

## BUSINESS FOCUS:

# Is it fractured or broken?

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Patients ask this question from time to time. When a break is revealed on an xray, the answer is both. A fractured bone is the same thing as a broken bone. Fracture is simply the medical term for a break

in the bone. The confusion often comes into play as a result of the commonly held perception of one being more severe than the other.

## Types of fractures

Fractures generally occur after an injury or trauma. The severity of the fracture is related to the amount of force on the bone. High energy injuries such as automobile collisions or falls from a high height result in severe fractures that can be life or limb threatening, while lower energy injuries such as a fall from standing or a twisted ankle, result in less severe fractures. Fractures that occur in abnormal or weakened bone are called pathologic fractures and can occur with only minor trauma. Stress fractures are a special kind of fracture that can occur from overuse. Each of these types of fractures has their own individual characteristics, symptoms, and treatment options.

A broken bone (or fracture) typically causes pain and swelling at the site of the break and may be associated with a deformity or inability to bend or put weight on an arm or a leg. In some severe fractures, the bone breaks through the skin, which is called an open or compound fracture.

## Types of treatment

Fractures are treated by different methods depending on the severity of the fracture, its location, and the individual needs of

the patient. The goal of all treatments is to restore function for the individual once the bone heals. Many fractures can be treated with a cast, brace, or sling that immobilizes the bone to allow it to heal. Other fractures require surgery with use of pins, plates and screws, or a rod (also referred to as an intramedullary nail) in the bone to allow them to heal correctly. Some fractures, such as certain types of hip fractures, are treated with a joint replacement (artificial hip) to best restore function.

## The healing process

Fractures can take anywhere from a few weeks to several months to heal. Our bodies heal fractures by bridging across the break with a special kind of tissue called soft callus which is then mineralized into hard callus. This is then converted to immature new bone, later remodeled by special cells in the body called osteoblasts and osteoclasts into mature bone. Bones are one of the only parts of the body that can heal without a scar and return to normal strength. During the healing process and after the bone has healed, time and work are needed to regain strength and mobility to restore use of the injured body part. This can be simple exercises done at home or more involved treatments with the help of a physical therapist.

## When an orthopaedic trauma surgeon can help

Orthopaedic trauma surgeons are a special type of orthopaedic surgeon who specialize in treating fractures and the problems that can arise from them. For example, when a fractured bone does not heal, called a nonunion, or when a fractured limb heals with deformity, called a malunion, your doctor may refer you to an orthopaedic trauma surgeon for further treatment. Orthopaedic trauma surgeons also treat complex fractures, especially those around joints that require complicated reconstructive surgeries to restore function, and patients who have experienced severe traumas with multiple different fractured bones.

## Practice prevention

The best treatment plan is prevention. Regular exercise and eating a balanced diet with adequate calcium and vitamin D can help promote bone health. Safe driving, sports injury prevention and conditioning programs, and fall prevention programs can all help prevent injuries that lead to broken bones.

For more information on fractures and bone health, visit OrthoInfo at [orthoinfo.aaos.org](http://orthoinfo.aaos.org) for patient education provided by the American Academy of Orthopaedic Surgeons or find patient education topics under the Patient Resources menu on the Concord Orthopaedics website at [concordortho.com](http://concordortho.com).

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Concord Orthopaedics, located at 264 Pleasant Street in Concord, provides subspecialty orthopaedic and rheumatology care. Twenty-five physicians and 10 physician assistants see patients in Concord, Derry, Windham, and New London. The Acute Injury Clinic, a walk-in orthopaedic clinic, is available six days a week at the Concord location. More information on the physicians and services offered is available at [concordortho.com](http://concordortho.com).