Shoulder Fractures

Overview

Shoulder fractures are serious injuries that can be sustained by both young and old patients. They often require surgery and are associated with potentially high degrees of disability. If surgery is required, an attempt to put the fracture back together can be made using a combination of wires, plates or screws. However, if the shoulder is broken into too many pieces, putting it back together may not be possible, and shoulder replacement may be necessary.

Anatomy of Shoulder Fractures

The bones of the shoulder joint have many important soft-tissue attachments. These include the tendons of the rotator cuff and the ligaments of the shoulder capsule. As the number of pieces involved in the fracture increases, the number of disrupted soft-tissue attachments increases, and the severity of the injury increases. In the end, the functional outcome after shoulder fractures depends not only on adequate healing of the broken bone, but also just as importantly on the adequate healing of the soft-tissue attachments. Moreover, it is possible that in the most severe fractures, the blood supply to the bone has been permanently damaged, which would prevent adequate healing of the bone. It is important to note that the quality of function *after* shoulder fracture healing or shoulder replacement is directly related to the quality of function *before* the injury. That is, the stronger the bone and soft-tissues were before the injury; the better they will be after healing.

Non-Surgical Treatment

The decision to treat a shoulder fracture without surgery is based on the severity of the fracture. Specifically, the more the broken pieces have been moved from their original positions, the more likely surgery will be necessary. However, if there has been minimal movement –or displacement as we call it—of the bone pieces, your doctor will likely not recommend surgery. Treatment will then follow a course of immobilization in a sling, accompanied by x-rays taken over time to insure that the fracture is not displacing more and is healing appropriately. If either of these fail to occur, surgery may be required. In general the fracture will heal adequately by 2-3 months. After this, physical therapy will often be necessary to regain range of motion and strength. It is important to realize that though most fractures will heal, many patients do not regain their pre-fracture strength and range of motion, even after full rehabilitation which usually requires a period of 6 months to 1 year.

Surgical Treatment

If the broken bone pieces are initially too displaced or subsequently become that way, surgery is necessary in order to provide the best possible functional outcome. Also, as mentioned earlier, if the bone loses its blood supply as a result of the fracture, surgery will be necessary. There are two types of surgery for shoulder fractures. One type involves attempting to put the broken pieces back together using hardware such as wires, plates and/or screws. If this is possible, it would provide the best potential outcome if the fracture heals.

The other type of surgery is shoulder replacement. In general, your surgeon will be able to tell you in advance if this will be necessary based on the appearance of the x-rays. However, the determination of whether to attempt to put the bone back together or just to replace the shoulder can only be made at the time of surgery. Therefore, your surgeon will explain both types of procedures to you prior to surgery. The advantage of shoulder replacement is that it allows a severely fractured shoulder to be reconstructed. In the majority of patients, this eventually relieves all pain from the injury. However, performing daily activities may still be difficult, even after successful surgery. Many elderly patients who sustain shoulder

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fractures will require shoulder replacement as their bone is often brittle and thin, while in many younger patients with stronger bone it will be possible to put the pieces back together. Risks of surgery include nerve damage, bleeding, a non-healing fracture, a stiff and/or weak shoulder, an unstable shoulder or a persistently painful shoulder. Your surgeon can more specifically explain the individual risks to your shoulder.

Post-Surgical Rehabilitation

Post-surgical rehabilitation is very similar to rehabilitation for shoulders treated without surgery. It will involve a period of immobilization in a sling that will be followed by gentle and supervised therapy. Just as for fractures treated without surgery, full rehabilitation requires a period of 6 months to 1 year. Similarly, it is possible that many patients do not regain their pre-fracture strength and range of motion, even after full rehabilitation.

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