



POSNA

The Core Curriculum

Dislocations of the elbow

Objectives

1. Describe clinical exam and findings following dislocation of the elbow
2. Describe the anatomic injuries (ligamentous, etc) sustained by a child with a traumatically dislocated elbow
3. Describe reduction of a traumatic dislocation of the elbow and aftercare
4. Describe outcome and complications of treatment of traumatic dislocation of the elbow in children

Discussion

Elbow dislocations tend to occur early in the second decade of life, peaking at age 12-13. Almost all are posterior. To sustain a dislocation, there is rupture of the anterior capsule, medial collateral ligament (of medial epicondyle), relative sparing of the lateral collateral ligament, and the brachialis muscle, and disruption of the collateral circulation. The more common fractures accompanying dislocation (in addition to the medial epicondyle) are the radial neck or the coronoid process of the ulna. Radiographic interpretation is not difficult, but a careful search for associated fractures, especially of the radial neck, is necessary.

Reduction is accomplished by traction in the line of the humerus, with the forearm supinated to release the radial head. Hyperextension of the elbow should be avoided to reduce further damage to the anterior structures. There is also danger of iatrogenic fracture of the radial head during reduction if reduction is attempted while the radius and ulna are still shortened posteriorly. Radial neck fracture can also accompany the injury. There are a number of techniques described for reduction, nicely illustrated by Wilkins. The principles are constant, avoid hyperextension, disimpact the proximal radius and coronoid before attempting reduction, and avoid excess force. Most dislocations reduce easily, if not there is a block to reduction, such as a fractured medial epicondyle in the joint, which must be identified and corrected. Prolonged immobilization is not necessary, usually 7- 10 days suffice. Particular attention postoperatively should be devoted to an assessment of median nerve function, as a number of reports of entrapment of the nerve in the joint or tethered on the medial epicondyle have appeared in the last 2 decades. Fortunately, brachial arterial injury or entrapment is less common. Healing is usually uneventful, and late instability or recurrent dislocation is very rare. Complications associated with radial head/neck fractures can be troublesome. If a dislocation of the elbow has not been reduced for over 3 weeks, Fowles recommends a trial of conservative management initially, reserving operative reduction for those who do not develop satisfactory motion.

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