Birth Brachial Plexus Injury (BBPI):

Management of shoulder subluxation/dislocation

Associated Power Plans: Ambulatory Rehab Brachial Plexus Pathway

Children's Mercy **Evidence Based Practice**

Inclusion criteria:

- · Infant with diagnosis of BBPI
- ≥ 3 months of age to 12 months of age

Exclusion criteria:

• Infant ≥ 3 months with a *fully* resolved birth brachial plexus injury

Infant ≥ 3 months of age with diagnosis of BBPI

Send infant to CM radiology for initial US

Include the alpha angle and, in neonates, posterior humeral head displacement

Affected shoulder

- 2 static images w/internal rotation and 2 static images w/external rotation
- 1 cine of internal to external rotation

Unaffected shoulder

No

No

Schedule infant

for brace

- 2 static images w/internal rotation and 2 static images w/external rotation
- 1 cine of internal to external rotation

• Both shoulders:

- 1 static image in dual screen affected and unaffected side with internal rotation
- 1 static image in dual screen affected and unaffected side with external rotation

Alpha angle of affected

shoulder ≥ 30° but < 40°

Is PROM

restricted for external rotation of the

affected shoulder?

No

Schedule infant for a brace



QR code for mobile view

Alpha angle of affected

shoulder < 30°

Repeat US at 6 months of age:

• Alpha angle < 30° -Continue to monitor with a

• Alpha angle ≥ 30° but < 40° with PROM - refer for

• Alpha angle > 40° - Refer for manual reduction

Alpha angle ≥ 30° but < 40° without PROM

repeat US as needed

with spica cast

restriction - refer for brace

manual reduction and spica cast

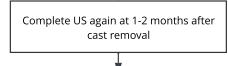


Alpha angle of affected shoulder ≥ 40°

- Apply shoulder spica cast for 6 weeks to maintain joint reduction
- *Consider combining shoulder reduction with nerve surgery if infant is 3-6 months of age

• Remove cast at 6 weeks post-op

- Repeat US to ensure appropriate glenohumeral
 - If glenohumeral joint is not reduced to an alpha angle of < 30 degrees, - refer infant for brace



glenohumeral joint reduction been

maintained?

Yes

Recommend US every 2 months to evaluate glenohumeral relationship

Measure both in and out of brace to ensure brace is maintaining glenohumeral joint reduction

> Is glenohumeral joint alignment maintained?

Brace wearing timing:

Yes

- Wear 22 hrs/day for first month
- After first month, wear only at night (when sleeping) and during naps for an additional 6 - 10 months

Follow-up at 9 - 12 months of age

- If PROM is restricted for internal/external rotation, consider MRI
- Otherwise, continue with regularly scheduled 6 month or yearly appointment in Brachial Plexus Clinic

Contact: EvidenceBasedPractice @cmh.edu

Link to synopsis and references

Last Updated: 10.03.2023

Abbreviations: PROM - passive

range of motion

US - ultrasound