

Innovations in Wrist Care

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Fractures of the bones of the wrist, particularly the radius and the scaphoid remain common sources of injuries requiring fracture care. Though most fractures can be treated with splints or casts, there has been evolving treatment options which allow patients to return to activities much more quickly than they could in the past. There is increased awareness of osteoporosis or thinning of the bone but despite advances in medical treatment “**fragility**” fractures commonly occur. On the other end of the spectrum, adolescents and young adults are particularly active with sports such as skiing, ice skating, gymnastics, and contact sports all of which put the wrist in jeopardy of an injury. Fortunately, our bodies are incredibly resilient and most wrist injuries, typically represent a sprain that usually heals uneventfully. With significant trauma, fractures do commonly occur when significant force is placed across the wrist especially as the wrist is extended or bent backwards.



Distal Radius Fx

The most common fracture in the arm, and the second most common fracture in the body (second to spine fractures) is an injury of the bone in the distal forearm named the radius. Eponyms for this fracture include a Colles, Smith, and Barton’s fractures; each term describing a different fracture pattern. Usually, a patient falls on the outstretched arm causing displacement of the bone towards the back of the wrist. X-rays usually demonstrate the extent of the injury and if in good alignment or if it can be easily reduced, most fractures can be treated in a cast.

However, often this necessitates six weeks or longer of cast treatment. Over the last 10 to 15 years there has been an evolution in treatment of fractures of the wrist using metallic plate and screws. Fracture fixation can usually be done in 30 to 45 minutes and typically a week after a surgery, I allow my patients to progress to a removable splint and start physical therapy. I was fortunate to have made the acquaintance of the pioneer in distal radius fractures, Dr. Jorge Orbay a number of years ago. By learning the technique, I was able to share the experience and surgical technique providing over twenty teaching sessions to orthopaedic and hand surgeons across the country on this innovative technique. Patients can shower when the dressing is removed and then start their hand rehabilitation. When compared to six weeks in a cast, early fracture fixation can help maintain the bone alignment and allow patients to return to work, sports, and activities much more quickly than they could with cast treatment.

The **scaphoid bone** is a canoe shaped bone that sits on the thumb side of the wrist. Similar to the radius fracture described previously, a scaphoid fracture typically occurs from a fall onto outstretched arm. This bone is more commonly injured in people 15 to 30 years old, men more than women and are often times passed off as a simple sprain. The difficulty with a scaphoid fracture is that often times the fracture cannot be visualized on initial x-rays and requires follow up X-rays or other advanced radiology as necessary. Because the fracture sometimes does not show up on initial x-rays, a scaphoid fracture can be missed; if that occurs, there is a very high risk that the bone neither heals and /or the wrist becomes arthritic. First and foremost an accurate diagnosis and a high level of clinical suspicion for this injury is necessary.



Scaphoid

Once diagnosed, the traditional treatment is three months in a cast, six weeks in a cast above the elbow and six weeks with a cast below the elbow. This is double the time it typically takes for a fracture of the radius to heal, and therefore the long duration of casting immobilization can



be problematic. For a scaphoid fracture, a so called “percutaneous” procedure can be done to insert a small metallic screw in the body of the scaphoid under a special television like x-ray called fluoroscopy. The technique involves a small incision and using a special camera, a pin, a guidewire, and a screw placed within the bone to provide fixation. With good bone quality and excellent fixation, patients can come out of the postoperative dressing in one to two weeks, be placed in a custom-made splint and start early careful activities. Healing of the scaphoid, even with surgery can be tenuous and occasionally requires a slower rehabilitation course, but surgery avoids the need for prolonged periods in a cast. ***Studies have shown greater than 95% healing with placement of a screw within the scaphoid bone.***

We always want to look for the most conservative approaches to treat our patients; however oftentimes, it is important to understand the options available, and in the right scenario, surgery can expedite, facilitate, and improve the healing. Though no medical treatments are without risks, there are many options available and medical technology continues to advance, and I would be happy to answer any question with regards to these or other injuries.

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