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Injuries to the Clavicle and AC Joint
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Overview

Injuries to the clavicle, or collarbone, comprise over one-third of all shoulder injuries in children and adolescents. Most clavicle injuries result from traumatic causes. The most common injuries include a fracture to the clavicle or a dislocation of the end of the clavicle, called a shoulder separation. This article will summarize the diagnosis and treatment of these common injuries

Anatomy

The clavicle is a curved or “S” shaped bone that starts at the sternum and extends out towards the shoulder where it connects to the shoulder blade or acromion. The connection of the clavicle to the sternum is called the sternoclavicular (SC) joint and is uncommon place of injury. The connection of the clavicle to the shoulder blade or acromion is called the acromioclavicular (AC) joint, and is a common place of injury.

A common misconception is that the collarbone is straight. The collar bone is actually curved in an “S” shape, starting out further anterior or forward at the sternum, and bending slightly posterior toward the spine to the most posterior shoulder blade. The clavicle is extremely important as it is the only connection between the central skeleton (chest) and the peripheral skeleton (the arm). There are very strong ligaments that bind the clavicle to the sternum and the shoulder blade. It thus acts as a strut connecting the two aforementioned areas, which places it at risk of injury to direct contact in its mid-portion.

Diagnosis and Treatment

The most common injury is a fracture of the clavicle in its mid-portion, or shaft of the bone. Because of its strong connections via ligaments at either end, the clavicle is susceptible to fractures in its mid-portion (much like a long board placed between two sawhorses. Most of these fractures result in minimal displacement or angulation of the two bony ends. These fractures are treated in a sling for 6-8 weeks to allow the fracture to heal (Fig 1A and 1B). Fractures that have significant displacement where the two bony ends are not near each other may require surgery to better align the fractured ends. The healing time may slightly less in these fractures with the improved alignment afforded by surgery (Fig 2A and 2B).

If a direct blow occurs at the end of the clavicle where it meets the shoulder blade, an AC joint injury or shoulder separation may occur. A shoulder separation occurs when the strong ligaments holding the collarbone to the shoulder blade bone are torn or stretched. This typically occurs when an athlete falls on the “tip” of their shoulder or the bony end of the shoulder. Many of these injuries cause only partial tearing or stretching of the AC joint ligaments. These generally heal well also with sling treatment for 6-8 weeks. However, the ligaments can be completely torn which results in complete separation of the end of the clavicle from the shoulder blade. This typically causes a noticeable deformity of the shoulder with the end of the collarbone being very prominent. These injuries may require surgery to repair the AC joint ligaments and realign the clavicle to the shoulder blade. This surgery requires a healing time of 3-4 months.

Summary

Injuries to the collarbone and AC joint are unfortunately very common. Fortunately, most heal well without surgical treatment, although displaced fractures or AC joint separations may require surgical treatment.

Dr. Honkamp specializes in sports medicine, including shoulder and knee injuries. Dr. Honkamp is also skilled in joint replacements. To reach Dr. Honkamp or to schedule an appointment please calls 515-224-5205.

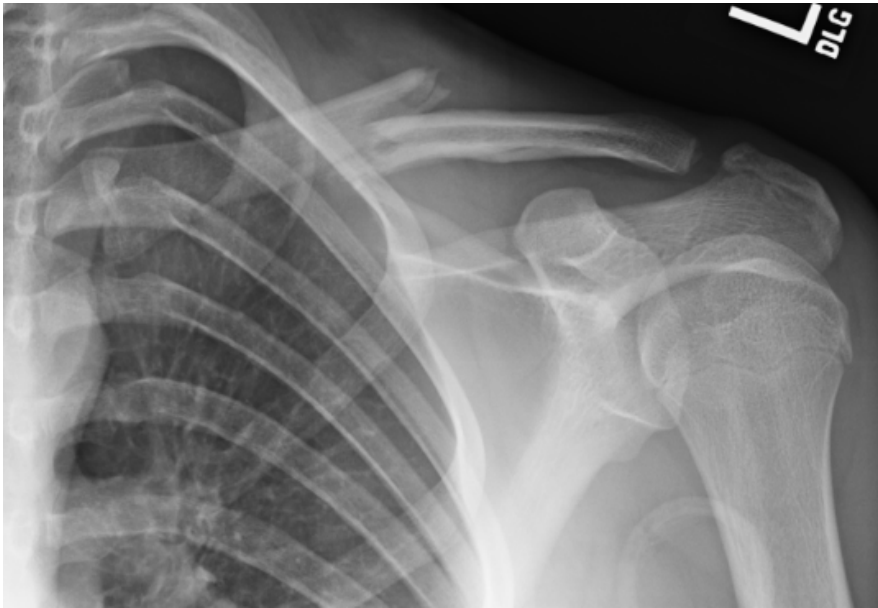


Fig 1A



Fig 1B



Fig 2A



Fig 2B