CONDITION

Brown recluse spider bite

Learn how brown recluse spider bites may look and feel, how they are diagnosed and treated, and which symptoms need urgent medical care.

WHAT IT IS
Injury caused by brown recluse venom

BODY SYSTEM
Skin

MAIN SYMPTOMS
Pain, redness, swelling, blister

WHAT CAUSES IT
Brown recluse spider venom

HOW IT IS DIAGNOSED
Witnessed bite and identified spider

MAIN TREATMENT
Basic wound care and supportive treatment

CAN IT BE CURED?
Yes, most heal with basic care

IS IT AN EMERGENCY?
Sometimes, with dark urine or trouble breathing

LONG-TERM OUTLOOK
Generally good with occasional slow-healing wounds and rare serious illness

Overview

A brown recluse spider bite is an injury caused by venom from a brown recluse spider, Loxosceles reclusa . The venom can damage skin and nearby tissue. Rarely, it can affect red blood cells, the kidneys, or the body's clotting system.

Brown recluse spiders live mainly in the south-central and midwestern United States. Reports of bites outside their established range are often caused by other conditions. These spiders are not aggressive. Bites usually happen when a spider is trapped against the skin, such as inside clothing, bedding, shoes, or work gloves.

Most confirmed bites cause mild or moderate skin symptoms and heal with basic wound care. Some develop a slow-healing area of damaged tissue, called necrosis. Serious whole-body illness, known as systemic loxoscelism, is uncommon but requires prompt medical attention.

Children may be more likely than adults to develop serious effects after a bite.

Many skin problems are mistakenly labeled as brown recluse bites. Bacterial infections, including infections caused by methicillin-resistant Staphylococcus aureus (MRSA), can look similar. A healthcare professional can assess the wound, consider other causes, and decide whether testing or follow-up is needed.

Symptoms

A person may not notice the bite when it happens because it can be painless at first. Symptoms may develop over several hours. The exact appearance and timing vary, and not every bite progresses in the same way.

Early symptoms may include:

Some bites develop a pale area surrounded by redness or a dusky blue or purple center. The center may later form a scab. If tissue damage occurs, the wound usually changes gradually rather than becoming deeply ulcerated immediately. Healing may take several weeks, especially if the damaged area is large.

Symptoms such as pus, rapidly spreading redness, or a fluctuant lump that feels filled with fluid may suggest a bacterial infection rather than a direct effect of spider venom. Fever can occur with infection or systemic loxoscelism, so it should be medically assessed rather than assumed to come from the bite.

Rarely, venom can cause symptoms beyond the skin. These may begin within the first several days and can include:

Dark urine, jaundice, severe weakness, fainting, trouble breathing, confusion, or reduced urination may indicate destruction of red blood cells or another serious complication. These symptoms need urgent evaluation. Call emergency services for trouble breathing, fainting, severe confusion, or signs of shock.

- Mild stinging, burning, itching, or pain
- Redness and swelling around the bite
- A small blister
- Increasing tenderness over several hours
- Fever, chills, marked tiredness, or muscle aches
- Nausea or vomiting
- Headache or dizziness

- Dark, tea-colored, or red urine
- Pale skin, yellowing of the skin or eyes, or a fast heartbeat
- Reduced urination
- Unusual bruising or bleeding

Causes and risk factors

Brown recluse venom contains enzymes that can trigger inflammation and damage small blood vessels and tissue. One important venom component is sphingomyelinase D, which contributes to skin injury and, in rare cases, destruction of red blood cells.

Brown recluse spiders prefer dark, dry, quiet spaces. Outdoors, they may live under rocks, bark, or wood. Indoors, they may hide in boxes, closets, attics, basements, shoes, folded clothing, or stored materials. They can survive in occupied buildings while remaining out of sight.

Situations that may increase the chance of contact include:

A brown recluse cannot be identified by a skin wound alone. The spider is brown and has six eyes arranged in three pairs, unlike most spiders, which have eight eyes. It may have a darker violin-shaped marking, but this marking is not enough for reliable identification. Identification should be left to an experienced professional when possible.

Do not handle a suspected spider with bare hands. If it can be done safely, take a clear photograph or place the dead spider in a secure container for identification. Do not risk another bite to capture it.

- Handling stored boxes, firewood, or building materials
- Reaching into dark spaces without gloves
- Putting on shoes or clothing that have been stored or left on the floor
- Sleeping in an area where bedding touches the floor or wall
- Cleaning cluttered storage areas within the spider's geographic range

Diagnosis

There is no routine blood test or skin test that can prove a brown recluse bite. Diagnosis is strongest when the bite was witnessed, the spider was collected and correctly identified, and the skin changes fit the expected pattern.

A healthcare professional may ask:

The examination may include measuring the wound and checking for warmth, swelling, drainage, blisters, or loss of sensation. Photographs taken over time can help show whether the area is stable or changing.

Other possible causes must be considered. These include bacterial skin infection, an abscess, shingles, an allergic reaction, blood-vessel inflammation, diabetic or pressure-related wounds, and injuries from other insects or spiders. Misdiagnosis can delay the treatment that is actually needed [1].

Blood and urine tests are not necessary for every small, uncomplicated skin wound. They may be ordered when a person has fever, dark urine, jaundice, unusual weakness, widespread symptoms, or other signs of systemic illness. Testing may look for anemia from red blood cell breakdown, kidney injury, liver changes, or abnormal blood clotting.

A wound culture may be useful if there is drainage or another reason to suspect infection. It does not confirm that a spider caused the original injury.

- Where and when the exposure happened
- Whether the spider was seen or collected
- How quickly pain and skin changes developed
- Whether the wound is growing, draining, or becoming more painful
- Whether there is fever, dark urine, weakness, or other whole-body symptoms
- Whether medicines, chronic conditions, or recent injuries could affect healing

Treatment and management

Initial care focuses on limiting swelling, protecting the skin, and controlling discomfort. Wash the area gently with soap and water. Apply a wrapped cold pack for short periods, allowing the skin to warm between applications. If practical, raise the affected arm or leg.

Avoid applying heat. Heat may increase the local effects of venom. Do not cut the wound, attempt to suction out venom, apply electric shock, or use harsh chemicals. These methods do not remove the venom and may cause additional injury.

A clinician may recommend a nonprescription pain medicine when it is safe for the patient. Treatment choices depend on age, pregnancy status, medical conditions, allergies, and other medicines, so patients should follow label directions and professional advice rather than using an individualized regimen from a general article.

The wound may be cleaned and covered with a simple dressing. Blisters should generally be protected rather than deliberately opened at home. A tetanus booster may be recommended according to the person's vaccination history and routine wound-care guidance.

Antibiotics like amoxicillin or doxycycline do not neutralize spider venom and are not routinely needed for an uncomplicated bite. They may be prescribed if there is evidence of a secondary bacterial infection. Increasing warmth, spreading redness, pus, or worsening tenderness should be assessed rather than treated with leftover antibiotics.

Dapsone has historically been used in an attempt to reduce skin injury. Evidence has not shown reliable benefit, and the medicine can cause serious adverse effects, including destruction of red blood cells. It is not a routine home or first-line treatment [1]. Corticosteroids like prednisone or hydrocortisone also have no established routine role for preventing local skin damage. Specialists may consider them in selected cases of systemic illness, but evidence is limited.

Antivenom for brown recluse bites is not available for routine clinical use in the United States. Hyperbaric oxygen therapy has also not shown consistent benefit for routine treatment.

If tissue becomes necrotic, clinicians often allow time for the full boundary of the injury to become clear before considering surgery. Early removal of tissue can take away skin that might otherwise recover. Larger or slow-healing wounds may require care from a wound specialist, dermatologist, surgeon, or plastic surgeon. Some eventually need removal of dead tissue or a skin graft, but many heal without surgery.

People with systemic loxoscelism may need hospital care. Treatment can include intravenous fluids, close monitoring, and management of anemia or kidney problems. A blood transfusion may be needed if red blood cell loss is severe. Poison control or a medical toxicologist can help guide care.

Complications

The most common significant complication is a slow-healing wound. A deeper injury can leave a scar or changes in skin color. Wounds over fatty areas, such as the thigh or abdomen, may become larger than bites in areas with less soft tissue.

A damaged skin barrier can develop a secondary bacterial infection. This is different from venom-related tissue injury and may require separate treatment.

Systemic loxoscelism can cause hemolytic anemia, meaning red blood cells break down faster than the body can replace them. This may lead to fatigue, pale skin, jaundice, dark urine, or a rapid heartbeat. Severe cases can contribute to kidney injury. Rare clotting abnormalities can

cause unusual bruising or bleeding [2,3].

Serious systemic effects may develop even when the skin wound appears limited. New whole-body symptoms during the first several days should therefore be reported promptly.

Follow up

For a mild wound without systemic symptoms, routine follow-up may involve checking that pain, redness, and swelling are improving. Keep the area clean and follow dressing instructions. A daily photograph taken from the same distance can help track changes. Do not rely on a pen mark alone if redness is changing quickly.

Arrange prompt medical review if the wound is becoming larger, more painful, blackened, or increasingly swollen, or if it develops drainage. Follow-up is also important for wounds on the face, hands, feet, or genitals and for people whose health conditions or medicines may slow healing.

Seek same-day urgent care for fever, vomiting, marked weakness, pale or yellow skin, dark urine, reduced urination, rapidly spreading skin changes, or unusual bruising. Children with possible systemic symptoms should be assessed promptly.

Call emergency services for trouble breathing, fainting, severe confusion, uncontrolled bleeding, or signs of shock such as cold clammy skin with severe weakness.

In the United States, Poison Control can provide case-specific guidance by telephone at 1-800-222-1222 . This service can help determine whether home observation, urgent evaluation, or emergency care is appropriate.

Sources

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