Sprain Strain Break or Dislocation?

How to tell them apart – is it a sprain, strain, break or dislocation?

Injuries are a simple, unavoidable fact of life. Knowing quality first aid will ensure you and your loved ones are given the best first responder treatment, but sometimes it can be hard to determine what has happened. We all know someone who has experienced a sprain, strain, break or dislocation. Whilst these injuries are extremely common, it is difficult to know whether you have a broken bone or just have a soft tissue injury. Unless the bone is sticking out, or the limb is at a very peculiar angle, the only way to know for sure that a bone is broken is to have an X-ray.

Understanding the differences between a sprain, strain, break, and dislocation will help will help you if you find yourself in this situation.

Sprains

A sprain is a sudden injury that occurs to the **ligaments** within a joint. Unlike a strain it affects our joints and not our muscles. Ligaments are strong bands of tissue around joints that connect one bone another, they help to keep the bones together and stable. A sprain happens if one or more of our ligaments have been torn, twisted or stretched, usually as a result of excessive force being applied to the joint. Sprains commonly occur in the knee, wrist, ankle and thumb.

In the majority of cases, the casualty will have swelling, bruising and tenderness in the area, it is unlikely that they will to be able to move it without pain or bear weight on it. The casualty may also report a “popping” sensation at the time of injury. In severe sprains, the patient may also experience altered sensations beyond the site of injury and have limited to no movement at all. In most cases, sprains can be treated with the RICE (Rest, Ice, Compress, Elevate) method, owever may require further medical attention. A sprained joint will usually heal within 6 to 8 weeks, although more severe sprains may take from 6 – 8 months. The most common type of sprain is an ankle sprain ***(HSE Website)***

Strains

Unlike sprains; strains are injuries that affect the **muscles.** Strains are most often caused when a muscle is stretched beyond its limits (e.g. weightlifting), when a muscle is forced to contract or shorten too quickly or through repetitive movements. Strains commonly occur in the hamstrings, calf, thigh and lower back. Muscle strains are very common injuries that affect those who play a lot of sport, such as professional sports people. it is estimated that 90% of professional footballers will experience at least one muscle strain during the course of a football season ***(www.hse.ie).*** They can occur over a long period of time or suddenly.

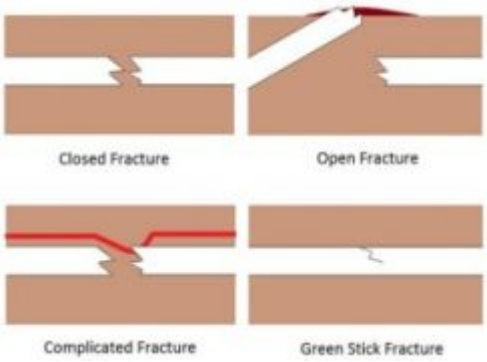
Symptoms of strains include swelling, bruising, tenderness, cramps or muscle spasms, weakness and restricted movement around the area. Like sprains, most strains can be treated with the RICE method. Recovery for strains can be anywhere from a few weeks to several months depending on the severity of the strain. Extreme cases may require physical therapy and/or surgery.

Break (Fractures)

Fractures (more commonly known as breaks) are injuries to the bone that cause it to crack. Although there are many types of fractures, the recognition and treatment of them is consistent. Patients may experience or hear a “cracking” sound when the injury occurs, although this is not always the case. The affected area will often be bruised, swollen, tender, and may have obvious deformity. The patient will likely experience limited to no movement in the area and may complain of pins and needles in extremities after the injury site.

For all suspected fractures, immobilise the area. If not too painful, ice may be applied to the injury to reduce pain and swelling. Encourage the patient to seek medical attention as soon as possible, either at a hospital, the doctors, or an urgent care clinic.

There are four common types of fractures; closed, open, complicated or green stick.



With a **closed fracture** the bone has not come through the skin however with an **open fracture** you will see the bone sticking out through the skin. The main priority with an open fracture is to stop any bleeding without pushing on the bone or moving the broken limb. Once this is done then call for emergency help. It is important to keep the casualty wary and day and observe for signs of shock. If they display any symptoms, lie them down, but to not elevate the injured limb.

In the event of a **complicated fractures** the muscles, tendons, nerves and blood vessels could trapped and damaged by the broken bone. If the casualty looses feeling in part of their limb, or if it changes colour, they will need urgent medical treatment. Keep the casualty calm, warm and supported and call for an ambulance.

Green stick fractures are where the bone doesn't snap, but half breaks like a young sapling, rather than a bit of dead wood. Green stick fractures are commonly seen in children.

Although most fractures are not life threatening, it is important to call for an ambulance if you see bone coming through the skin, or if you suspect there is a fracture to the head, neck, spine, ribs, hips, or thigh, as these require immediate medical attention. In these cases, keep the patient as still as possible and treat any other injuries (such as bleeding). A severe break can cause the casualty to go into shock. Shock is life threatening. Panic will not help their situation at all so if it looks like the casualty is going into shock keep them warm and dry and keep them as calm as possible.

Dislocations

Like sprains, dislocations are injuries that affect the joints, and occur when a sudden impact causes an abnormal separation of bones within the joint. The casualty will likely present with bruising, swelling, tenderness, limited or no movement to the joint or beyond it, and deformity. The severity of dislocations varies, with some people experiencing the affected bones returning to position on their own, while others will require medical assistance.

If you suspect a dislocation **do not** attempt to relocate it. Our joints contain many different parts, including muscles, nerves, and blood vessels, and relocating bones without medical imaging could cause damage to these parts. Instead, provide an ice pack to help reduce swelling and ease the pain, immobilise the joint (if possible), and refer for further medical treatment.

If at any point you are unsure if your patient has a sprain, strain, fracture, or dislocation, treat them as though it is a fracture, and refer for immediate medical attention. And remember, it is always better to be safe than sorry.

About us

Donegal Safety Services provide a number of ***First Aid Training*** courses.

If you have any questions at all regarding any of our courses we would be delighted to hear from you. You can contact us by visiting our contact us page or by emailing us directly on info@donegalsafetyservices.ie

Donegal Safety Services provides this information for guidance and it is not in any way a substitute for medical advice. Donegal Safety Services is not responsible or liable for any diagnosis made, or actions taken on this information.

Hope you enjoyed this article on how to tell apart a sprain, strain, break or dislocation.