

Healing of a Fracture - What Do You Should Know?



Fracture is a medical term given to a broken bone. It is a painful condition characterized by many other symptoms that may include swelling, bruising, tenderness, reduced range of motion, and inability to put weight on the injured site. All symptoms may not be true for all fractures but most of these are. Immediate medical attention is required in most cases to put a full stop to painful symptoms and ensure the healing of a fracture.

Healing is a natural body response to a fracture and the type of healing that will take place depends on the severity and the type of the fracture. In this post, we will have a look at how a fracture heals along with the types of healings that occur and when.

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The Process of Fracture Healing

A fracture can be mild or severe whereas, mild ones are generally stable. When it comes to severe fractures, they are displaced and highly unstable. This is why surgery is always required in such cases. Now, if we talk about fracture healing, the body responds accordingly. This means the process by which a fracture heals will be different for mild and severe fractures. Therefore, fracture healing occurs in two ways primary and secondary. Let us have a detailed look at both.

Primary Fracture Healing

Primary fracture healing is also known as direct healing and this process works when the fracture has been reduced in its correct anatomical position and is stable. In such cases, there is no callus formation.

This is because no gap between broken bone fragments is there when a fracture is stable and hence, the body does not find the need to form a callus. In this process, only remodeling occurs, and generally within a few months, the strength and stability are regained. In some cases, complete healing may require years.

Secondary Fracture Healing

When compared to primary healing, secondary healing is more common because fractures are stable in very few cases. This process of healing takes place when the fracture cannot be reduced to the correct anatomical position and a gap remains. This healing process occurs in three stages:

The Inflammatory Phase

Our body starts reacting soon after the fracture occurs and at first, it generates an inflammatory response. Here, blood vessels constrict to stop bleeding and a hematoma is formed around the fracture to provide it some stability while preparing for new bone development.

The Repair Phase

The second phase of secondary bone healing is the repair phase. Here, the clotting is replaced by a soft callus which is nothing but fibrous tissue and cartilage. As the healing progresses, hard bone replaces the soft callus that can be seen on x-rays.

The Remodeling Phase

Bone remodeling is the last phase of secondary bone healing, and this phase may last from a few months to years. Here, the bone becomes compact and strong while coming to its original shape. Besides this, the blood supply to the fracture site also improves while providing all the necessary nutrients for optimum bone growth.

Depending on the severity of a fracture, it may take several weeks to several years for complete fracture healing.

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