

Background

- Shoulder musculature imbalance from OBPP can → glenohumeral subluxation and glenoid dysplasia within the first year of life.
- Surgical management of shoulder dysmorphology traditionally deferred until after nerve reconstruction
- Shoulder dysmorphology can alter motion throughout the arm to obscure functional neuromuscular recovery of the upper extremity.

Purpose

Evaluate the ability of early primary shoulder surgery (musculoskeletal surgery about the shoulder prior to one year of age and any nerve surgery) to obviate the need for primary nerve reconstruction in select patients with OBPP.

Methods:

 Retrospective chart review

Patients: clinically apparent shoulder subluxation < 1year of age

Surgery: Subscapularis slide, Teres Major transfer, and Lat Dorsi transfer

Data:

- Demographic data, birth/pregnancy history
- Clinical examinations of arm movement
- Need for subsequent nerve surgery/pass/fail of clinical exam post op

Results:

- Birth, pregnancy, and demographic findings consistent with those for general OBPP population
- Presentation: Upper Trunk (all patients)
- 3 month AMS test score: median 6.9
- 6 patients with radiographic subluxation preoperatively; 2 not imaged

Patients Selected for Surgery Prior to 9 Month Assessment

Patient	3 month AMS scores			6 month AMS scores			Age at surgery (months)	9 month AMS scores			Cookie Test
	Sh ER	Sh Abd	Elb Flex	Sh ER	Sh Abd	Elb Flex		Sh ER	Sh Abd	Elb Flex	
4	0	3	3	2	3	5	6.8	2	6	6	P
5*	2	5	2	2	5	2	7.6	3	5	5	F
7	2	2	2	0	3	0	6.8	3	5	6	P
8	0	3	3	2	3	5	7.5	2	6	6	P
10**	2	2	2	2	2	2	7.0	3	3	3	F
11	2	2	3	2	2	5	9.2	6	6	6	P†

*Patient 5 proceeded to undergo isolated distal transfers for elbow function and subsequently passed the cookie test

** Patient lost to follow up after failure of cookie test

† Postop cookie test/AMS scores from 11 month visit

†† Postop cookie test and AMS scores are from 18 month visit



Conclusions

- Early glenohumeral subluxation **may** mask satisfactory neural recovery
- For select patients, early surgical intervention at the glenohumeral joint may obviate the need for primary nerve reconstruction
- Further study will better define the appropriate patient cohort and permit assessment of results over time

Patients Who Underwent Shoulder Surgery After 9 Months of Age

Pt	3 month AMS scores			6 month AMS scores			9 month AMS scores			Cookie test	Age at surgery (months)	6 week Postop AMS scores			Post op Cookie test
	Sh ER	Sh Abd	Elb Flex	Sh ER	Sh Abd	Elb Flex	Sh ER	Sh Abd	Elb Flex			Sh ER	Sh Abd	Elb Flex	
1	2	2	2	0	3	5	0	6	5	F	9.7	5	6	7	P
2	2	2	3	2	3	5	2	3	3	F	10.1	6	6	6	P
3	2	2	2	2	5	5	2	5	6	F	10.5	3	7	6	P
6	0	2	0	2	3	5	2	2	6	F	10.0	2	2	6	P
9	2	2	2	0	2	2	2	2	3	F	9.9	3	3	6	P††
12	2	2	5	2	3	5	2	6	6	--	11.3	3	6	7	P††