HEALTH BASICS

Fire ants

Fire ants are stinging ants whose venom can cause skin reactions or allergy.

WHAT IT IS
Stinging ants whose venom can injure skin and trigger allergy

WHERE IT COMES UP
Outdoor stings near nests, lawns, fields, and disturbed soil

WHY IT MATTERS
Stings may cause pustules, infection, or serious allergic reactions

WHAT IT IS NOT
Not a disease or diagnosis

WHO TO ASK
Primary care clinician, urgent care service, or allergy specialist

HOW IT IS CHECKED
History and exam; allergy testing after systemic reactions

Overview

Fire ants are a group of ants known for defending their nests by stinging. Several species can sting people. Imported fire ants, including Solenopsis invicta and Solenopsis richteri , are important causes of stings in parts of the United States and other warm regions.

Fire ants are not a disease or diagnosis. They are insects that can cause an injury or an allergic reaction.

Most encounters happen outdoors. A person may step on a mound, sit near a nest, or disturb soil containing a colony. Fire ants may also enter buildings during flooding or extreme weather. Workers can quickly climb onto shoes, legs, clothing, or equipment.

A typical sting causes sudden burning or pain. A small raised area may develop, followed by a fluid-filled bump. This reaction comes from venom deposited in the skin. The bump is not automatically an infection.

Some people have larger local reactions. A smaller number develop an allergic reaction involving areas beyond the sting. A severe whole-body allergic reaction is called anaphylaxis and needs emergency treatment.

How it works

A fire ant usually grips the skin with its jaws and then uses a stinger on its abdomen. It may pivot while stinging several times. Several ants may sting at once when a nest is disturbed.

The venom contains chemicals that directly irritate and damage the skin. This commonly causes burning, redness, swelling, and an itchy blister-like bump. The bump may become a white or yellow pustule. A pustule is a raised spot containing fluid and inflammatory cells. After a fire ant sting, it is usually sterile at first, meaning bacteria did not cause it.

Venom also contains proteins that the immune system can recognize. In someone who has become allergic, the immune system may overreact to a later sting. This can cause hives, swelling away from the sting, breathing problems, or a sudden fall in blood pressure.

Not every red or painful ant sting comes from a fire ant. Appearance, location, local ant species, and the circumstances of the sting can provide clues, but identifying the insect is not always possible. Capturing ants is unnecessary if doing so could lead to more stings.

Why it matters for your health

Most fire ant stings cause a reaction limited to the skin. Pain and burning often begin quickly. A small itchy bump may then form, with a characteristic pustule developing later. Scratching or opening the area can introduce bacteria.

A large local reaction means swelling extends well beyond the sting. For example, a sting on the foot may cause much of the foot or ankle to swell. This can be uncomfortable and may take several days to settle, but it is different from anaphylaxis.

An allergic reaction can affect more than the area that was stung. Warning features include widespread hives, swelling of the lips or tongue, throat tightness, wheezing, repeated vomiting, dizziness, or fainting. Skin changes may be absent during a severe reaction.

The number of stings also matters. Many stings can deliver a larger amount of venom, even in someone who is not allergic. Children, older adults, and people with significant health conditions may need a lower threshold for medical assessment after numerous stings.

A previous mild local reaction does not confirm that a future reaction will be severe. However, anyone who has had a whole-body reaction should discuss their future risk with an allergy specialist.

What can go wrong

Conditions and situations linked with fire ant stings include:

Redness alone does not prove that a sting is infected. Infection is more concerning when pain, warmth, or redness keeps worsening after initially improving, pus drains from broken skin, red streaks appear, or fever develops.

Call emergency services for trouble breathing, throat or tongue swelling, fainting, confusion, severe weakness, or other signs of anaphylaxis. If you have a prescribed epinephrine auto-injector, use it promptly as directed and then seek emergency care. Antihistamines like cetirizine or loratadine do not replace epinephrine for anaphylaxis.

Seek urgent advice after a large number of stings, especially if the person feels unwell. A poison information service, urgent care service, or emergency department can help assess the situation.

- Local venom reaction: pain, redness, itching, and a small pustule around the sting
- Large local reaction: swelling that spreads beyond the immediate sting area
- Secondary bacterial infection: infection entering through scratched or broken skin
- Anaphylaxis: a rapid allergic reaction affecting breathing, circulation, or several body systems
- Toxic reaction from many stings: illness caused by a substantial total venom exposure
- Falls or other injuries: harm caused while trying to escape a nest or during fainting

What you can do

Move away from the nest before dealing with the stings. Brush ants off promptly and check clothing and shoes. Do not stand near the mound while trying to identify or remove them.

Wash the affected skin with soap and water. A cool pack wrapped in cloth may reduce discomfort and swelling. Avoid scratching or deliberately opening pustules, because broken skin is more likely to become infected.

A pharmacist or clinician can advise whether a non-prescription product for itching or pain is suitable for you. Follow its label rather than applying or taking more than directed.

Keep a simple record if the reaction extends beyond the sting area. Note when the sting happened, approximately how many ants were involved, where you were stung, and what changes followed. Photographs can help show how swelling developed.

Arrange routine clinical follow-up if the area is not improving, if you are concerned about infection, or if swelling is extensive. Follow-up with an allergy specialist is appropriate after

hives away from the sting, breathing difficulty, faintness, or another whole-body reaction. Testing may include a skin test or a blood test for allergy antibodies, interpreted alongside what happened.

An allergy specialist may discuss carrying epinephrine and whether fire ant allergy immunotherapy is appropriate. Immunotherapy means receiving carefully controlled allergen injections to reduce the chance of a serious reaction to future stings.

If you have not been stung and have never had a relevant allergic reaction, there is usually nothing medical to test. Routine allergy screening does not predict reactions reliably when there is no supporting history.

Common questions

Do fire ants bite or sting?

They do both, but the sting causes the main reaction. The ant grips with its jaws and then injects venom through its stinger, sometimes more than once.

Is the white bump pus from an infection?

Not usually at first. Fire ant venom commonly produces a sterile pustule. Infection becomes more likely if the skin is opened or scratched and then develops increasing pain, spreading redness, drainage, or fever.

Should I pop the pustule?

No. Leave it intact when possible. Opening it does not remove venom and can allow bacteria into the skin.

Can a first known sting cause an allergic reaction?

Yes. A person may have had an unnoticed earlier exposure or may react to related insect venoms. The apparent first recognized sting does not rule out allergy.

Should I have allergy testing after a small local reaction?

Usually, a small reaction limited to the sting area is assessed from its appearance and history rather than allergy testing. Testing is more relevant after a reaction involving other parts of the body. An allergy specialist can decide whether it would provide useful information.

How can I tell fire ants from other ants?

Identification can be difficult because species and mound appearance differ by region. Local agricultural, environmental, or pest-control services may help identify an infestation. Do not handle live ants or disturb a nest to obtain a specimen.

Sources

- Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. "Fast Facts: Protecting Yourself from Stinging Insects."
- US Department of Agriculture, Animal and Plant Health Inspection Service. "Imported Fire Ants."
- American Academy of Allergy, Asthma & Immunology. "Fire Ant Allergy."
- American College of Allergy, Asthma & Immunology. "Insect Sting Allergies."
- Tankersley MS. "The stinging impact of the imported fire ant." Current Opinion in Allergy and Clinical Immunology . 2008;8(4):354-359. doi:10.1097/ACI.0b013e3283073b2b
- deShazo RD, Butcher BT, Banks WA. "Reactions to the stings of the imported fire ant." New England Journal of Medicine . 1990;323(7):462-466. doi:10.1056/NEJM199008163230707