



Scabies & Crusted Scabies Management

**ONE
DISEASE**

Notice

Disclaimer

Information contained in this presentation, including texts, graphics and images, is intended for educational purposes only, and should not be substituted for medical advice from a doctor or healthcare provider.

All due care has been taken to ensure the accuracy of the content at the time of development of this resource.

Overview

Skin

- Function
- Importance of healthy skin

Scabies

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- Detection
- Transmission
- Treatment
- Scabies Free Zone
- General Points

Crusted Scabies

- Overview
- Description
- Detection
- Grading Crusted Scabies
- Treatment
- Ongoing management
- General Points

Discussion

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Skin

Function

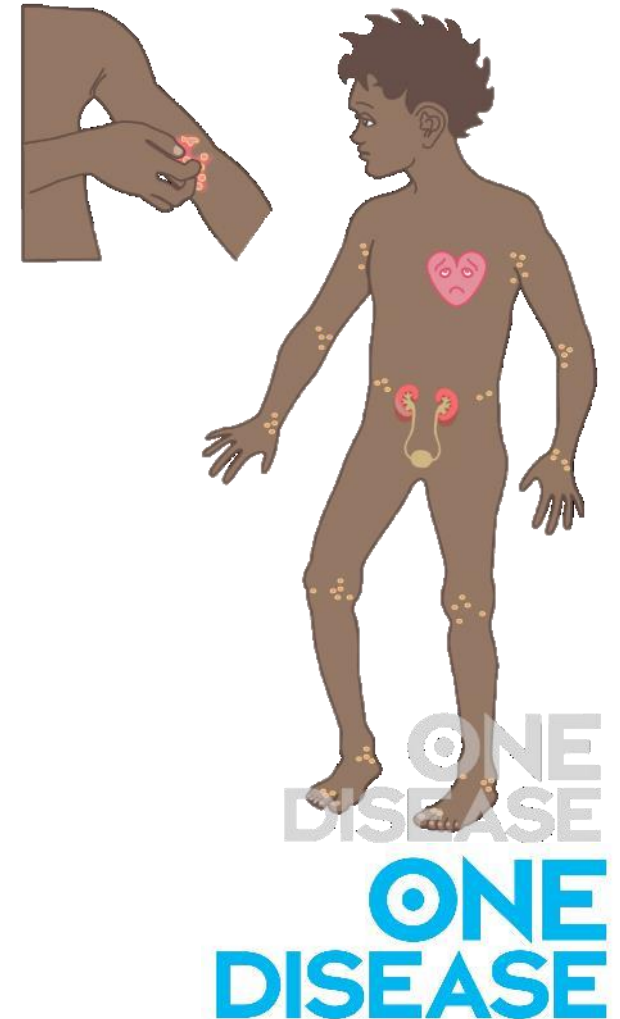
- Your skin is your body's largest and fastest-growing organ. Skin is your body's coat, and it helps to protect you. It helps you stay warm when it's cold, and cool when it's hot.
- Your skin keeps all your insides in, from your heart and lungs to your blood and muscles.
- And, unless it's cut or damaged, it keeps stuff out, including germs.
- You also feel things through the nerves in your skin.



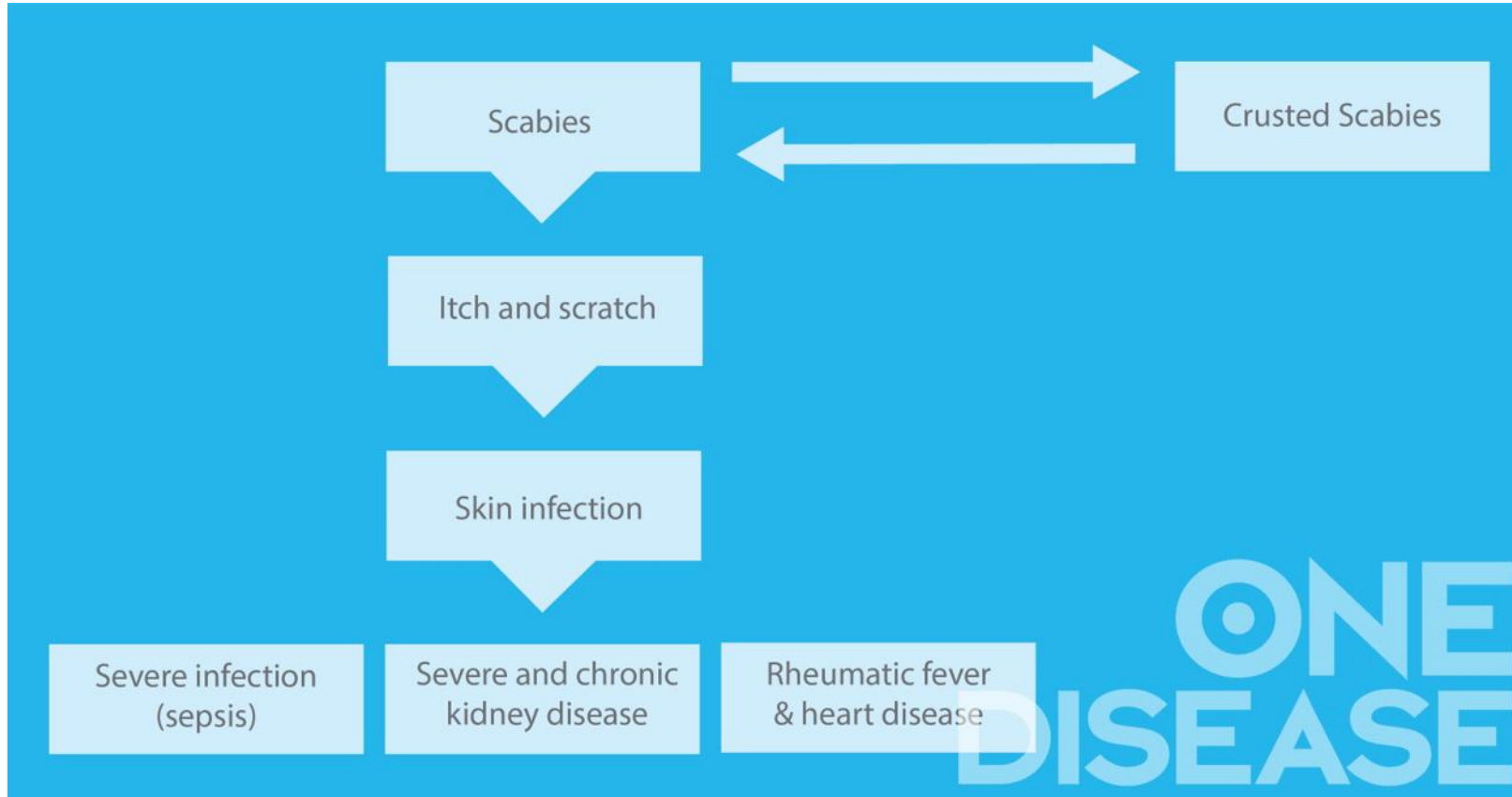
Skin

Importance of healthy skin

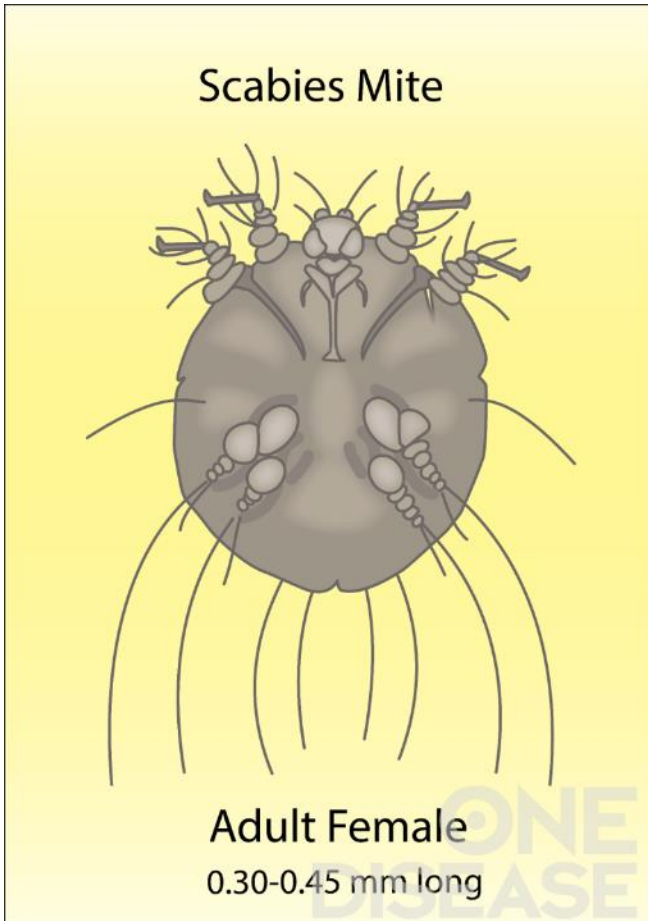
- Many skin conditions are preventable or easily treated with regular skin checks and early treatment.
- Early treatment is important to help prevent serious life long health problems.
- Breaks in skin from cuts, sores or itchy scabies means the protective coat is damaged and germs can get in.
- Germs can make you sick and your kidneys and heart sick too.



Skin



Scabies



Background

- Scabies is a contagious skin condition caused by the scabies mite (*Sarcoptes scabiei* var. *hominis*).
- Scabies can be found in many areas of Australia and other countries.
- Scabies is listed as a Category A neglected tropical disease by the World Health Organisation.
- The burden of disease from scabies is high and it presents a significant public health concern in the Northern Australia area.

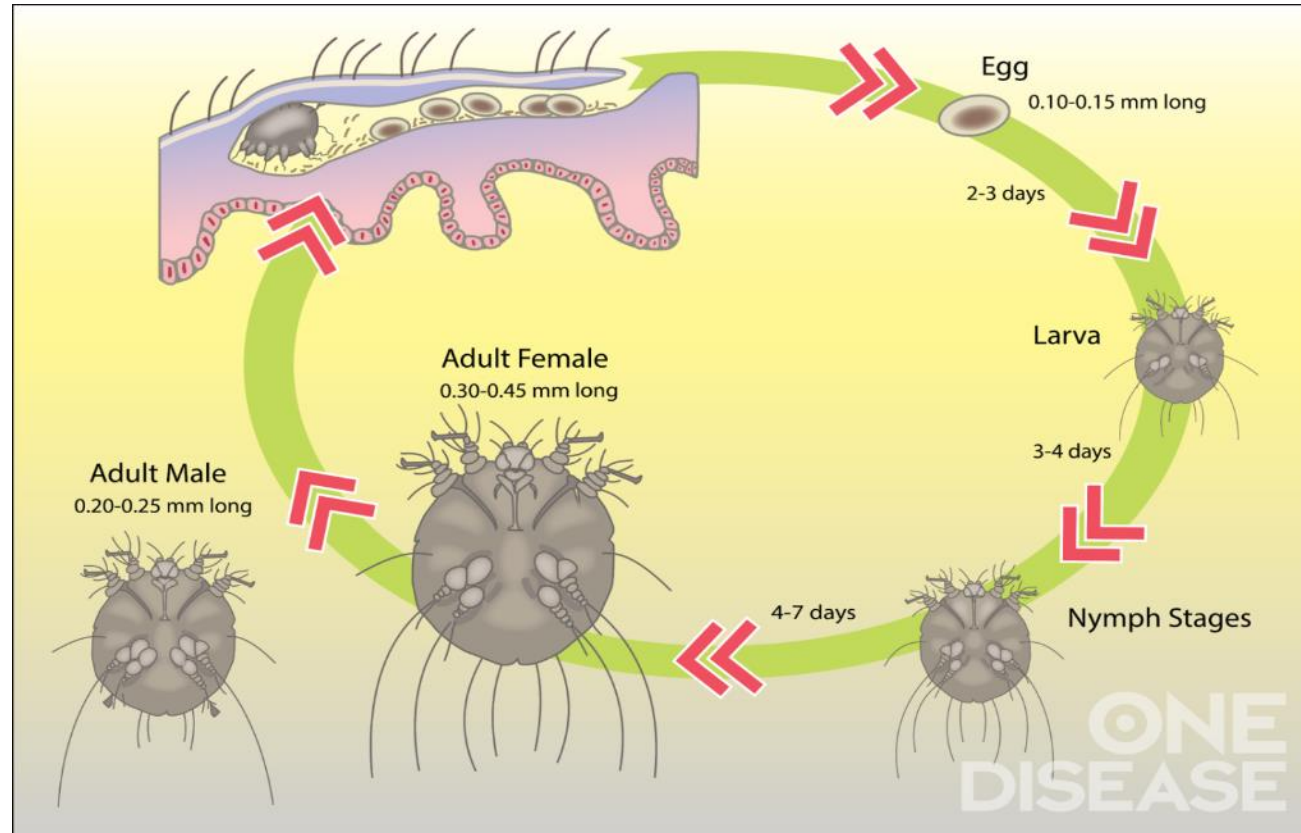
Scabies

Description

- Scabies live, feed, reproduce, and lay their eggs in burrows in the top layer of skin.
- Scabies usually involves around 10 to 15 mites.
- Mites cannot live off the human body. Will only survive 3-8 days off a human body.



Scabies



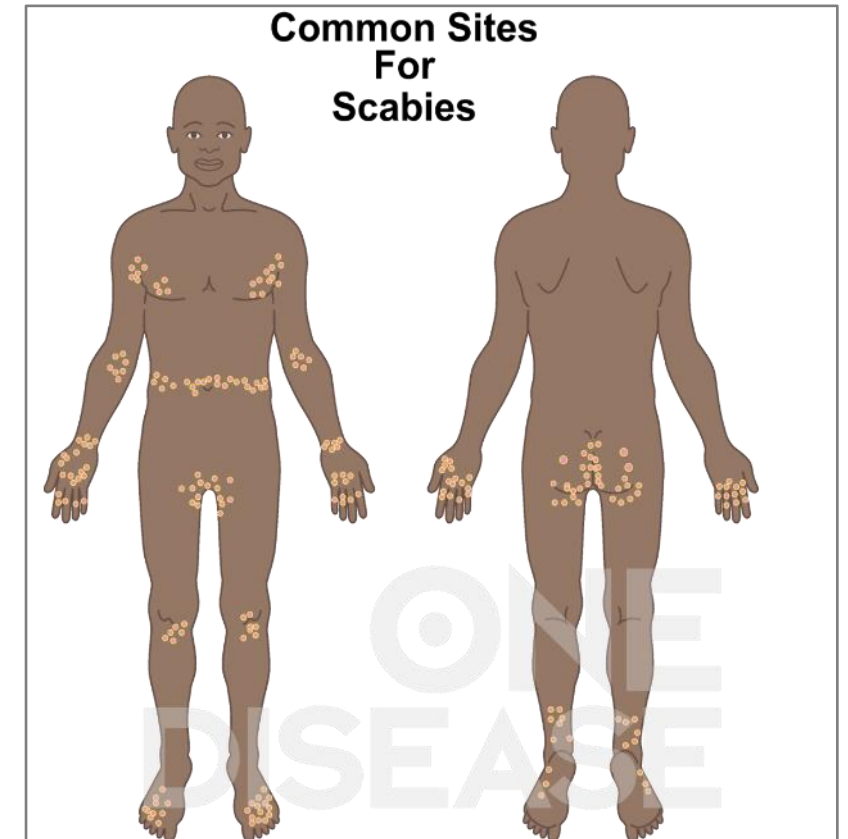
Understanding the Life cycle of the scabies mite for treatment

Scabies

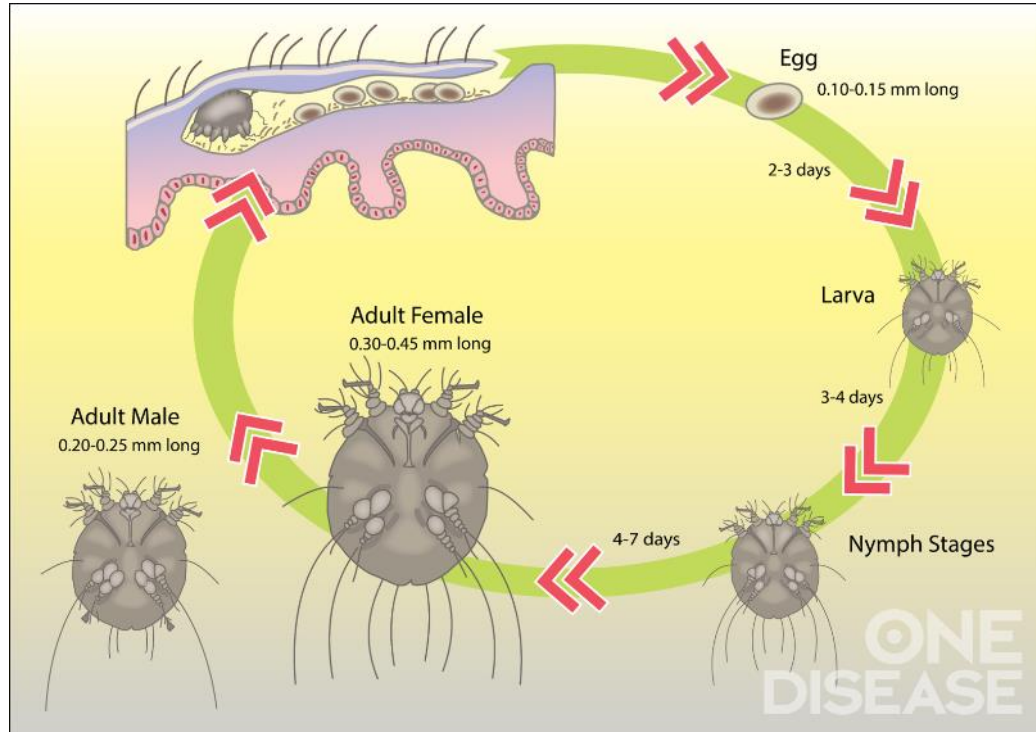
Description

Distribution of scabies on the body includes areas of folded skin for burrowing. For example:

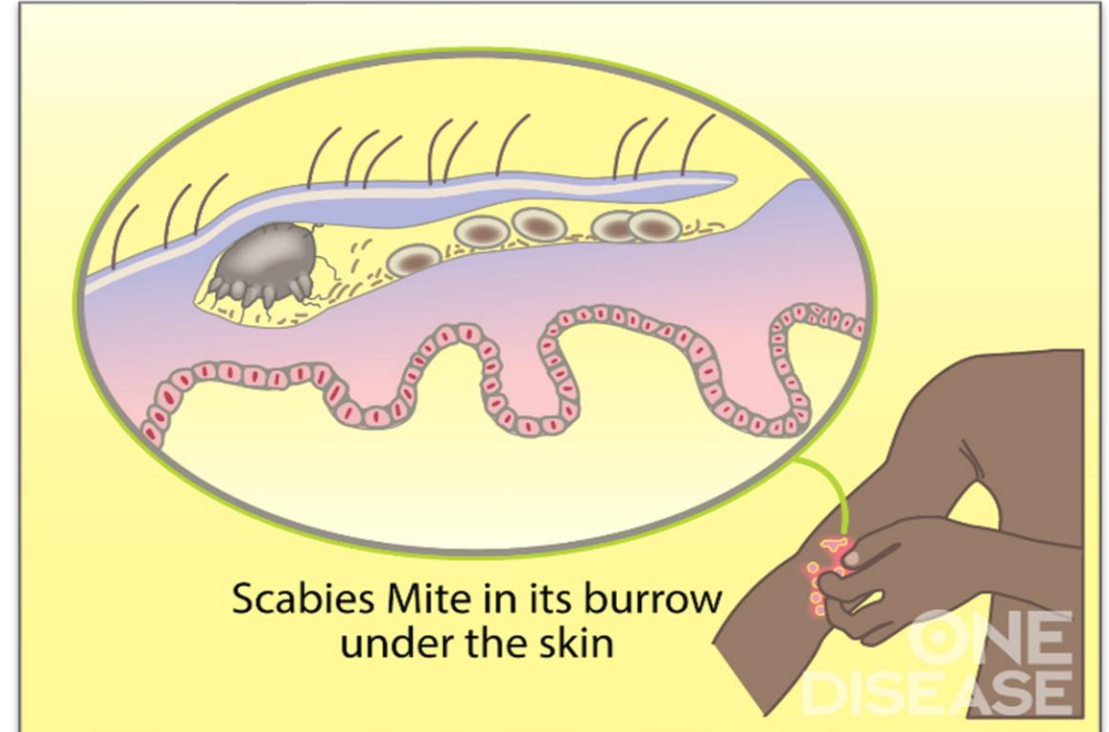
- Webs between fingers & toes
- Wrists
- Axilla (under the arms)
- Elbows
- Knee areas
- Buttocks & genitals



Scabies



1. Life cycle of scabies mite



2. Scabies mites lay eggs in burrows in the skin

Scabies

Detection

Look for:

- Blisters or burrows in the folds of skin
- Pimple like bumps (papules)
- Itch (particularly at night) & when you scratch the skin can become infected
- Rash and bumps on the skin
- Close contact with someone who has scabies
- Secondary Infection



Scabies with infected sores from scratching



Papules

Scabies



Transmission

Close, prolonged skin-to-skin contact such as:

- Sharing a bed with somebody
- Holding a child for a long time
- Overcrowded housing

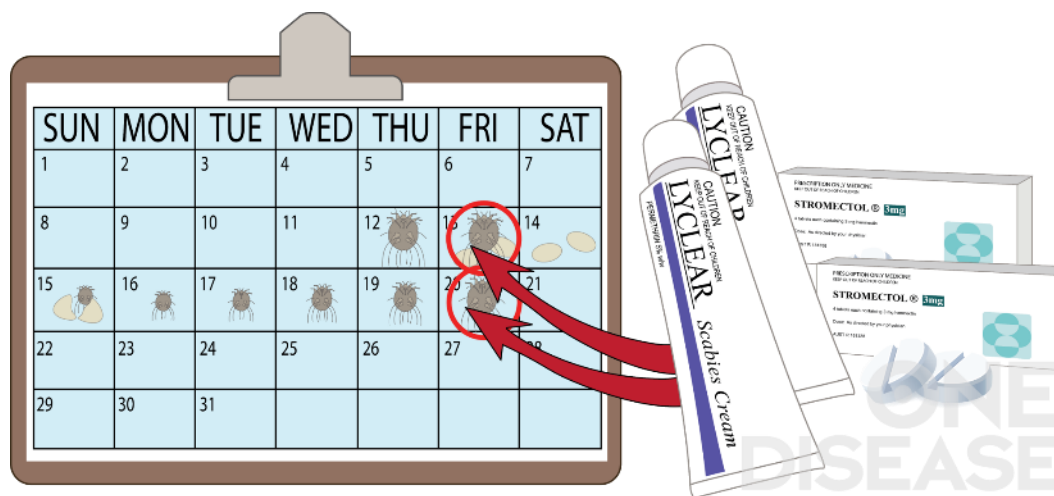
Scabies mites are rarely transmitted from freshly contaminated clothes or bedclothes

Scabies

Treatment

Treatment of scabies requires 2 doses for you and all close contacts:

- Life cycle of scabies mite shows the first dose will kill adult mites but not eggs
- The second dose, one week later, will kill newly hatched eggs



Scabies

Treatment – treat entire household on the same day

- Lyclear (5% permethrin) topical, leave on for 8-24 hours
- Ivermectin (prescribed by doctors)
- Benzyl Benzoate (usually used for Crusted Scabies) topical, leave on for 24 hours.

NONE OF THESE KILL SCABIES EGGS SO THEY NEED TO BE USED TWICE – ONE WEEK APART

After final treatment – recalls for follow up treatment

Scabies

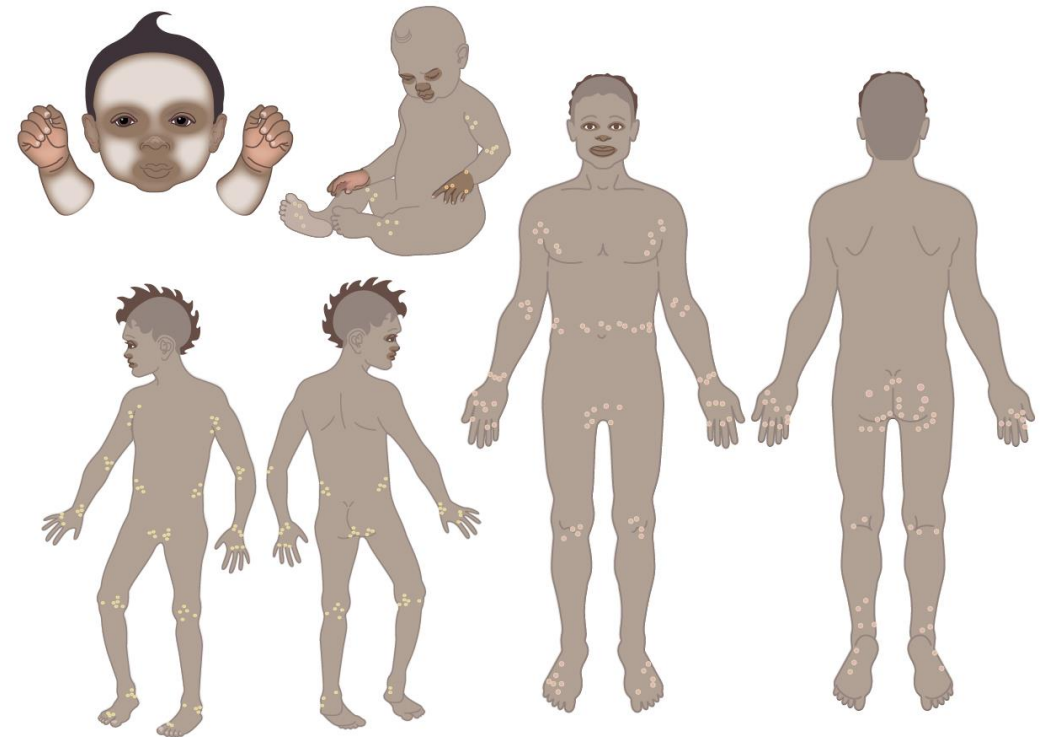
Applying scabies creams/lotions

When applying creams or lotions (Permethrin or Benzyl Benzoate), make sure to apply to the whole body from head to toe.

Make sure the cream goes everywhere including:

- Between fingers and toes
- On the face (avoid the eyes, nostrils and mouth) and scalp
- Under trimmed fingernails
- Soles of the feet
- Bottom and groin

Avoid the hands for babies who may put their hands in their mouths.



Scabies

Treatment

Create scabies free zones using:

- HEAT – temperatures above 50C will kill mites
 - If it is a very hot day, a black plastic bag in the sun should kill mites
 - Hot water washing machine or a hot clothes dryer for >20 minutes
- ISOLATION – more than 72 hours OFF the body
 - If the mites can't find a human, they'll die after 3-8 days
 - This means any clothes, shoes, blankets can be bagged up and any mites on them will be dead in 3-8 days

Scabies



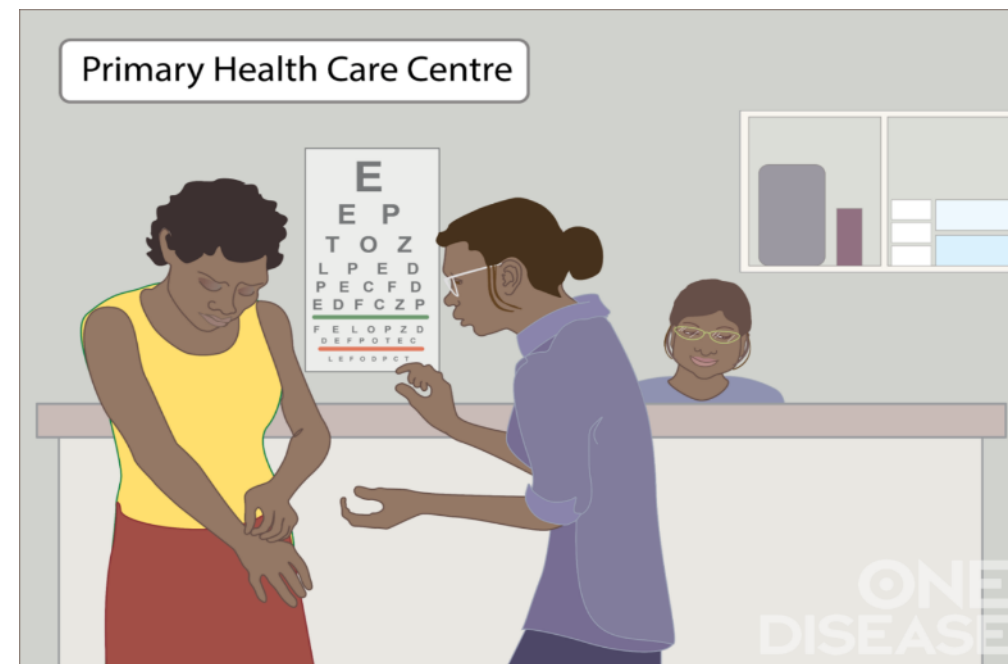
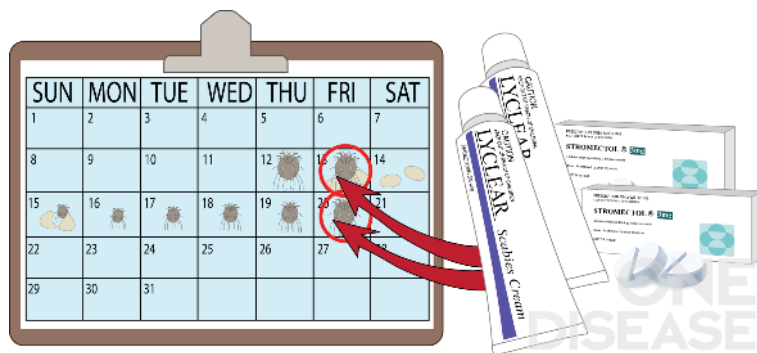
Scabies Free Zone

Person • Household • Family Group • Community • Region

Scabies

Scabies free zone: Individual level (Person)

- If you think you have scabies or skin problems, go to the clinic
- If it is scabies, treatment will require 2 doses for you and all close contacts, one week apart.



Scabies

Scabies free zone: Household and Family Group

- Everyone in the house has treatment together to stop the transmission of scabies
- Work with families to create and maintain a Scabies Free Zone in household places and spaces.
- Clothes and bedding can go in a plastic bag for 3-8 days. This will kill the mites.



Scabies

Scabies free zone: Community level

If many households in the community have scabies, consider a community wide Healthy Skin Day.

- Possible measures include:
 - Health education
 - Screening and treatment
 - With/without general clean-up of households and community spaces
- Don't forget:
 - Community involvement
 - Inter-agency collaboration

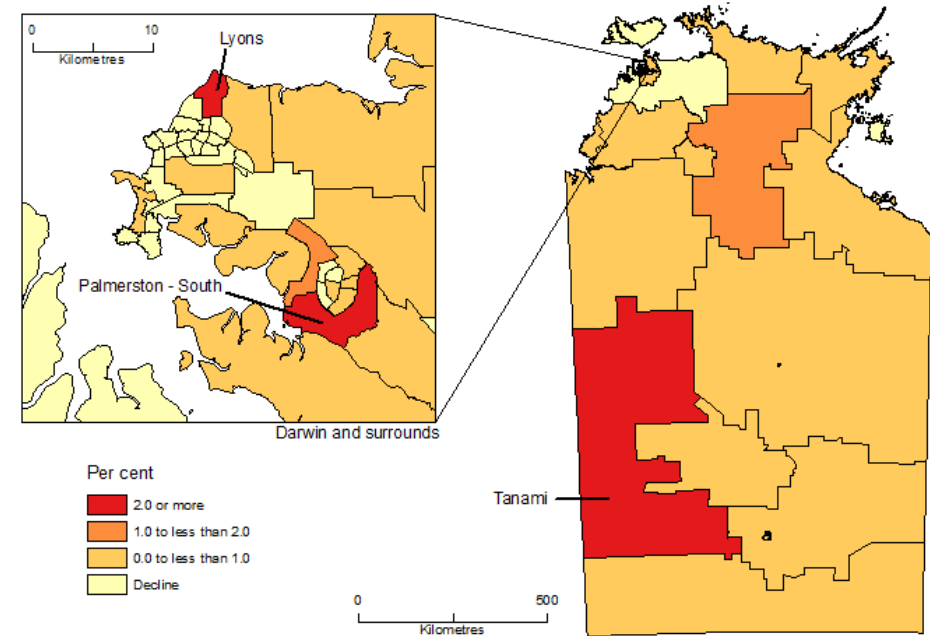


Scabies

Scabies free zone: Regional Level

Coordinating the development of Scabies Free Zone across a Region requires:

- Being clear about the boundaries of the region (e.g. State region, Shire area, health service region, etc)
- Engaging multiple groups or communities within the region
- Inter-agency collaboration



Scabies

General points:

- Scabies mites do not live in dirt or dust.
- Scabies is not a zoonotic condition-Scabies mites that come from dogs are different to human scabies mites. Scabies mites from dogs cannot reproduce in humans.
- Scabies is not a disease of poor hygiene.
- Scabies mites do not fly or jump.
- Scabies burrow into the skin.
- Reasons for recurrent scabies infections are complex and a case management approach is needed to break the cycle.

Crusted Scabies

Overview

- In January 2016 Crusted Scabies was made a notifiable disease under the *Notifiable Diseases Act NT*.
- Crusted Scabies is notified via laboratory following detection of *Sarcoptes scabiei* mites on skin scrapings.
- An Infectious Disease physician must have reviewed the patient in order to meet the case definition.
- A confirmed case of Crusted Scabies will elicit a Public Health response. This includes contact tracing and treatment of household and close contacts and creating a scabies free zone.

Crusted Scabies

Description – Is it Scabies or Crusted Scabies?

- Scabies:
 - Scabies numbers – 10-15 mites
 - Itchy
 - Not highly contagious
 - Can be treated in clinic
 - With correct treatment it will get better
- Crusted Scabies:
 - Scabies numbers – hundreds to thousands of mites
 - May not be itchy
 - Highly contagious
 - Requires long treatment in hospital
 - With correct treatment it will get better

Crusted Scabies



Crusted Scabies

Description

- Immune response does not control mite proliferation.
- Crusted Scabies is highly infectious and causes outbreaks of scabies throughout households and communities.
- Thick, scaly cream-coloured skin.
- Sometimes no itch.
- With or without depigmentation.
- Can lead to secondary skin sepsis.
- Transmitted via skin to skin contact and from environment because of the number of mites.
- Mites can live up to 3-8 days off the skin.



Crusted Scabies

Images of different grades of Crusted Scabies



Crusted Scabies



Crusted Scabies

People at risk

- Those with other health conditions like heart disease, kidney disease and diabetes.
- Those with immunodeficiency.

Problematic Alcohol Use
Heart Disease Scabies
HTLV-1 **Diabetes**
Chronic Kidney Disease
Chronic Liver Disease ANA+
Overcrowding
ONE DISEASE

Crusted Scabies

Detection (for clinic staff)

- Many cases of scabies are misdiagnosed as Crusted Scabies.
- Crusted sores occur with scabies from scratching and secondary infections.



Crusted sores - secondary infection from scratching



Crusted scabies

Crusted Scabies

Detection (for clinic staff)

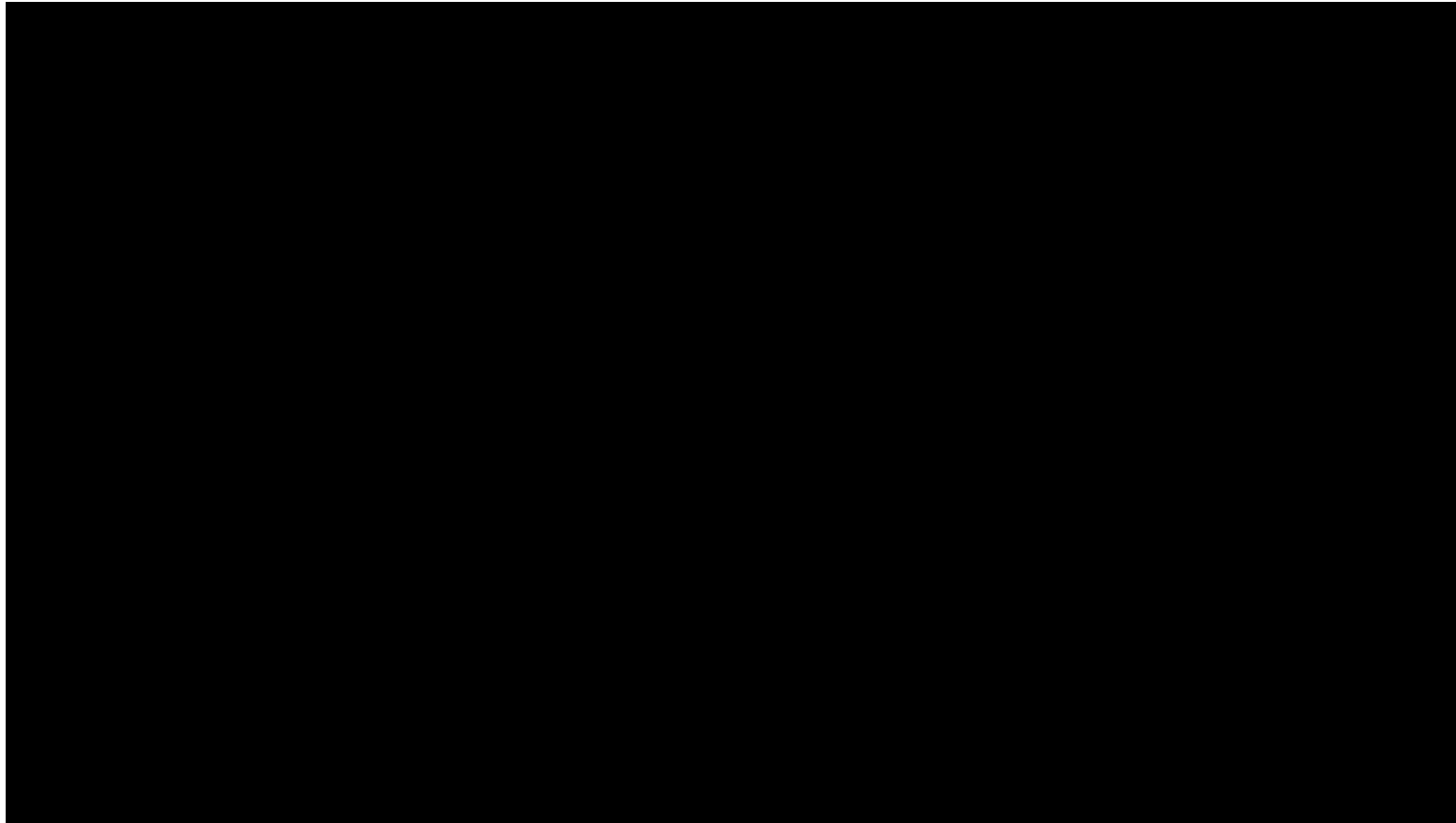
Skin scrapings:

- Take from the part of the body where there is the most crusting
- If you think it might be tinea, take two separate scrapings with two separate pathology forms

Diagnosis:

- Call local hospital Infectious Disease team/ Dermatologist for opinion
- Gain consent from client and send photos to expert
- If scrapings are positive, Crusted Scabies more likely to be diagnosed

Crusted Scabies



Skin Scraping Procedure (for clinic staff)

Crusted Scabies

A: Distribution and extent of crusting

1. Wrists, web spaces, feet only (<10% Total Body Surface Area)
2. Above plus forearms, lower legs, buttocks, trunk or 10-30% TBSA
3. Above plus scalp OR >30% TBSA

B: Crusting / Shedding

1. Mild crusting (<5mm depth of crust), minimal skin shedding
2. Moderate (5-10mm) crusting, moderate skin shedding
3. Severe (>10mm), profuse skin shedding

C: Past Episodes

1. Never had it before
2. 1-3 prior hospitalizations for crusted scabies OR depigmentation of elbows, knees
3. >=4 prior hospitalizations for crusted scabies OR depigmentation as above PLUS legs/back or residual skin thickening / ichthyosis

D: Skin Condition

1. No cracking or pyoderma
2. Multiple pustules and/or weeping sore and/or superficial skin cracking
3. Deep skin cracking with bleeding, widespread purulent exudates

Grade 1: Total score 4-6

Grade 2: Total score 7-9

Grade 3: Total score 10-12

Treatment: Ivermectin 200mcg/kg rounded up to nearest 3mg.

Grade 1: 3 doses - Days 0, 1, 7

Grade 2: 5 doses - Days 0, 1, 7, 8, 14

Grade 3: 7 doses - Days 0, 1, 7, 8, 14, 21, 28

All patients also treated with benzyl benzoate and 5% tea tree oil 2nd daily alternating with Keratolytic cream.

Grading Crusted Scabies

- The 'Crusted Scabies grading system and acute treatment protocol' was developed by experts at Royal Darwin Hospital (Davis et al, 2013).
- Grading the severity of Crusted Scabies ensures correct diagnosis and medical treatment.
- Grade may be 1, 2 or 3 depending on severity.

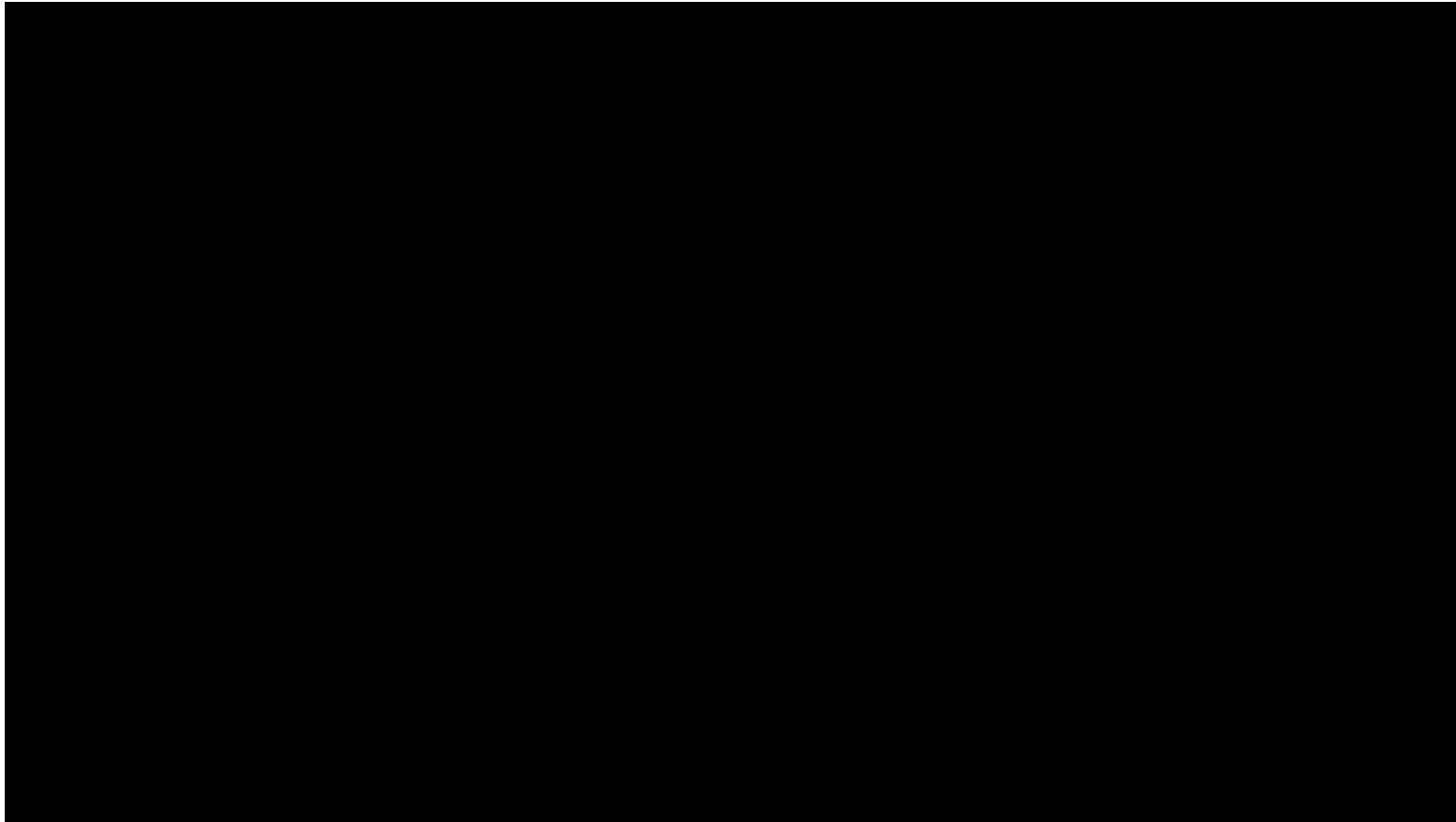
Crusted Scabies

Treatment

- Treatment for Crusted Scabies is guided by grading system developed by Infectious Disease Specialists.
- Grading based on how much of the body is affected by crusting, how thick the crusting is, how much skin is shedding, past episodes and general skin condition like if it is cracked or not.

Grade	Typical tx duration	Topical treatment	Oral treatment
1	7 days	2 nd daily scabicial and keratolytic	Ivermectin days 0, 1, 7
2	14 days	2 nd daily scabicial and keratolytic	Ivermectin days 0, 1, 7, 8, 14
3	28 days	2 nd daily scabicial and keratolytic	Ivermectin days 0, 1, 7, 8, 14, 21, 27

Crusted Scabies



Treatment: In hospital

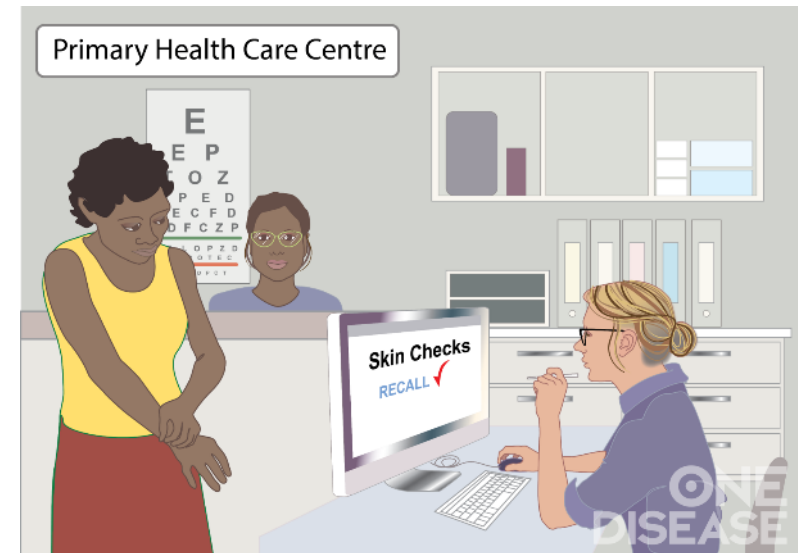
Crusted Scabies

Ongoing management

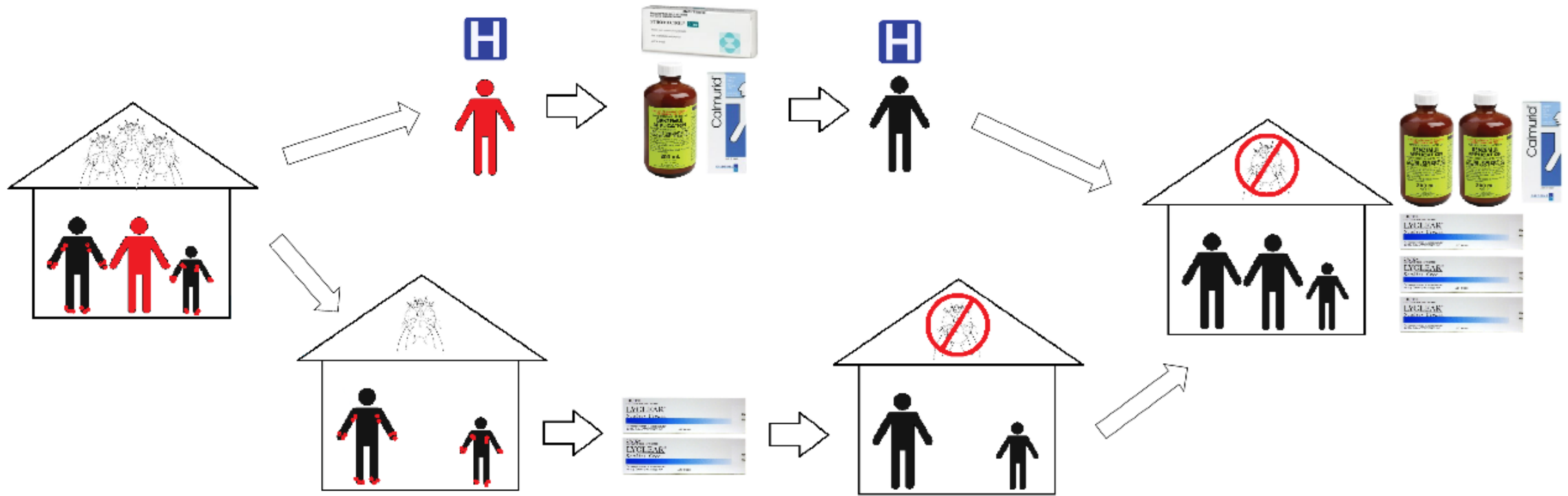
People who have been treated for Crusted Scabies need ongoing surveillance to prevent recurrences

Ongoing management of scabies includes:

- Education/awareness, self check, seek treatment early
- Staff awareness
- Communication with regular/community health care providers
- A Care Plan that ensures regular review of skin
- Maintaining scabies free zones



Crusted Scabies



Crusted Scabies

General points:

- Crusted Scabies is a notifiable condition in the Northern Territory
- Crusted Scabies is diagnosed by laboratory scrapings and involvement by an infectious diseases physician
- Crusted Scabies is highly infectious and may contribute to cases of household scabies recurrence
- People with comorbidities and/or immunosuppression are at higher risk of developing Crusted Scabies
- Crusted Scabies often needs treatment in hospital
- People who have been treated for Crusted Scabies need to be on long-term management care plans to prevent recurrence and rehospitalisation

Discussion

Discussion: Example scenario

- 5 year old presented 3 times in the last 4 months with extensive scabies and skin sores
- LAB given each time, Lyclear provided each time
- Household appears to be doing good job cleaning house and treating family members with Lyclear

Discuss what reasons there may be for cases of recurrent scabies.

Resources

CARPA Standard Treatment Manual

<https://www.remotephcmanuals.com.au/>

One Disease Resources

www.onedisease.org/resources-1

<https://www.onedisease.org/faq>

Telethon Kids Institute National Healthy Skin Guideline

<https://infectiousdiseases.telethonkids.org.au/our-research/skin-guidelines/>

Remote Area Health Corps

<https://www.rahc.com.au/>