

Recognising and Treating Skin Infections

..... A resource for clinic staff

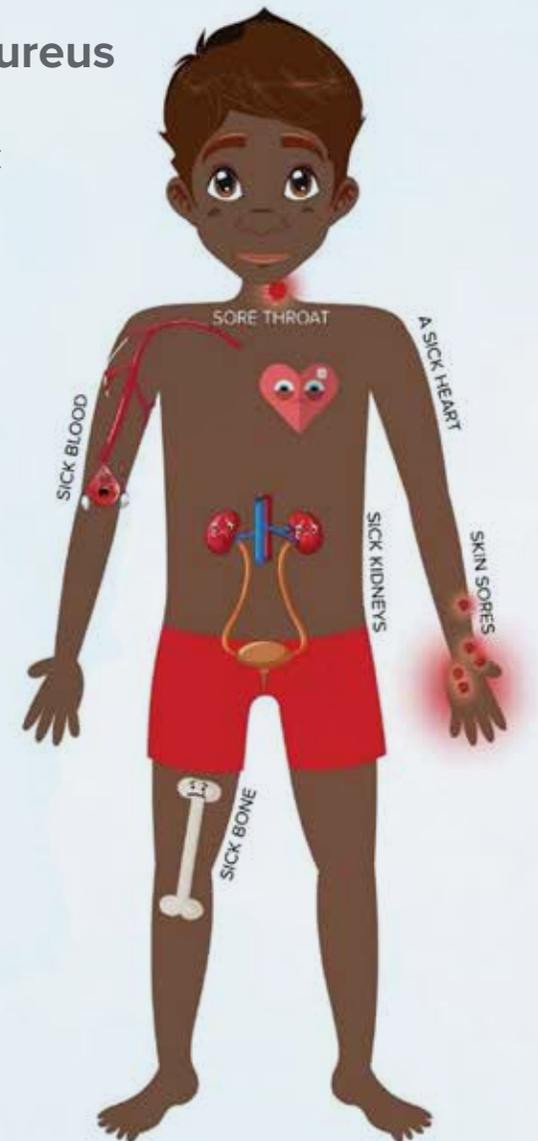
Based on Kimberley Clinical Protocol – Skin Infections in Children (2019)



**2023
version**

The importance of healthy skin

- Skin sores are caused by bacteria called Strep A and Staph aureus
- When these bacteria infect the body, they can lead to chronic conditions such as:
 - Rheumatic Heart Disease (RHD)
 - Kidney Disease (APSGN)
 - Blood poisoning (Sepsis)
 - Bone and joint infections



Skin sores (school sores, impetigo): Identify

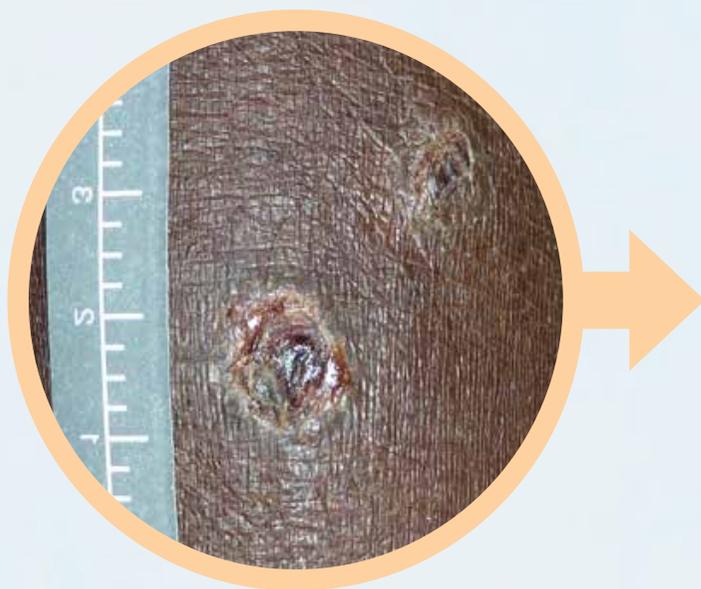
- Round sores with pus or crust on them
- Important to look out for skin sores as they are common in the Kimberley
- Caused by *Streptococcus pyogenes* (Strep A) and *Staphylococcus aureus* bacteria
- Easily transmitted between people
- Important to treat to prevent downstream diseases, such as RHD



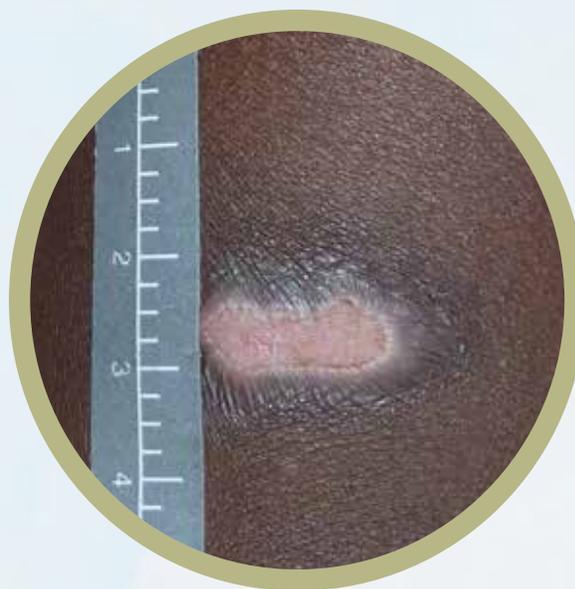
Stages of skin sores



Purulent

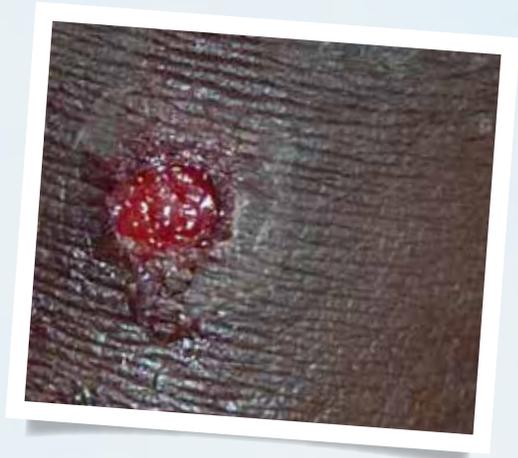


Crusted

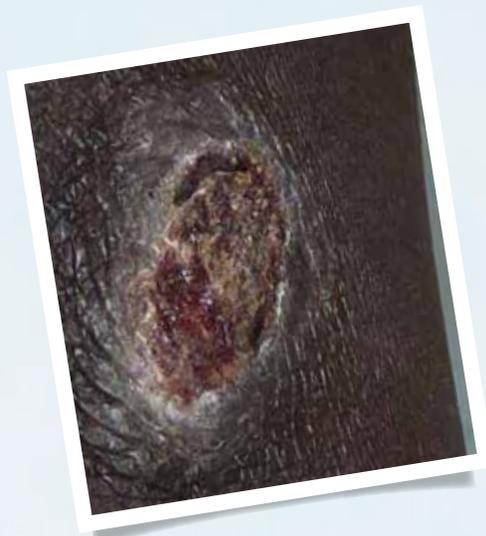


Flat, dry

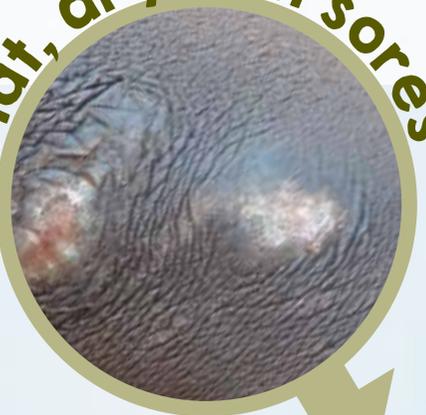
Purulent skin sores



Crusted skin sores



Flat, dry skin sores



Skin sores: Treat

Ask carer or patient what their preferred option is

1 | Treat with antibiotics

- a. Give **oral cotrimoxazole** twice daily for three days (4mg/kg dose)



OR

- b. If allergic to cotrimoxazole or unable to complete three-day course give **single injection of intramuscular Benzathine Penicillin G (BPG)**



Weight band	Syrup dose Cotrimoxazole syrup is 40mg trimethoprim/5mL	Tablet dose Tablets are 160/800 of trimethoprim/sulfamethoxazole
3 – < 6 kg	1.5 mL (12mg BD)	N/A
6 – < 8 kg	3 mL (24 mg BD)	N/A
8 – < 10 kg	4 mL (32 mg BD)	N/A
10 – < 12 kg	5 mL (40 mg BD)	N/A
12 – < 16 kg	6 mL (48 mg BD)	N/A
16 – < 20 kg	8 mL (64 mg BD)	N/A
20 – < 25 kg	10 mL (80 mg BD)	½ tablet
25 – < 32 kg	12.5 mL (100 mg BD)	¾ tablet
32– < 40 kg	16 mL (128 mg BD)	
≥ 40kg	20 mL (160 mg BD)	1 tablet
25 – < 32 kg	20 mL (160 mg BD)	1 tablet
32– < 40 kg	16 mL (128 mg BD)	
≥ 40kg	20 mL (160 mg BD)	1 tablet

Weight band	Injection dose 1 syringe of BPG is 1,200,000 units in 2.3mL
< 10kg	450,000units IM (0.9 mL)
10 – 20kg	600,000units IM (1.2mL)
≥ 20 kg	1,200,000 units IM (2.3mL)

2 | Make an Environmental health referral

Scabies: Identify



- Scabies are tiny mites that burrow into the skin and lay eggs
- Often found between fingers and toes, on elbows, knees, wrists and buttocks
- Mites spread easily between people in close contact
- Very itchy, especially at night
- Scratching can lead to superficial bacterial infections, this is called **infected scabies**



Scabies



Bacteria



Infected scabies



Scabies: Treat

Treatment for Scabies: Medication options

1. Treat with antiparasitic

➤ A | Oral ivermectin



For kids weighing more than 15kg and non-pregnant, non-breastfeeding adults:

Weight band	No. of tablets (Ivermectin dose)
15 – <25kg	1 tablet (3mg)
25 – <35kg	2 tablets (6mg)
35 – <55kg	3 tablets (9mg)
55 – <65kg	4 tablets (12mg)
65 – 80kg	5 tablets (15mg)
≥80kg	6+ tablets (18mg or 200µg/kg, rounded up to the nearest 3mg)

OR

➤ B | Permethrin 5% cream (Lyclear)



For kids weighing less than 15kg and pregnant or breastfeeding adult

Apply to whole body, avoiding eyes and mouth

Leave on overnight (or at least 8 hours) and wash off

2. Make an Environmental health referral

Scabies treatment follow up

Day 1

Give **person with scabies** first dose of **Oral Ivermectin** or **Lyclear cream**



Give **household contacts** single dose of **Oral Ivermectin** or **Lyclear cream**



Hot water wash clothes, towels and bedding



Make an **environmental health referral**



Day 8*

Give **person with scabies** second dose of **Oral Ivermectin** or **Lyclear cream**

* The second dose, scheduled for Day 8 can be administered anywhere between eight and fifteen days after the first dose

If scabies persist more than 14 days after treatment has occurred:

1: Check that all household contacts were treated

2: Check that medication was used correctly

3: Check for crusted scabies amongst household contacts

If scabies continue to persist, refer for specialist treatment

Scabies: Prevent

1 | Regular hand washing with soap



2 | Regular hot water washing clothes, towels and bedding



Boils: Identify



- Boils are swollen, red lumps of pus under the skin
- Caused by *Staphylococcus aureus* bacteria infecting hair follicles
- In the Kimberley, there are high rates of *Methicillin-resistant Staphylococcus aureus (MRSA)*, causing boils
- Often painful and may cause fever
- Easily transmitted between people
- Important to treat to prevent downstream diseases such as sepsis and bone and joint infections



Boils: Treat

- 1 | **Incision and drainage may be needed**



- 2 | **Treat with antibiotics**
Give oral cotrimoxazole twice daily for five days (4mg/kg dose)

Weight band	Syrup dose Cotrimoxazole syrup is 40mg trimethoprim/5mL	Tablet dose Tablets are 160/800 of trimethoprim/sulfamethoxazole
3 – < 6 kg	1.5 mL (12mg BD)	N/A
6 – < 8 kg	3 mL (24 mg BD)	N/A
8 – < 10 kg	4 mL (32 mg BD)	N/A
10 – < 12 kg	5 mL (40 mg BD)	N/A
12 – < 16 kg	6 mL (48 mg BD)	N/A
16 – < 20 kg	8 mL (64 mg BD)	N/A
20 – < 25 kg	10 mL (80 mg BD)	½ tablet
25 – < 32 kg	12.5 mL (100 mg BD)	¾ tablet
32– < 40 kg	16 mL (128 mg BD)	
≥ 40kg	20 mL (160 mg BD)	1 tablet

- 3 | **Make an Environmental health referral**

Boils: Prevent

1 | Regular hand washing with soap



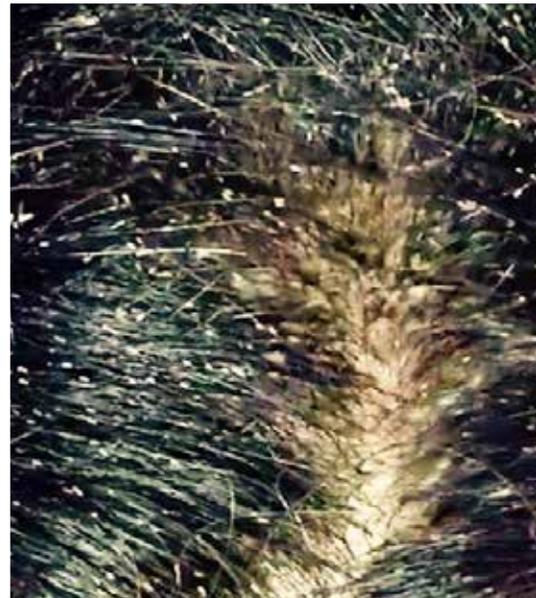
2 | Regular hot water washing clothes, towels and bedding



Headlice (nits, louse): Identify



- Bloodsucking insects that live on the scalp
- Look for white/brown eggs and brown adults
- Very itchy. Scratching can lead to impetigo on the scalp



Headlice: Treat

1. Apply Hedrin OR Apply conditioner

▶ A | Hedrin lotion

Apply Hedrin (dimethicone 4%) lotion to clean dry hair.

Leave on for at least 15 minutes.

Wash out with regular shampoo.



OR

▶ B | Comb out lice and eggs

Apply conditioner to dry clean hair.

Use fine toothed comb to remove nits and lice.

2. Make an Environmental health referral

Repeat chosen treatment option until head lice are gone

Remember:

Check and treat household contacts at the same time

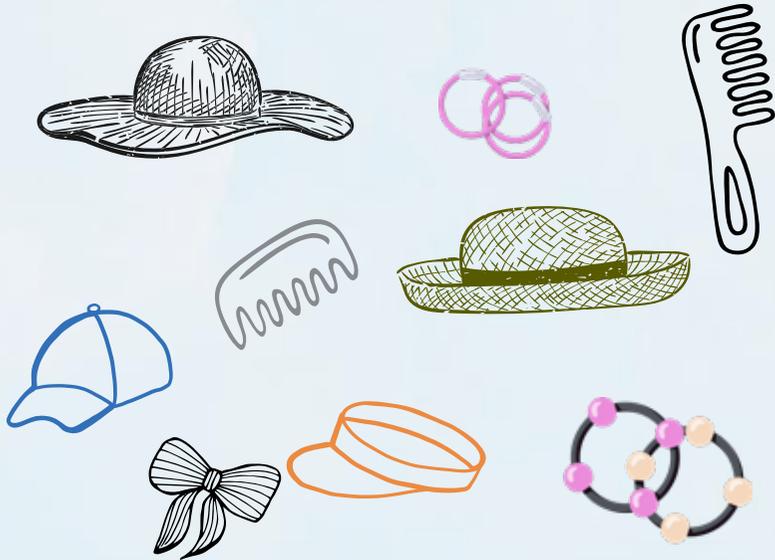
Repeat treatment daily for 1 week

Hot water wash sheets and pillowcases

Check scalp for sores as well. If found, treat for impetigo (page 8)

Headlice: Prevent

1 | Not sharing combs, hats or hair ties



2 | Regular hot water washing clothes, towels and bedding



Tinea (ringworm): Identify



- Fungal infection that affects the skin, hair & nails
- Mainly transmitted between people but can be spread from pets
- On the skin, it appear as scaly, well-defined patches. Skin also often appears darker and tougher



Tinea: Treat

1. Treat with antifungal

➤ Small areas of skin:

➤ **Terbinafine 1% cream or ketoconazole 2% cream** once or twice daily for 7 to 14 days



➤ For mild tinea on the scalp, use **Selenium Sulfide 2.5% shampoo** or **Ketoconazole 2% shampoo** once a day for 5 days

➤ Large areas on the body or scalp, or tinea on the nails:

➤ Take skin scraping or nail cutting to confirm the diagnosis

➤ Discuss with doctor

➤ Treat with **oral terbinafine**



Weight band	Dose
	1 tablet contains 250mg terbinafine
10 – < 20 kg	¼ tablet (62.5 mg)
21 – < 40 kg	½ tablet (125 mg)
≥ 41 kg	1 tablet (250 mg)

➤ Splitting tablets makes the medicine very bitter. Mix with nutella or chocolate syrup.

2. Make an Environmental health referral

If treatment doesn't work – seek specialist medical advice

Tinea: Prevent

1 | Regular hand washing
clothes, towels and bedding



2 | Check dogs for skin problems
and treat if needed



Community-driven Skin Health Promotion Resources



There are lots of community driven skin health promotion resources you can access on the Telethon Kids Institute Website.



How families can keep skin strong at home

Check

- Regularly check children's skin for infections



Care

- If you notice a skin infection on a child, go to the clinic



- Cover skin infections to stop the spread



- Ensure the child, and anyone else in the house, takes their medicine



Clean

- Encourage children to wash hands with soap and water



- Regularly hot water wash towels, clothes and cushions



- Use moisturiser on dry, cracked skin



- Use bush medicines to keep skin strong



Background

The See, Treat, Prevent Skin Sores and Scabies (SToP) Trial aimed to improve the awareness, detection and treatment of skin infections in the Kimberley, to prevent the development of complex disease sequelae such as Rheumatic Heart Disease. Operating from 2017 until 2023 in nine Kimberley remote Aboriginal communities, the SToP Trial was a collaboration between Telethon Kids Institute, Kimberley Aboriginal Medical Services, WA Country Health Services – Kimberley, and Nirrumbuk Environmental Health Services. Luke Riches (Ardyagoon community) painted Gathering Circles (2020; cover art) to tell the SToP Trial story. The circles represent the nine communities participating in the SToP Trial. In Riches' words *"The circles vary in colour and composition, just as the communities hold their own unique identities. The backdrop of pindan orange and coastal blues convey the land and sea setting that makes the Kimberley so beautiful. The dot painted trails show a connection between the communities, of both foot trails and song lines that unite the people"*. The SToP Trial was funded by the National Health and Medical Research Council (NHMRC), WA Government and Healthway.

The current resource was adapted from *Recognising and Treating Skin Conditions*, produced by the Cooperative Research Centre for Aboriginal and Tropical Health (now the Lowitja Institute) and the Menzies School of Health Research for the East Arnhem Regional Healthy Skin Project. First developed in 2004 to train healthcare professionals involved in this project, *Recognising and Treating Skin Conditions* was updated in 2009 and has been widely used throughout Australia in both hardcopy and online.

In 2016, Telethon Kids Institute obtained permission from the Lowitja Institute and Menzies School of Health Research to adapt *Recognising and Treating Skin Conditions* into a training tool for school staff involved in the SToP Trial. Now, at the conclusion of the SToP Trial in 2023, the training tool has been modified into the current resource for use more broadly by clinic staff in communities of the Kimberley.

The current resource is aligned with the *National Healthy Skin Guidelines (2023)*, *Kimberley Clinical Protocol – Skin Infections in Children (2019)* and *Keeping Skin Healthy: A Handbook for Community Care Workers (Pilbara, 2019)*.

Citation: Ford A, Schauer A, Thomas HMM, Enkel S, McRae T, Famlonga R, McLoughlin F, Jacky J, Mullane M, Whelan A, Coffin J, Walker R, Bowen AC., *Recognising and Treating Skin Infections: a resource for clinic staff*, Telethon Kids Institute, 2023.



