BONE FRACTURES

(0:02 - 0:53)

A bone fracture is the medical term used when a bone is cracked or broken. Any bone fracture requires prompt treatment and should be examined by a medical professional. A doctor can realign and set a broken bone to let it heal properly.

Improper healing of a fracture can result in a misaligned bone or an infection. Going without treatment can also cause permanent damage to nerves or muscle tissue. Bone fractures can be described by a number of terms.

A fracture can be open or closed. These can also be called compound or simple fractures, respectively. An open fracture is one in which the bone breaks through the skin, or a deep wound exposes the bone.

Meanwhile, a closed fracture does not break the skin. It must be noted that, by definition, an open fracture is infected. Therefore, it is important to get medical care immediately.

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The wound needs to be surgically cleaned by a medical professional, which involves debridement, the removal of all foreign contaminants and diseased tissue. Then, the bone is stabilised using implanted rods and screws, and the wound is closed with stitches. A closed fracture can still damage surrounding soft tissue, and this results in fracture blisters.

These can form within two days if the injury is left untreated. Typically, the injured area is immobilised with a cast. Fractures can also be partial or complete, which is exactly what it sounds like.

A partial fracture is an incomplete break, while a complete fracture means the bone is separated into two or more pieces. Partial fractures are less serious and typically you will just need a splint or cast. Complete fractures can be further classified according to the position of the breakage as transverse, oblique, longitudinal, or comminuted.

A transverse fracture is one in which the break is straight across the bone perpendicular to its long axis. An oblique fracture is one where the break is diagonal. A longitudinal fracture is one where the break is along the bone's long axis.

A comminuted fracture is one in which the bone breaks into more than two pieces and typically occurs due to a severe accident. Fractures can also be stable or displaced. With a stable fracture, also called a non-displaced fracture, the bone's broken ends line up.

They have not shifted out of place. However, with a displaced fracture, there is a gap between the bone's broken ends and repair may require surgery. Typically, bone fractures result from

strong forces, such as from a fall.

Sometimes they can result from repeated stress. Stress fractures occur when tiny breaks form from repeated stress on a specific bone. These fractures are hard to spot on an x-ray.

They are more common in athletes due to constant training. Some fractures can also result from medical conditions that weaken bones, which include osteoporosis, some cancers, or brittle bone diseases. Fractures which occur as a result of medical conditions are known as pathological fractures.

The older we get, the less force our bones can withstand. For women, calcium regulation becomes more difficult after menopause, since there is a drop in oestrogen, which regulates a woman's calcium. Osteoporosis results in an increased risk of fractures, with the most common being compression fractures.

Compression fractures occur in the spinal column, resulting in vertebrae collapsing. Children's bones are different from adult bones. For one, they have growth plates, which are made of cartilage and allow bones to lengthen until the individual reaches their full height, at which point the cartilage is replaced by bone.

Fracture of a bone plate can cause the bone to stop growing or to grow crookedly. Children's bones are also more elastic, so fractures tend to be different. A greenstick fracture occurs almost exclusively in children.

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This occurs because children's bones are soft and flexible, and able to bend more than adult bone, so they can break on just one side of the bone. Children are also more likely to get torus, or buckle fractures, in which the bone buckles rather than breaks. There are other types of bone fractures.

For example, spiral or torsion fractures occur when a bone is twisted apart, and avulsion fractures occur when a fragment of bone is separated from the main mass. Depending on the location of the fracture and its severity, symptoms of a fracture may include pain, bruising, swelling, and bleeding. In addition, the individual may be unable to put weight on the injury or move the affected area.

There may also be angulation, in which the affected area is bent at an abnormal angle. If a large bone, such as the pelvis or femur, is fractured, the individual may be dizzy, pale, and nauseous. Complications of a bone fracture can include malunion.

This is when the fracture heals in the wrong position. In the case of an open fracture, an individual can develop chronic osteomyelitis, which is a persistent infection of the bone or bone marrow. Another potential complication is avascular necrosis, or bone death.

This occurs when a bone loses its blood supply and dies. In the case of children, a fracture affecting a growth plate can result in a deformity.