



Manipulation: subluxation of radial head (pulled elbow)

Intervention

Manual reduction of subluxated radial head (pulled elbow) by pronation of the forearm.

Indication

In up to 50 per cent of presentations of pulled elbow, there will be no known (or reported) pull to the arm.

Subluxation or partial dislocation of the radial head, commonly called pulled elbow, nursemaids elbow or baby sitters elbow.

Common injury in children 1-4 years of age as a result of a sudden pull on the arm (usually by an adult), which pulls the radius under the annular ligament.

Indicators for a diagnosis of pulled elbow include: a child between 1-4 years presents for sudden pain and loss of function of the arm; no history of a fall; the elbow is in extension and the forearm is in pronation or held against the body; distress only on elbow movement; and no swelling, deformity or bruising.

Precautions

Consider other causes of loss of function of the arm:

- fracture
- inflammation
- infection
- neurological lesion.

While reduction manoeuvres will not improve these conditions, they are unlikely to have a negative effect.

Description

The following description comes from the Royal Children's Hospital. It is recommended to attempt to reduce the elbow using pronation twice before trying another technique.

Pronation manoeuvre

- 1 Sit child on parent's lap
- 2 Apply pressure over the radial head with one hand and hold the child's hand with your other hand
- 3 Fully pronate the forearm and flex the elbow (you may feel a click over the radial head)
- 4 Review after 10 minutes.

If reduction fails after two attempts using pronation, then supination can be attempted (one-two times). The following description of supination comes from the Royal Children's Hospital.

Supination manoeuvre

- 1 Sit child on parent's lap
- 2 Apply pressure over the radial head with one hand and hold the child's hand with the other
- 3 Fully supinate the forearm and flex the elbow (you may feel a click over the radial head)
- 4 Review after 10 minutes.



Tips & Challenges

Diagnosis can usually be established on history and examination. If there is a history of a fall or any bruising, swelling or deformity, consider other causes (see Precautions) and refer for plain radiographs.

Manipulating the arm during examination will often reduce the injury.

Expect distress and pain during reduction manoeuvres. This should pass rapidly with the child returning to using the arm without pain within around 5 minutes.

The pronation method might be more effective and less painful.

Manipulation may fail on the first try.

If the reduction fails with both pronation and supination then consider referring for radiographs and/or reduction under anaesthetic.

Warn parents of possible recurrence (typically within a month).

For a short (3.29 min) video of how to perform both pronation and supination, see YouTube.

Grading

NHMRC Level 1 evidence

References

Krul M, van der Wouden JC, van Suijlekom-Smit LWA, Koes BW. Cochrane Database of Systematic Reviews 2012, Issue 1. Art. No.: CD007759. DOI: 10.1002/14651858.CD007759.pub3.

Consumer Resources

See The Royal Children's Hospital Melbourne's Pulled Elbow fact sheet.
http://www.rch.org.au/kidsinfo/fact_sheets/Pulled_Elbow