Background: A division I female collegiate hockey player reported to the athletic training room following a collision with the goal post involving her left forearm during a one-on-one drill. She presented with mild swelling and no obvious deformity. Upon evaluation, point tenderness was localized to the distal third of her radius. Both a distal percussion test and long bone compression test were positive. During range of motion testing she had full active pronation but could only supinate to neutral secondary to pain. Active wrist extension was more uncomfortable than flexion, and she had mild pain with extension of her left fingers on the left hand. Elbow flexion and extension were uncomfortable, but within functional limits. Differential Diagnosis: Radial Contusion, Radial Shaft Fracture Treatment: The athlete was immediately splinted, placed in a sling, and iced. An evaluation 1- 1½ hours post-injury by the team physician revealed increased localized swelling at the distal radius, and a radiograph provided evidence of a distal radial shaft fracture with volar angulation. Later that evening, the orthopedic physician performed manual re-alignment of the radius while using a fluoroscope and the athlete was placed in a long arm cast. Another radiograph was scheduled for the next day to ensure radial alignment. The medical team and athlete agreed on conservative management since the athlete would not fully recover and return to play in time for post-season playoffs. The off-season allowed conservative treatment, and if unsuccessful, surgical treatment could be pursued. A week later, the physician made careful linear cuts in the cast and placed wedging within the cast to re-align the radius in attempts to reduce the volar angulation of the fracture. After wedging, careful attention was paid to ensure no pressure sores developed due to the hardness of the cast. During the subsequent six weeks, routine radiographs showed callous formation and excellent alignment of the radial fracture. The cast was cut to a short cast, allowing elbow flexion and extension, as well as forearm supination and pronation. At this point, a conservative rehabilitation program was initiated and included various range of motion exercises. During week ten, the athlete was removed from her cast and received a brace to be worn during activity and while sleeping. She showed no signs of swelling and improved range of motion in elbow and forearm motions. Stick work was initiated in the following three weeks along with forearm and shoulder strengthening exercises to overcome atrophy from immobilization. High intensity open-chain activities became part of rehabilitation as the athlete progressively gained full range of motion in the wrist and showed strength and stability in the forearm. A consistent strengthening protocol was maintained for the next two months without complications. No problems were noted at a later follow-up, and return to play was granted five months post-injury. Uniqueness: Misaligned radial fractures are not commonly reduced non-surgically. In this case, the physician utilized wedges in the cast to force proper alignment for the healing fracture. Conclusion: A distal radial fracture is not an uncommon injury. However, relocating a radius by wedging the cast is not an everyday practice. This case presented a successful, cost-effective and desirable method of treating a displaced radial fracture. Using this treatment did not include possible complications associated with surgical management, such as possible infection, scarring, and stress fracture from hardware removal. Many physicians are apt to utilize surgery because the goal includes a rapid return to play. This case illustrates that, if time is not a factor, conservative treatment is a viable option. Keywords: Forearm fracture, Fluoroscope, Cast Wedging

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