



POSNA

The Core Curriculum

Dislocations of the shoulder

Objectives

1. Describe the types of dislocations sustained by children and adolescents
2. Describe examination, imaging, and natural history of traumatic anterior dislocation in the skeletally immature
3. Describe examination, imaging, and natural history of voluntary dislocation in the skeletally immature
4. Describe findings of posterior dislocation and management of posterior dislocation

Discussion points

1. How should a 16-year-old outstanding high school football player who sustained his first traumatic dislocation be managed?
2. Could the same mechanism be responsible for traumatic dislocation in the skeletally mature and a proximal humeral physeal fracture in the immature?
3. Should one always obtain radiographs before attempting reduction of an anteriorly dislocated shoulder?

Discussion

Traumatic dislocation of the shoulder is unusual in the skeletally immature, but not as rare as previously thought. The shoulder is designed for mobility, not stability as the glenoid is much smaller and flatter than the humeral head. The labrum and capsule, especially the anterior inferior glenohumeral ligament, provide stability against dislocation. Any type of injury that forces the shoulder in abduction and external rotation can be responsible for traumatic dislocation. Particular attention to axillary nerve sensation should be a part of the prereduction exam. EMG studies have demonstrated a high rate of neuropraxia after dislocation which may slow rehabilitation efforts. 63 young adults at West Point underwent arthroscopy after their first traumatic dislocation, 61 had disruption of the labrum and ligament from the glenoid, the so-called Perthes-Bankart lesion. The natural history in the skeletally immature is not very good, with recurrence in the 80-100% range. Some studies of early arthroscopic intervention, even simple lavage, claim lower recurrence rates of dislocation in adults. On the other hand, a study from Sweden noted that one fifth of those who had at least 2 recurrences in the first few years stabilized spontaneously by 10 years. A Hill-Sachs lesions portends a worse prognosis in virtually all studies. Physical signs of instability are the drawer test and the apprehension test. A recent study noted that reduction of discomfort during the apprehension test from flexing the biceps against resistance was diagnostic of shoulder instability. A number of arthroscopic and open techniques are presently employed for treatment of anterior dislocation. The standard reported from Magnuson-Stack procedures of 3 recurrences in 210

patients with an average 9-year follow-up is one that can be used for comparison with newer techniques. The present status of optimum management of the initial traumatic anterior dislocation in a young athlete is somewhat unsettled; it seems highly likely that recurrence can be expected, and equally likely that the previous standard of 3 weeks immobilization post injury will not prevent recurrence.

Traumatic posterior dislocations are much less common, but a recent series demonstrated very satisfactory results in children with recurrent posterior dislocations with posterior glenoid bony and ligamentous augmentation. The history usually includes an injury producing force on the shoulder with the arm internally rotated, adducted, and flexed. Clinical stress testing with the drawer sign and reproducing the mechanism of injury result in discomfort and/or posterior instability which can be palpated. MRI and CT with contrast have been very helpful in localizing pathologic changes in the unstable shoulder.

Congenital anterior dislocation, although rare, has been reported. Atraumatic dislocation is the other major category of shoulder dislocation in children. These dislocations tend to be multidirectional; they are often seen in conditions accompanied by generalized ligamentous laxity. Surgery is not effective, a shoulder strengthening program is by far the best therapeutic choice.

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