CONDITION

Marine animal stings or bites

Marine animal stings or bites are injuries caused by venom, spines, tentacles, teeth, or other contact with sea life.

WHAT IT IS
Injuries from marine animals, venom, spines, teeth, or tentacles

BODY SYSTEM
Skin and soft tissues; sometimes breathing, nerves, and circulation

MAIN SYMPTOMS
Pain, redness, swelling, bleeding

WHAT CAUSES IT
Venom, punctures, spines, teeth, or skin toxins

HOW IT IS DIAGNOSED
Exposure history, examination, and sometimes imaging

MAIN TREATMENT
First aid, wound care, pain relief, and monitoring

CAN IT BE CURED?
Sometimes - outcome reflects injury and venom severity

IS IT AN EMERGENCY?
Sometimes - breathing trouble, collapse, paralysis, or major bleeding

LONG-TERM OUTLOOK
Most minor injuries heal; severe envenoming can be life-threatening

Overview

Marine animals can injure people by stinging, biting, puncturing, or releasing venom. Examples include jellyfish, stingrays, sea urchins, venomous fish, cone snails, blue-ringed octopuses, sea snakes, sharks, and other fish.

The effects range from a small painful skin injury to major bleeding or venom affecting the nerves, breathing, or circulation. The animal involved, where the injury occurred, and the amount of venom or tissue damage all matter.

Knowing the animal can guide first aid, but identification is often uncertain. Do not try to catch or handle it. Even a dead jellyfish or detached tentacle may still sting.

Most minor injuries improve with basic first aid and wound care. Some need prompt medical

assessment because a spine or tooth may remain in the wound, marine bacteria can cause infection, or venom effects may develop quickly.

Symptoms

Local symptoms usually begin where the animal touched, stung, or bit you. They may include:

Jellyfish commonly cause painful, whip-like skin marks. Stingray injuries are often deep puncture wounds, usually on a foot or lower leg. Sea urchin injuries may leave dark, brittle spines in the skin. Bites can tear or crush tissue as well as introduce bacteria.

Venom from some species can affect the whole body. Possible symptoms include nausea, vomiting, sweating, headache, muscle cramps, weakness, dizziness, or a fast heartbeat.

More serious effects include trouble breathing, fainting, confusion, paralysis, chest pain, or cardiac arrest. A severe allergic reaction can cause widespread hives, swelling of the lips or tongue, wheezing, or collapse.

Infection may appear later. Warning signs include increasing redness, warmth, swelling, drainage, fever, or pain that worsens after initially settling. Some marine wound infections can progress rapidly, especially in people with liver disease or a weakened immune system.

- Immediate burning, throbbing, or severe pain
- Redness, swelling, itching, or raised lines on the skin
- A puncture wound, cut, bruise, or bleeding
- Tentacles, spines, teeth, or other material in the wound

Causes and risk factors

Jellyfish and related animals have tiny stinging cells called nematocysts. Contact triggers these cells to inject venom. Tentacles left on the skin may continue releasing venom if they are rubbed or handled.

Stingrays, lionfish, scorpionfish, and stonefish have venomous spines. Sea urchin spines are not always venomous, but they can break off and remain under the skin. Cone snails and blue-ringed octopuses can inject powerful nerve toxins through a puncture that may look minor.

Bites cause cuts, punctures, crushing injuries, or loss of tissue. Marine bacteria can enter through these wounds. Infection can also follow a small cut exposed to seawater, even if no

animal was seen.

Risk is higher when you:

Alcohol use and swimming alone may make it harder to leave the water or get help after an injury.

- Walk barefoot in shallow water or around rocks and reefs
- Touch, feed, corner, or collect marine animals
- Swim where warning signs or beach closures are in place
- Handle fishing gear, bait, or a caught animal
- Have an open wound exposed to seawater
- Have liver disease, diabetes, poor circulation, or reduced immunity

Diagnosis

Diagnosis usually begins with what happened and an examination of the skin or wound. Details such as the location, water conditions, appearance of the animal, and timing of symptoms can help. A photograph taken from a safe distance may be useful, but do not delay first aid to take one.

There is no single test that confirms every marine sting or bite. A clinician may check your breathing, circulation, nerve function, and movement around the injured area.

An X-ray, ultrasound, or other scan may be needed if a spine, tooth, barb, or other object could remain in the wound. Not every marine spine appears clearly on an X-ray.

Blood tests or heart monitoring may be used for severe envenoming, major tissue injury, or signs of infection. A sample from an infected wound may help identify the bacteria and guide antibiotic treatment.

Treatment and management

First, move away from the animal and leave the water without putting another person at risk. Ask a lifeguard for help where one is available.

Call emergency services if the person is not breathing normally, has collapsed, is becoming paralysed, or has major bleeding. Start cardiopulmonary resuscitation, or CPR, and use an automated external defibrillator if available and you know how.

Apply firm direct pressure to serious bleeding with a clean cloth or dressing. Do not press

directly on an object embedded in the wound. Do not remove a stingray barb or other deeply embedded object, especially from the chest, neck, abdomen, or groin.

First aid for jellyfish depends on the species and region. In general:

Vinegar is recommended for some dangerous tropical jellyfish but not for every species. Its use should follow local guidance. After tentacles have been dealt with, hot-water treatment can reduce pain from many marine stings. The water should be hot but not hot enough to burn, particularly if the skin is numb.

For punctures, bites, or open wounds, bleeding is controlled first. The wound can then be rinsed with clean running water. A clinician may clean it more thoroughly, remove damaged tissue or foreign material, and decide whether stitches are appropriate.

Medical treatment may include pain relief, treatment for an allergic reaction, respiratory support, wound care, and observation. Antivenom is available for certain species in some regions. Antibiotics like amoxicillin or doxycycline are not automatic after every sting or bite, but they may be needed for an infected wound or one with a high infection risk.

Your tetanus vaccination history should be reviewed after an open wound. Tetanus is caused by bacteria entering damaged skin; it is not caused specifically by seawater.

- Avoid rubbing or scraping the affected skin
- Follow instructions from local lifeguards or emergency services
- Remove visible tentacles carefully with tweezers or protected hands
- Do not rinse attached tentacles with fresh water, which can trigger more stinging cells
- Do not apply urine, alcohol, or unproven home remedies

Complications

A severe venom reaction can affect breathing, heart rhythm, blood pressure, or muscle function. These effects may begin before the skin injury looks serious.

Deep bites and punctures can damage tendons, nerves, blood vessels, joints, or bone. A retained spine or barb may cause ongoing pain, inflammation, infection, or a firm lump under the skin.

Marine wounds can become infected with bacteria such as Vibrio . These infections may cause rapidly increasing pain, redness, swelling, blisters, fever, or tissue damage. Severe Vibrio infections are more likely in people with liver disease or weakened immunity.

Other possible complications include delayed allergic reactions, slow wound healing, scarring,

reduced movement, and long-lasting nerve pain. A frightening incident may also lead to anxiety about returning to the water.

Prevention

Not every marine animal injury can be prevented. Animals may be hidden in sand, cloudy water, or seaweed, and jellyfish tentacles can drift far from the body.

You can reduce risk by following beach warnings and advice from lifeguards. Avoid swimming in closed areas or where dangerous species have recently been reported.

Wear suitable footwear in shallow water and around reefs or rocks. In areas with stingrays, sliding or shuffling your feet may alert a ray and give it time to move, although this cannot prevent every injury.

Do not touch or pick up marine animals, including animals that appear dead. Keep your hands out of crevices, and use tools rather than bare hands when handling fishing gear or a catch. Do not feed or corner wildlife.

Cover cuts with a waterproof dressing before seawater exposure. If you have liver disease, reduced immunity, or another condition that raises the risk of severe marine infection, ask your healthcare team about appropriate water and seafood precautions.

Living with it and what to expect

Pain from a minor sting may settle over hours, while redness, itching, or tenderness can last several days. A deeper puncture or bite may take weeks to heal. The course is less predictable when venom has affected the whole body or tissue has been badly damaged.

Keep a healing wound clean and follow the dressing advice you were given. Avoid swimming until the skin has closed, because water exposure can introduce bacteria. Do not dig into the skin for a deeply buried or broken spine.

Arrange routine follow-up if pain, numbness, swelling, or reduced movement is not improving. Follow-up is also useful after a deep wound, surgical removal of a foreign object, or treatment for infection. Imaging or rehabilitation may be needed if symptoms persist.

Most people with minor injuries return to their usual activities after the skin heals and pain settles. More severe bites or envenoming may require surgery, physical therapy, or longer monitoring. The outcome reflects the animal involved, the injury site, how quickly effective first aid was given, and whether complications develop.

When to get medical help

Call emergency services now if there is:

A small puncture from a cone snail or blue-ringed octopus can be dangerous even if it is not very painful. Follow local emergency instructions immediately.

Seek prompt medical assessment for a sting or wound involving the eye, mouth, neck, chest, abdomen, genitals, a joint, or a large area of skin. The same applies if a spine, tooth, or tentacle cannot be safely removed.

Get urgent help for worsening pain, rapidly spreading redness, fever, pus, skin blisters, or darkened skin. Do not wait if you have liver disease, diabetes, poor circulation, or reduced immunity and develop symptoms after a seawater-exposed wound.

Routine follow-up is appropriate when a wound is healing but tenderness, itching, a lump, numbness, or limited movement continues.

- Trouble breathing, collapse, confusion, paralysis, or a seizure
- Chest pain, severe weakness, or rapidly worsening symptoms
- Swelling of the tongue or throat, wheezing, or widespread hives
- Bleeding that does not stop with firm direct pressure
- A large or deep bite, major tissue loss, or an embedded barb
- A suspected box jellyfish, cone snail, blue-ringed octopus, sea snake, stonefish, or other highly venomous exposure

Common questions

Should I pee on a jellyfish sting?

No. Urine is not a reliable treatment and may trigger remaining stinging cells in some circumstances. Avoid rubbing the area. Follow local jellyfish first-aid advice instead.

Should I put vinegar on every jellyfish sting?

No. Vinegar can help prevent further venom release from some jellyfish, including certain tropical box jellyfish, but advice differs by species and location. Use it when local lifeguards, poison services, or emergency guidance recommend it.

Can I pull out a stingray barb myself?

Do not remove a deeply embedded barb. It may be blocking serious bleeding or may damage tissue as it comes out. Keep it still, control bleeding around it, and get emergency medical help.

How long should a marine sting hurt?

Pain from a minor sting may improve within hours, but tenderness or itching can last for days. Severe, persistent, or worsening pain needs medical assessment, especially after a puncture or when part of a spine may remain.

Do I need antibiotics after a marine bite or puncture?

Not everyone does. The decision is based on the wound, signs of infection, seawater exposure, and your health risks. Deep wounds and rapidly worsening redness, swelling, or pain should be assessed promptly.

Can a dead jellyfish still sting me?

Yes. Stinging cells can remain active on a dead jellyfish or a detached tentacle. Do not touch one with bare skin.

Sources

- American Heart Association and American Red Cross. 2024 Guidelines for First Aid. Circulation , 2024.
- Australian and New Zealand Committee on Resuscitation. Guideline 9.4.5: First Aid Management of Marine Envenomation.
- Centers for Disease Control and Prevention. CDC Yellow Book 2026 : Poisonings, Envenomations, and Toxic Exposures.
- Centers for Disease Control and Prevention. Clinical Overview of Vibriosis.
- Ward NT, Darracq MA, Tomaszewski C, Clark RF. Evidence-Based Treatment of Jellyfish Stings in North America and Hawaii. Annals of Emergency Medicine . 2012;60(4):399-414.
- Wilderness Medical Society. Practice Guidelines for the Treatment and Prevention of Acute Pain Associated With Jellyfish Stings: 2014 Update. Wilderness & Environmental Medicine . 2014;25(1):38-45.