HEALTH BASICS

Scorpions

Scorpions are venomous arachnids whose stings can cause local pain and, rarely, serious poisoning.

WHAT IT IS
Venomous arachnids that can sting with their tail

WHERE IT COMES UP
Outdoor exposure, household encounters, and sting care

WHY IT MATTERS
Some stings cause dangerous venom effects

WHAT IT IS NOT
Not a disease or diagnosis

WHO TO ASK
Poison control, emergency services, or a clinician

HOW IT IS CHECKED
Clinical assessment after stinging; no routine screening test

Overview

Scorpions are small animals related to spiders, ticks, and mites. They have eight legs, two pincers, and a curved tail with a stinger. They are not a disease or diagnosis.

Scorpions use venom to catch prey and defend themselves. A person may be stung after stepping on a scorpion, reaching into its hiding place, or putting on clothing or shoes where one is concealed.

Most scorpion stings cause pain, burning, or tingling around the sting site. Serious poisoning is uncommon in many regions, but the risk depends on the scorpion species, location, amount of venom, and the person who was stung. Young children can be affected more severely by the same amount of venom because of their smaller body size.

Only a small number of scorpion species are considered medically dangerous. In the United States, the Arizona bark scorpion, Centruroides sculpturatus , causes the greatest concern. Other dangerous species live in parts of Mexico, Central and South America, Africa, the Middle East, and Asia.

How it works

A scorpion delivers venom through the tip of its tail. This makes it venomous rather than poisonous: venom is injected by a bite or sting, while poison causes harm when it is swallowed, touched, or breathed in.

Scorpion venom contains several substances. Important parts of the venom act on ion channels, which are tiny gates that help nerves and muscles use electrical signals. When venom disrupts these gates, nerves may send too many signals.

Near the sting, this can cause immediate pain, burning, tingling, or numbness. There may be little visible swelling even when the pain is intense.

With more significant envenomation-the medical term for illness caused by injected venom-the effects can spread beyond the sting site. Depending on the species, venom may affect muscle control, eye movements, saliva production, breathing, heart rate, or blood pressure.

A severe reaction is not always an allergy. Scorpion venom itself can produce widespread nerve and muscle effects. Anaphylaxis, a rapid and potentially dangerous allergic reaction, is a separate condition and is possible after many kinds of stings.

There is no standard blood test that confirms a scorpion sting. Clinicians usually rely on what happened, where it happened, and the effects found during an examination. Tests such as an electrocardiogram, blood tests, or chest imaging may be used when there are signs of complications.

Why it matters for your health

The location of the sting matters because medically important species are concentrated in certain regions. If you are travelling, local poison services may know which scorpions are present and what effects they commonly cause.

Age and body size also matter. Babies and young children may not be able to explain that they were stung. Sudden crying, unusual eye movements, drooling, or uncontrolled muscle movements after possible scorpion exposure need prompt assessment.

Most adults with only pain or tingling at the sting site do not develop severe poisoning. Even so, the appearance of the skin cannot reliably show how much venom was delivered. A small puncture mark may be the only visible sign.

Treatment is based on the person's condition rather than the scorpion's appearance alone. It may include pain relief, observation, medicines to control specific effects, or support for

breathing and circulation. Scorpion antivenom contains antibodies that bind venom. It is used in medical settings for certain significant envenomations and is not routine treatment for every sting.

What can go wrong

Conditions and situations related to a scorpion sting include:

Call emergency services now if the person has trouble breathing or swallowing, severe weakness, fainting, confusion, widespread muscle jerking, unusual eye movements, heavy drooling, or rapidly worsening effects. Facial or throat swelling, widespread hives with breathing difficulty, or signs of collapse may indicate anaphylaxis and also require emergency care.

Call poison control promptly for any suspected sting in a baby or young child, even if the effects are not yet clear. Do not wait for severe effects to appear before asking for guidance.

Routine or same-day medical advice is appropriate when pain is difficult to manage, numbness is spreading, the area is becoming more red or swollen, or the wound later develops drainage or increasing tenderness. A clinician can also check whether routine tetanus vaccination is up to date. Tetanus vaccination does not treat or neutralize scorpion venom.

- Local sting reaction: pain, burning, tingling, numbness, or mild swelling near the sting
- Systemic scorpion envenomation: venom effects involving nerves, muscles, breathing, the heart, or blood pressure
- Anaphylaxis: a severe allergic reaction causing breathing trouble, facial or throat swelling, or collapse
- Secondary wound infection: increasing warmth, redness, swelling, drainage, or tenderness after the initial injury

What you can do

After a suspected sting, first move away from the scorpion. Do not try to pick it up, even if it appears dead. A photograph taken from a safe distance may help local experts, but identifying or capturing the animal should not delay care.

Wash the area gently with soap and water. Remove rings, bracelets, or other tight items near the sting in case swelling develops. A cool compress wrapped in cloth may help with local discomfort. Do not cut the wound, try to suck out venom, apply electric shocks, or tie a tight

band around the limb.

Record the time and place of the sting. Note when pain or other effects began and whether they are spreading. This information is often more useful than trying to identify the exact species.

In the United States, contact Poison Help at 1-800-222-1222 for advice tailored to the person's age, location, and current effects. The service is available even when you are unsure whether a sting occurred. In other countries, use the local poison information service or urgent medical service.

If emergency warning signs are present, call emergency services rather than driving yourself. Do not wait for poison control to call back.

There is no home test that can measure scorpion venom. There is also no safe home method for deciding whether antivenom is needed. That decision is based on a clinical assessment and the pattern and severity of venom effects.

Common questions

Are all scorpions dangerous to people?

No. All scorpions can sting, but only some species cause severe human envenomation. Local knowledge is important because risk differs by region.

Can a scorpion sting be fatal?

Severe envenomation can be life-threatening, especially where dangerous species occur or medical care is delayed. Deaths are uncommon in the United States, but serious cases occur worldwide. Prompt assessment and supportive care improve safety.

Should I bring the scorpion to the hospital?

No. Do not handle or transport a scorpion. If it can be done without approaching the animal, a clear photograph may be useful. Treatment usually depends more on the person's effects and the geographic location than on exact species identification.

Does severe pain mean severe poisoning?

Not necessarily. Some stings cause intense local pain without widespread venom effects. Conversely, the skin may show little change during significant envenomation. Breathing, swallowing, muscle control, alertness, and other whole-body effects are more important warning signs.

Is antivenom always required?

No. Many stings need only local care and monitoring. Antivenom may be considered for

clinically significant envenomation caused by susceptible species. It is given in a medical setting because clinicians must confirm that its likely benefit outweighs its risks.

Can a scorpion sting become infected?

It can, although infection is separate from the immediate venom reaction. Increasing redness, warmth, swelling, drainage, or tenderness after the initial period should be medically assessed.

Sources

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