



# POSNA

## The Core Curriculum

### **Birth brachial plexus palsy**

#### **Objectives**

1. Describe the natural history of newborns with birth brachial plexus palsy
2. Discuss the factors increasing the incidence of birth brachial plexus palsy
3. Discuss the current indications for microsurgery for the infant with brachial plexus palsy
4. Describe operative procedures available for the older child with birth brachial plexus palsy, including indications and contraindications

#### **Discussion points**

1. Preventive measures for reducing incidence of birth brachial plexus palsy
2. Data base used current recommendations for microvascular repair
3. Assessment of effectiveness of microvascular repair
4. Role of age in the severity of glenohumeral deformity

#### **Discussion**

Birth brachial plexus palsy continues to be a relatively common problem, with an estimated incidence of 2.5/1000 births. The majority of newborns have a good prognosis, with an average recovery of 3 months. Management of those babies who do not recover can be difficult, as the effect of microsurgery on the natural history is still being investigated. If there is no recovery of biceps function by 3 months, complete recovery is rare. Careful assessment of the infant's function is critical to planning treatment. Microsurgical repair appears to improve functional outcome if performed around the 3-6 month age range, but complete recovery cannot be expected. Glenohumeral deformity accompanies the more severely paralyzed shoulders, and progresses with age. For younger children without glenohumeral deformity, tendon transfers of the latissimus dorsi and teres major to the rotator cuff can improve function. For older children or those with substantial glenohumeral deformity, humeral osteotomy can improve function. The possible role of early tendon transfer and open reduction in improving glenohumeral anatomy is presently being investigated. CT or MRI is necessary to evaluate the status of the glenohumeral joint.

#### **References**

1. Gilbert A, Brockman R, Carloiz H. Surgical treatment of brachial plexus injury. Clin Orthop 1991;264:39-47.
2. Hoffer M, Wickenden R, Roper B. Brachial plexus birth palsies. Results of tendon transfers to the rotator cuff. J Bone Joint Surg Am 1978;60:691-95.

3. Jackson S, Hoffer M, Parrish N. Brachial plexus deformity in the newborn. *J Bone Joint Surg Am* 1988;70:1217-20.
4. Kirkos J, Papadopoulos I. Late treatment of brachial plexus palsy secondary to birth injuries: Rotational osteotomy of the proximal part of the humerus. *J Bone Joint Surg Am* 1998;80:1477-83.
5. Torode I, Donnan L. Posterior dislocation of the humeral head in association with obstetric paralysis. *J Pediatr Orthop* 1998;18:611-15.
6. Waters P, Smith G, Jaramillo D. Glenohumeral deformity secondary to brachial plexus birth palsy. *J Bone Joint Surg Am* 1998;80:668-77.
7. Waters P. Comparison of the natural history, the outcome of microsurgical repair, and the outcome of operative reconstruction in brachial plexus birth palsy. *J Bone Joint Surg Am* 1999;81-A:649-59.