CONDITION

Scalded skin syndrome

Scalded skin syndrome is a serious bacterial condition that causes painful redness, fragile blisters, and widespread peeling.

WHAT IT IS
Toxin-mediated bacterial condition causing superficial skin peeling

BODY SYSTEM
Skin

MAIN SYMPTOMS
Fever, tender red skin, fragile blisters, sheet-like peeling

WHAT CAUSES IT
Staphylococcus aureus infection releasing skin-splitting toxins

HOW IT IS DIAGNOSED
Clinical examination, infection-site cultures, sometimes skin biopsy

MAIN TREATMENT
Hospital antibiotics, fluids, pain relief, and skin care

CAN IT BE CURED?
Yes - antibiotics usually clear the infection

IS IT AN EMERGENCY?
Yes, suspected cases need urgent hospital treatment

LONG-TERM OUTLOOK
Usually full recovery in treated children; adults may become critically ill

Overview

Scalded skin syndrome is a serious condition caused by toxins from certain strains of Staphylococcus aureus , often called staph bacteria. Its full medical name is staphylococcal scalded skin syndrome, or SSSS.

The toxins damage a protein that holds cells together in the skin's upper layer. This makes the skin fragile. It may blister, wrinkle, or peel away in sheets, creating an appearance similar to a scald. It is not caused by heat or a burn.

SSSS mainly affects newborn babies and young children. Their kidneys are less able to remove the bacterial toxins, and they may not yet have protective antibodies. Adults can develop it, but this is uncommon. Adult cases are more likely in people with severe kidney disease, reduced immune function, or another major illness.

The condition can cause rapid fluid loss, difficulty controlling body temperature, and further infection through damaged skin. Treatment normally takes place in hospital and should begin promptly.

Symptoms

Symptoms can develop quickly. A child may first have fever, irritability, tiredness, or poor feeding. The skin then becomes red and very tender, often beginning around the mouth, nose, eyes, neck, groin, or skin folds.

Possible features include:

The exposed skin beneath the peeling layer may look moist, shiny, and bright red.

The moist lining inside the mouth is usually not affected. This helps clinicians distinguish SSSS from some other severe blistering conditions. However, appearance alone is not always enough to identify the cause.

SSSS can resemble burns, medicine reactions, other bacterial skin infections, and inherited blistering conditions. These symptoms need urgent medical assessment rather than diagnosis at home.

- Painful, warm, red skin
- Thin, fluid-filled blisters that break easily
- Wrinkling or peeling when the skin is touched gently
- Large areas of skin coming away in thin sheets
- Crusting or cracks around the mouth, nose, or eyes
- Fever, weakness, or reduced interest in feeding and drinking

Causes and risk factors

SSSS begins with an infection caused by a toxin-producing strain of Staphylococcus aureus . The original infection may be small and located away from the areas that peel. Possible sites include the nose, throat, eyes, umbilical stump, diaper area, a wound, or another patch of infected skin.

The bacteria release exfoliative toxins. "Exfoliative" means that they cause the outer skin to separate and shed. The toxins can enter the bloodstream and travel around the body, even when the bacteria remain at the original infection site.

Risk is higher in:

In adults, the condition may occur alongside bloodstream infection or another serious underlying illness.

SSSS is not inherited, and the toxin does not result from an allergy. Staph bacteria can spread between people through direct contact, contaminated hands, or shared items, although most people exposed to staph do not develop SSSS.

- Newborn babies and young children
- People with reduced kidney function
- People whose immune system is weakened
- People with a recent wound, operation, or staph infection

Diagnosis

Clinicians often diagnose SSSS from the pattern of symptoms and a careful skin examination. Because the condition can progress quickly, treatment may begin before all test results are available.

Swabs or cultures may be taken from places where the original infection could be present, such as the nose, throat, eyes, umbilical area, a wound, or another infected site. A culture grows bacteria in a laboratory and helps identify which antibiotics like amoxicillin or doxycycline are likely to work.

Fluid from a blister often does not contain the bacteria because the skin damage is caused by toxins travelling from another location. Blood cultures may also be taken, particularly in newborns, adults, or anyone who appears very unwell.

Blood tests can help assess infection, hydration, salts in the blood, and kidney function. They support care but do not confirm SSSS on their own.

If the diagnosis remains uncertain, a small skin sample called a biopsy may be examined under a microscope. SSSS causes separation close to the skin's surface. This can help distinguish it from deeper and potentially medicine-related skin damage, such as toxic epidermal necrolysis.

Treatment and management

SSSS is treated in hospital. Care may take place on a children's ward, neonatal unit, intensive care unit, or specialist burns unit, depending on age, the amount of affected skin, and the

person's general health.

Antibiotics that treat staph bacteria are usually given into a vein at first. The choice may be adjusted when culture and antibiotic-resistance results return. Once the infection is controlled and the person is improving, the clinical team may change to an antibiotic taken by mouth.

Supportive treatment protects the body while new skin forms. It may include:

The skin is handled gently because rubbing can cause more peeling. Exposed areas may be covered with non-adherent dressings or suitable moisturising products. Treatment is similar to some aspects of burn care, but SSSS is not a burn.

Infection-control measures may include careful handwashing, gloves, separate equipment, or temporary isolation. These steps reduce the chance of staph spreading to other vulnerable people, especially in neonatal or hospital settings.

Do not pull away loose skin or apply burn remedies, antiseptics, or medicated creams unless the treating team recommends them.

- Fluids and salts to replace losses through damaged skin
- Pain relief
- Careful monitoring of temperature, urine output, and kidney function
- Soft, non-stick dressings and gentle skin care
- Nutrition or feeding support when needed
- Treatment of the original infection site

Complications

Damaged skin cannot control fluids, temperature, or infection as effectively as healthy skin. Possible complications include:

Young children usually recover well when treatment begins promptly. Adult SSSS can be more severe because it often occurs with kidney problems, reduced immunity, bloodstream infection, or another major illness.

- Dehydration and abnormal levels of salts in the blood
- Low body temperature
- Secondary infection of exposed skin
- Bloodstream infection or sepsis

- Kidney strain or injury
- Pneumonia or other infection at a distant site

Prevention

SSSS cannot always be prevented. Staph bacteria commonly live harmlessly on the skin or inside the nose, and it is not always possible to predict when a toxin-producing strain will cause illness.

Regular handwashing and appropriate care of cuts, wounds, and infected skin can reduce the spread of staph. Avoid sharing towels or personal skin-care items with someone who has an active infection.

In hospitals and nurseries, staff may use contact precautions and investigate possible linked cases. If an outbreak or continuing source of staph is suspected, specialists may recommend testing or treatment to remove the bacteria from the skin or nose. This is called decolonisation. It is not routinely needed for everyone who has been in contact with a case.

There is no vaccine that specifically prevents SSSS.

Living with it and what to expect

With effective treatment, fever and skin tenderness often begin to settle over the following days. New skin forms beneath the peeling layer, and healing commonly takes about one to two weeks. Recovery time may be longer when the infection is extensive or another illness is present.

Because the split occurs near the surface, the skin usually heals without permanent scars. Temporary dryness or changes in skin colour can remain while the skin recovers. Gentle skin care may be needed after discharge.

Follow-up may check that the infection has cleared, hydration and kidney function are normal, and the skin is healing. Babies may also need feeding and weight checks. Take the full antibiotic course exactly as directed, even when the skin looks better.

Recurrence is uncommon, but it can happen if another toxin-producing staph infection develops. The hospital team may investigate the source if there are repeated cases or if several people in the same setting become unwell.

Return to childcare, school, or close-contact activities should follow advice from the treating team or local public health service. Timing is based on healing, infection control, and whether

any staph infection remains.

When to get medical help

Suspected SSSS needs urgent hospital assessment. Seek emergency medical care for a baby, child, or adult who has rapidly spreading tender redness, fragile blisters, or skin peeling in sheets, especially with fever or appearing unwell.

Call emergency services if the person:

After discharge, contact the treatment team urgently if fever returns, redness spreads, new blisters appear, drinking decreases, urine output falls, or a wound develops pus or increasing pain.

Routine follow-up is appropriate for planned skin, feeding, kidney, or infection checks when recovery is continuing and there are no new concerning symptoms.

- Is difficult to wake, confused, faint, or unusually floppy
- Has trouble breathing or develops blue, grey, or very pale skin
- Shows signs of severe dehydration, such as very little urine
- Is deteriorating rapidly

Common questions

Is scalded skin syndrome contagious?

The peeling reaction itself is caused by toxins and cannot be "caught." However, the staph bacteria producing those toxins can spread through close contact, hands, or shared objects. Hospitals may use additional infection-control precautions.

Is it an actual burn?

No. The skin looks scalded because its upper layer separates and peels, but heat does not cause the damage. Treatment includes some burn-care methods because both conditions can lead to pain, fluid loss, and exposed skin.

Can adults get scalded skin syndrome?

Yes, although it is uncommon. Adults who develop SSSS often have reduced kidney function, weakened immunity, bloodstream infection, or another serious health problem. Adult cases may require intensive monitoring.

Does scalded skin syndrome leave scars?

Permanent scarring is uncommon because the damage is usually limited to the skin's superficial layer. Temporary dryness or changes in colour may remain during healing. Deeper damage from a complication could affect the outcome.

How long does recovery take?

The skin often heals over about one to two weeks when antibiotics control the infection and complications do not occur. General recovery may take longer for newborns, adults, or people with another major illness.

Is scalded skin syndrome the same as toxic epidermal necrolysis?

No. Both can cause widespread skin loss, but toxic epidermal necrolysis is usually a severe reaction to a medicine and affects a deeper skin layer. It also commonly involves the mouth or other moist linings. A skin biopsy may help tell them apart.

Sources

- DermNet New Zealand. "Staphylococcal scalded skin syndrome." Clinical dermatology reference
- MSD Manual Professional Edition. "Staphylococcal Scalded Skin Syndrome." Bacterial skin infections
- National Center for Biotechnology Information. StatPearls: Staphylococcal Scalded Skin Syndrome . NCBI Bookshelf
- "Staphylococcal-scalded skin syndrome: evaluation, diagnosis, and management." World Journal of Pediatrics . 2018;14(2):116-120
- Handler MZ, Schwartz RA. "Staphylococcal scalded skin syndrome: diagnosis and management in children and adults." Journal of the European Academy of Dermatology and Venereology . 2014;28(11):1418-1423
- Bukowski M, Wladyka B, Dubin G. "Exfoliative toxins of Staphylococcus aureus." Toxins . 2010;2(5):1148-1165