Elbow Trauma in a Middle School Cheerleader
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Background: We present a unique traumatic upper extremity orthopedic injury involving a competitive middle school cheerleader. A 9 year old female presented to the Athletic Trainer after performing a stunting maneuver during summer cheerleading camp. As the patient was dismantling from the stunt, she reported falling and landing directly on her olecranon process. On initial evaluation by the athletic trainer, the patient reported severe posterior elbow pain and abnormal tingling sensations that radiated proximally up the upper arm along the humerus. Visual inspection revealed severe instantaneous swelling over the distal two thirds of the humerus. The patient was unable to perform elbow or shoulder active range of motion due to the pain. Neurologic testing revealed a hypoesthesia in the fourth and fifth digits and paresthesia in the first, second, and third digits. The patient’s medical history is not significant for injuries to the involved elbow or surrounding area. Differential Diagnosis: Olecranon process fracture, ulnar nerve pathology, musculocutaneous nerve pathology, median nerve pathology, and medial supracondylar ridge fracture. Treatment: Initial management included the use of semi-rigid splints to immobilize the upper extremity, cryotherapy application, and referral to the nearest emergency care facility. During immediate management, it was estimated that the arrival time for an ambulance was a minimum of 30 minutes and another 30 minutes needed to transport the patient to the nearest emergency care facility. In the best interest of the patient and with parental consent, the athletic trainer transported the patient by car. Initial radiographs taken at the emergency care facility revealed multiple fractures of the upper arm including the olecranon process and the humeral condyle with an associated fracture of the humeral shaft. The patient was casted in a traditional manner from her shoulder to her wrist to completely immobilize the entire upper extremity. Through casting, splinting, and rehabilitative therapy, the patient was able to completely recover and return to normal activities within the year. Uniqueness: This case is unique because fractures to the olecranon, medial supracondylar ridge, and the humeral shaft in an athletic arena are not commonly seen because of the large force required to injure these structures. An injury such as this is more often seen within automotive accidents or collision sports such as football, rugby, or martial arts, rather than in cheerleading. Additionally, the complexity of the multiple fractures was not known until initial radiographs were obtained. Conclusions: A great deal of force must be absorbed by the upper extremity, especially the ulna, to sustain multiple fractures. Multiple fractures in the ulna can occur in an adolescent female as a result of a fall from a cheerleading stunt in addition to participation in collision sports. Initially managing traumatic injuries in remote locations can be a difficult task. Athletic Trainers need to be prepared for an emergency during any type of athletic event, regardless of the level of contact involved. Word Count: 478