist consultant and Centre for Disease Control (CDC) team.

## Other resources

For more information about management of recurrent or crusted scabies go to the [PHU- Disease Control publications and resources for scabies](#), the [One Disease](#) website or read '*Managing crusted scabies in remote Aboriginal communities: 2017 edition*' on the Australian Indigenous HealthInfoNet website.

## Contact

For more information contact the [Centre for Disease Control](#).

Location	Phone
Darwin (Top End Region)	(08) 8922 8044 1800 008 002
Katherine (Big Rivers Region)	(08) 8973 9049
Tennant Creek (Central Australia Region)	(08) 8962 4259
Alice Springs (Central Australia Region)	(08) 8951 7540
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