

# SOUTH FLORIDA INSTITUTE OF SPORTS MEDICINE



## Wrist Fractures In Children

**David Shenassa M.D.**  
Hand and Wrist Surgery

As our children start participating in sports at an early age and at an increased frequency, hand and wrist injuries are becoming more common. The spectrum of hand and wrist injuries can range from a simple sprain to complicated fractures.

Wrist fractures specifically are increasing at an alarming rate as a direct result of higher impact of force by which these injuries occur. As younger athletes are becoming stronger and faster, routine falls and tackles are resulting in more complex injuries.

The most common mechanism of injury which results in wrist fractures is a fall on an outstretched

hand. Other mechanisms of injury are a forceful hyperextension of the wrist and a direct blow from a ball or helmet.

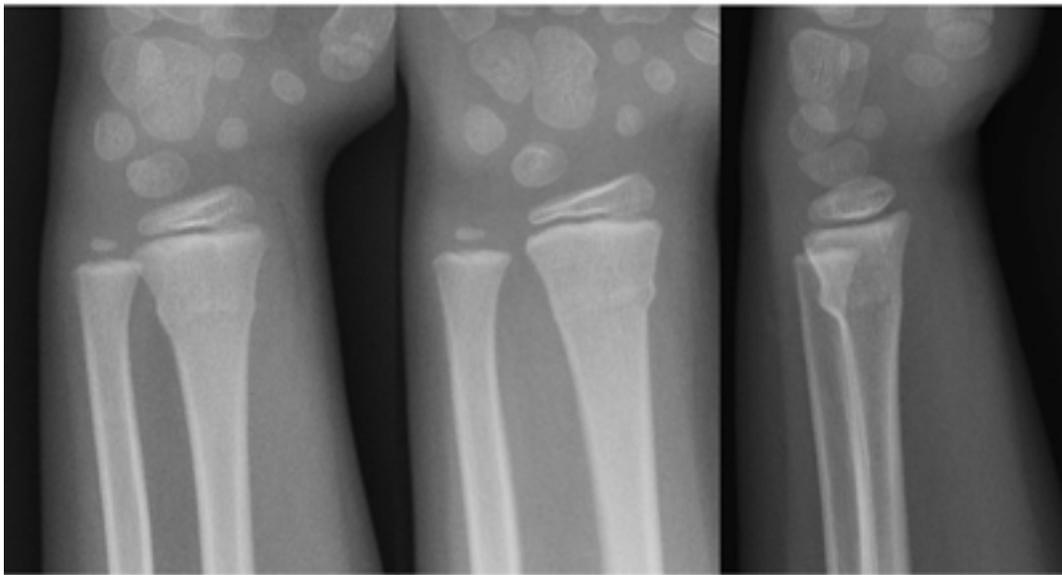
The simplest fracture is known as a Salter-Harris I fracture which manifests as tenderness to palpation directly over the growth plate of the long bones of the wrist. This type of fracture is best described as a sprain or disruption of the growth plate. It is predominantly a diagnosis made on physical examination and is treated by immobilization in a short arm cast for 3-4 weeks.

A more complex, but very common fracture is a buckle fracture of the radius. The pain associated with a buckle fracture

often is mild and this injury can initially be thought of as a sprain by parents. Often parents do not bring their children to see a physician until several days after the injury has occurred and the child's symptoms have not subsided.

The diagnosis is made by taking an x-ray of the wrist. Treatment is also conservative with immobilization in a cast for 4-6 weeks.

More severe injuries can result in displaced fractures of one or two of the bones in the wrist, usually the distal radius and ulna. These injuries will usually result in a visible deformity of the forearm and wrist, resulting in immediate evaluation at



The image above demonstrates x-rays a distal radius buckle fracture.

The image to the right demonstrates displaced distal radius and ulna fracture requiring reduction under anesthesia with possible surgical pinning of the fracture.



An emergency room or an urgent care facility. Treatment is usually reduction of the fracture under anesthesia with possible surgical pinning or plating. The last fracture I would like to discuss is a scaphoid fracture of the wrist. This type of fracture does not occur at the same frequency as the others and often goes undiagnosed.

It usually manifests as mild pain in a very small and specific area of the wrist which can be exacerbated by extension of the wrist.

A scaphoid fracture often can not be detected on an x-ray and requires either an mri or ct scan to detect. A high level of the suspicion by the medical professional evaluating the patient is necessary in order to diagnose this fracture. Treatment is usually immobilization in a long arm cast for 12 weeks. Some patients are good candidates for surgery, which can cut the recovery time in half, allowing for an earlier return to full activity.

The key to obtaining the appropriate treatment for wrist fractures in children, is prompt and timely evaluation after an

injury has occurred. Children usually heal at a faster rate than adults and their bones have a higher rate of remodeling.

With timely diagnosis and treatment of wrist fractures, the majority of children have a 100% recovery and full return to all pre injury activities.