



POSNA

The Core Curriculum

Traumatic dislocation of the hip

Objectives

1. Discuss the incidence and direction of traumatic dislocation of the hip in children
2. Describe the differences in traumatic dislocation of the hip in young children and children approaching skeletal maturity
3. Describe physical findings suggestive of dislocation of the hip
4. Discuss relationship of time of reduction to risk of avascular necrosis
5. Discuss postreduction management of traumatic dislocation of the hip in children
6. Discuss indications for operative intervention after reduction of traumatic dislocation of the hip

Discussion points

1. Is bone scintigraphy after reduction a good indicator of the risk of subsequent avascular necrosis?
2. What nerve is most often injured as a result of traumatic dislocation of the hip?

Discussion

A number of reasonably large series of traumatic hip dislocations in children have been compiled along with reports of a case or two illustrating a quirky twist to the collected experience. Most hip dislocations in children are posterior, as they are in adults. Posteriorly dislocated hips are evident by and adducted, flexed, internally rotated thigh; anterior dislocations by an extended, abducted, and externally rotated thigh. In young children, dislocation can occur with relatively trivial trauma; reduction is usually not difficult, and nerve injury is rare. In older children, traumatic hip dislocation approaches the adult pattern; reduction is not as easy as in the young, the rate of nerve injury is higher, and complications are more frequent. Some of the variability in complication rate in various series can be understood by a careful analysis of injuring force; those injuries resulting from greater forces such as those resulting from motor vehicle accidents will have a greater rate of complication than those resulting from playing in the backyard. There has been a recurrent theme that the earlier the reduction, the better the outlook in regard to the development of avascular necrosis. A recent report from Cincinnati underscored this principal, with a reduction rate 20 times greater for those hips unreduced more than 6 hours postinjury compared with those reduced less than 6 hours postinjury. In addition, the poor prognostic value of scintigraphy was documented in this study, some children with "cold" scans 2 weeks after injury did not develop avascular necrosis, some who did develop avascular necrosis had normal bone scans. These authors also felt that a joint space of $>3\text{mm}$ s was a reasonable indicator of a mechanical block to complete reduction. CT scanning is helpful in determining adequacy of reduction when the joint space is widened on

postreduction radiographs, and hip arthroscopy can be a relatively less invasive way of removing loose bodies. Triradiate cartilage injury is unusual, but has been reported after high-energy injury. The peroneal branch of the sciatic nerve is the nerve most often injured, nonoperative monitoring is indicated when it is recognized. The results of open reduction for untreated dislocation were good enough to justify this approach for children presenting months weeks after dislocation. For children presenting days to a few weeks after dislocation, traction has been useful.

Most reports find no benefit from a period of non-weightbearing after reduction. Acquisition of a full range of motion before allowing return to activity is a reasonable approach.

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