

# Scabies

## Mate māngeongo riha

The information in this guide is accurate to the best of our knowledge as of June 2023.

### Definition

Scabies is a contagious skin infestation of the scabies mite *Sarcoptes scabiei* variety *hominis*. It is characterised by an intensely itchy rash that is an allergic reaction to presence of the mite in the stratum corneum (just under the skin) (Chandler and Fuller 2019).

### Key points

- After mating, female mites burrow into the skin and lay two to three eggs every day until death (one to two months). Eggs take two to four days to hatch. Maturation and ability to reproduce occur in 10–13 days, repeating the lifecycle.
- Mites survive for about three days away from a human host.
- Scabies treatments do not kill scabies eggs.

### Why this is important

Older adults are the age group most vulnerable to scabies. Scabies rash can take four to six weeks to develop, during which time infestation can spread by skin-to-skin contact throughout an aged residential care (ARC) setting. Some older people do not develop a classic rash, which delays diagnosis further.

### Implications for kaumātua\*

To assess for scabies, you need to enter the kaumātua's personal space, which is considered **tapu** (sacred, protected). To avoid causing distress and potential damage to tapu and **mana** (dignity, status, prestige), ask for permission to enter tapu space (Mead 2016). Touching the head is considered very intimate; take particular care to seek permission before doing so.

Kaumātua may experience **whakamā** (shame, embarrassment) about having scabies, particularly if it is around the groin, genitalia or breasts. For this reason, they may be reluctant to report issues.

Kaumātua and **whānau**/family may have traditional remedies to help relieve itching and skin irritation. For example, **kawakawa** balm is known for its anti-bacterial and anti-inflammatory properties. This guide identifies complementary therapies (additional tools). Explore these on a case-by-case basis and support them where appropriate.

\* Kaumātua are individuals and their connection with culture varies. This guide provides a starting point for a conversation about some key cultural concepts with kaumātua and their whānau/family. It is not an exhaustive list; nor does it apply to every person who identifies as Māori. It remains important to avoid assuming all concepts apply to everyone and to allow care to be person and whānau/family led.

See the *Guide for health professionals caring for kaumātua* | *Kupu arataki mō te manaaki kaumātua* for more information.

## Assessment

The following are the four main types of scabies (Chandler and Fuller 2019).

- **Classical scabies:** Most common type, with about 5–15 mites. Intense itchy rash, usually on palms, soles, fingers and toes. Worse when hot (at night and after shower/bath).
- **Nodular scabies:** Chronic infestation. Clusters of firm nodules under arms and genital areas may persist after successful treatment.
- **Crusted (hyper infestation):** Thousands of mites. Thick skin scaling, palms, finger webs, soles of feet. Most contagious and causes outbreaks in ARC.
- **Complicated:** scabies with secondary skin infection.

## Diagnosis

**Recommendation: If in any doubt about the diagnosis, refer to dermatologist for a review.**

In an ARC setting, health professionals generally use clinical signs and symptoms to make a diagnosis. Consensus criteria for diagnosis of scabies are available (Engelman et al 2020).

### Confirmed scabies – if there is at least one of:

- mites, eggs or faeces on light microscopy of skin samples
- mites, eggs or faeces visualised on an individual, using a high-powered imaging device
- mite visualised on an individual, using dermoscopy.

### Clinical scabies – if there is at least one of:

- scabies burrows
- typical lesions affecting male genitalia
- typical lesions in a typical distribution and itch and positive contact history.

### Suspected scabies – if there is at least one of (and if other differentials are less likely):

- typical lesions in a typical distribution **and** itch **or** positive contact history
- atypical lesions or atypical distribution **and** itch **and** positive contact history.

## Supporting the diagnosis (bpac<sup>nz</sup> 2022; Maguire 2022)

### History

Intensely itchy rash on the trunk, limbs or hands, which is worse when hot. In ARC, suspect scabies when a new rash affects two or more people (residents or staff), with the aim of minimising risk of transmission.

**Itch** is important to diagnosis. However, the onset of itch varies:

- first scabies infestation: four to six weeks from infestation to itch
- previous scabies: hours to one day from infestation to itch (people are sensitised)
- crusted scabies: minimal or no itch.

Itch may also persist for several weeks after treatment.

**Examination:** People with scabies often scratch skin, and secondary infections and eczema can be present.

- **Hypersensitivity rash:** You will find it on trunk and limbs, especially forearms and waist. Polymorphic: scattered erythematous papules (red bumps), pustules and urticated plaques (hive-like). Folliculitis (pimples), impetigo (sores) and eczema (dry or blistered patches) are common in persistent cases of scabies. Long-standing infestation leads to clusters of larger nodules in armpits, groins, genitalia and breasts.
- **Burrows:** It is best to use dermoscopy (magnification) to find burrows on the wrists, finger web spaces and/or sides and soles of feet. Burrows in any of these locations are diagnostic.

**Diagnostic tests:** There is no standard diagnostic test for scabies.

- **Classical scabies:** Skin scrapings are not recommended because, with so few mites on one person, it is hard to find any (Hewitt et al 2015).
- **Crusted scabies:** Dermoscopy is recommended. If that is not available, skin scraping can be useful (given thousands of mites are on one person).

## Treatment

None of the available treatments is effective against eggs. Treatments applied correctly have the same efficacy (Dressler et al 2016). The logistics of treating a whole ARC facility mean oral medication is more likely to be effective when treating multiple people simultaneously.

### Classical scabies – healthy, mobile individuals

- Apply topical 5% permethrin cream or lotion to all skin surfaces.
- Wash off after 8-12 hours.
- Repeat application after 7-10 days (this is enough time for eggs to become mites).
- Treatment requires total skin coverage on all affected people on the same day. In ARC, the logistics required to achieve this may mean treatment failure is a risk and ivermectin may be a more practical treatment (bpac<sup>nz</sup> 2009).

## Classical scabies – debilitated, bed-bound or immobile people

- Administer ivermectin (oral) 200 mcg/kg.
- Repeat after 7-10 days.

## Crusted scabies

**Recommendation: Consult a dermatologist and skin check everyone in the ARC setting.**

- It may be necessary to repeat ivermectin treatment cycles until no burrows are detected.
- It may be necessary to combine permethrin and ivermectin treatments.

**Oral ivermectin (Stromectol) dosage:** Available as 3 mg tablets; special authority required

<b>Patient weight (kilograms)</b>	25–35	36–50	51–65	66–79
<b>Number of tablets</b>	2	3	4	5

## Treatment notes

- In ARC, when scabies is diagnosed in **any resident or staff member**, check skin of all residents, staff and visitors at least in the care unit where it is discovered (see flowchart).
- Simultaneously treat all affected individuals and their close contacts because some people with scabies may not have developed a rash yet.  
Note: **Close contacts** are people providing direct personal care, people with regular skin contact (eg, hugging, holding hands), intimate contacts and co-habitants.
- In ARC, treatment of residents and staff may be limited to one part of the facility (eg, dementia unit) if residents and staff do not routinely move between care units.
- Coordinating treatment and environmental decontamination is the key to successful eradication of scabies from ARC, even if it takes a few days to develop a plan.
- Public health may be able to help with contact tracing – refer to your local service.

## Infection prevention and control

### Scabies prevention in ARC

Outbreaks of scabies in ARC are a major headache so prevention is always preferable. Recommended practice is to check the skin of all new residents in the first day or two of admission and refer skin issues to a general practitioner or nurse practitioner for assessment.

To reduce the risk of a facility-wide outbreak, consider new itchy rashes affecting more than one person (resident or staff) to be an infestation until proven otherwise.

## Scabies infestation

**Contact precautions:** The scabies mite is transmitted by direct skin-to-skin contact with an infested person or contaminated surface. In addition to standard precautions, the following contact precautions are recommended.

- Isolate residents with scabies until they have had their first treatment.
- Direct care staff should wear disposable gloves and long-sleeved gowns when providing personal care for a person with scabies and for handling potentially contaminated clothing, linen and equipment. Continue with these precautions until first treatment (classical scabies) or second treatment (crusted scabies) is completed.
- Laundry staff: Ideally, seal contaminated linen in dissolvable laundry bags and place it in a washing machine without opening the bags. If this is not possible, laundry staff must wear disposable gloves and long-sleeved gowns when handling contaminated linen.
- Limit the number of visitors during treatment. If that is not possible, visitors should also use contact precautions (disposable gloves and long-sleeved gowns) when visiting residents with crusted scabies.

## Environmental decontamination

Mites can live in the environment for about three days. Killing mites requires extremes of temperature or separating them from the host. Decontamination avoids reinfestation.

### Personal environment

On the morning after treatment, decontaminate bedding, towels and curtains (if regularly handled by someone with crusted scabies) by both:

- a hot wash (50°C or 120°F for at least 10 minutes) **and**
- a hot dry (hottest tumble dryer setting for 20 minutes).

Decontaminate clothing worn immediately before treatment and any items that are regularly handled by the person. Either hot wash and dry as above or if not possible seal dry clothing in a plastic bag and store it at room temperature for seven days or in a freezer (-20°C) for 12 hours. Note bedding, towels and curtains may also be decontaminated using this method if hot wash is not possible.

Seal cosmetics in a plastic bag for two weeks to decontaminate. This timeframe is longer because moist environments prolong mite life (Michigan Department of Community Health 2005).

### General environment

Vacuum soft furnishing and carpets in the facility. Where residents' furnishings are not impervious, cover them for seven days.

Wipe hard surfaces and residents' equipment with a solution of detergent and water.

## Photos to support diagnosis from [DermNetNZ.org](http://DermNetNZ.org)

### Classical scabies



Polymorphous rash - papules, hive-like plaques, scratch marks in classical scabies



Extensive burrows in classical scabies (late diagnosis)

### Crusted scabies



Thick crusting



Numerous scaly burrows

### Nodular scabies



Persistent scabies nodules - these are often seen most clearly in the groin

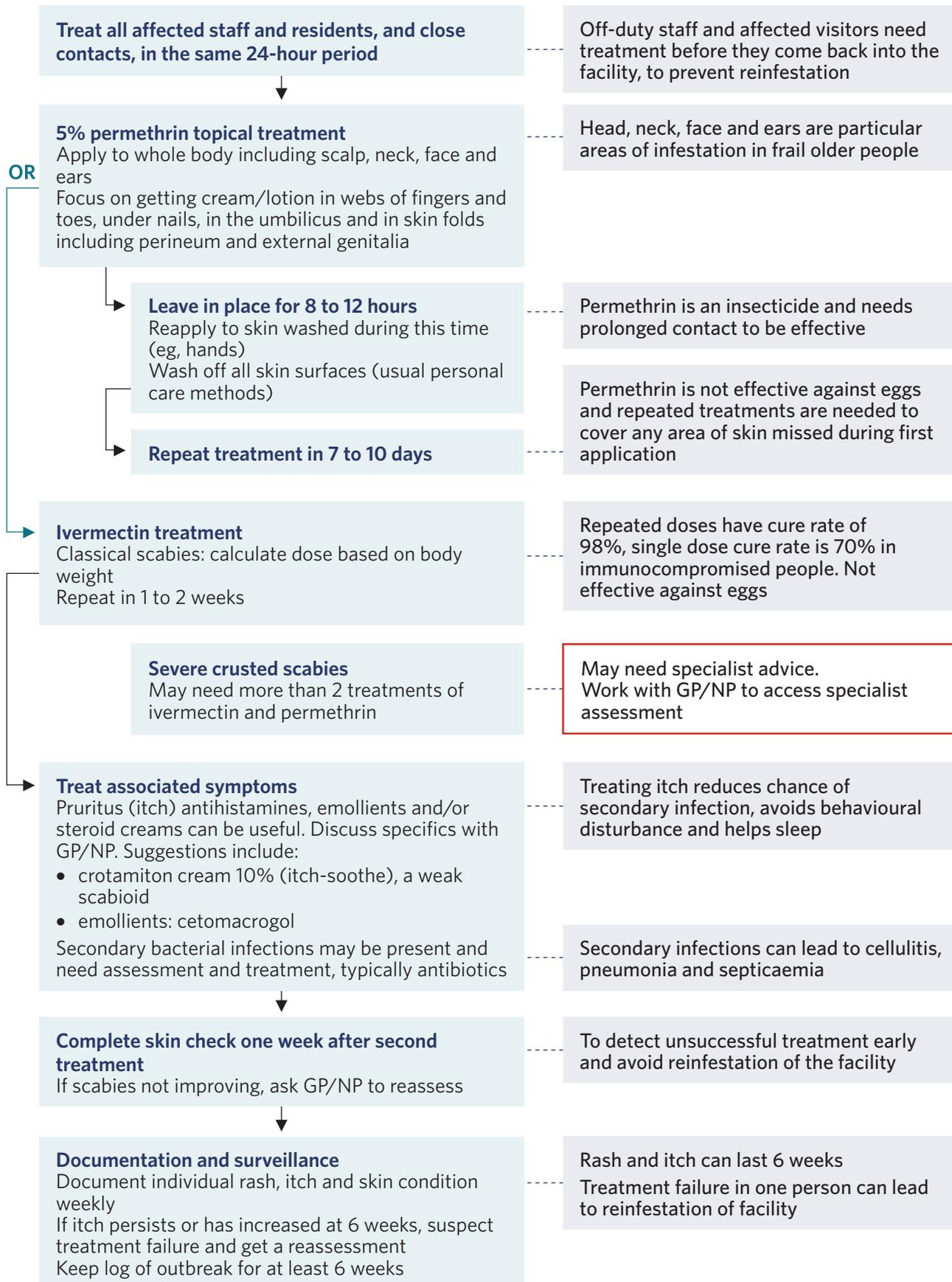
### Complicated (infected) scabies



Pustules indicate infected scabies burrows

## Decision support

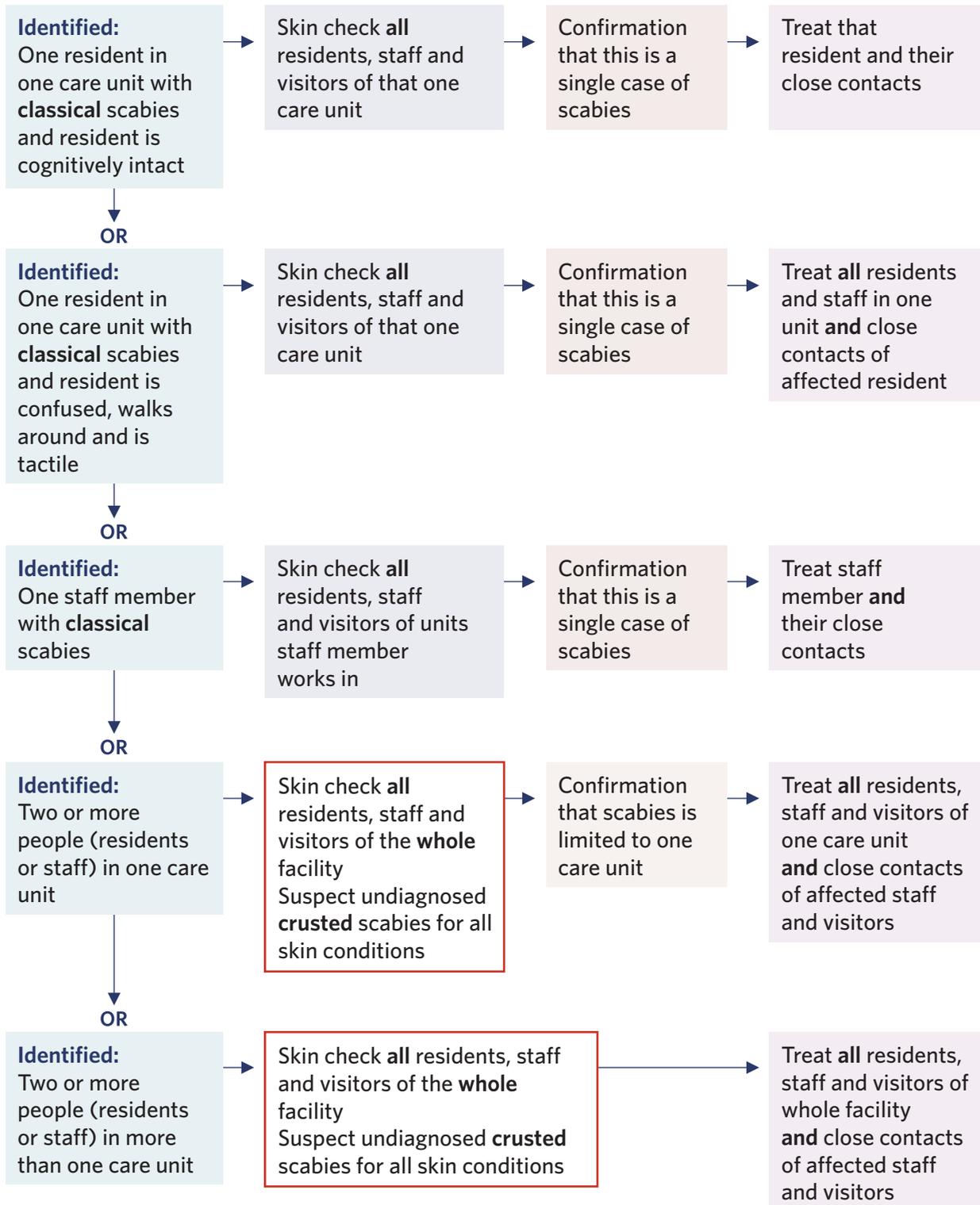
### Treatment



GP = general practitioner

NP = nurse practitioner

## Deciding on the extent of treatment



Note: A **care unit** is a discrete area of a facility where staff and residents remain separate from the rest of the facility.

If two or more people are present with scabies, an outbreak is likely. Your facility may need dermatology and contact tracing support from a local public health unit.

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