內分泌新陳代謝內科EBM討論-
Fish Oil & Moratlity in patient with CAD

報 告 人：R3蔡明儒
報告時間：2010.03.26. 15:00

Journal Meeting

報告者:PGY 卓筱芸
指導者: VS 侯勝文
2010/09/14

臨床場景(Clinical scenario)分析

臨床情境 (Clinical Scenario)

- 3 歲小男生，在玩的時候右手被哥哥抓住並且不小心扯了一下，之後就一直說手痛，左手扶著右手手腕不敢動，但觸診的時候發現其實病患最痛的部位是右手肘
- **Nursemaid's elbow**
  - **radial head subluxation**

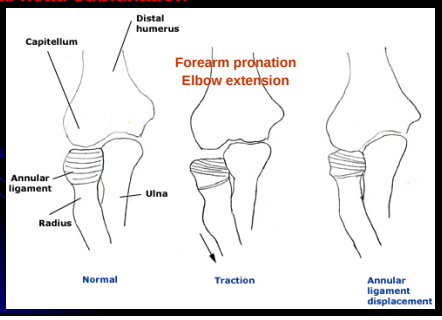
Background Question

Background Question

- **Question 1**
  - What is radial head subluxation (RHS)?
- **Question 2**
  - What is the clinical features of RHS?
- **Question 3**
  - What is the management of RHS?

What is the radial head subluxation?

- 資料出處: Uptodate, Tintinalli
- **Radial head subluxation**



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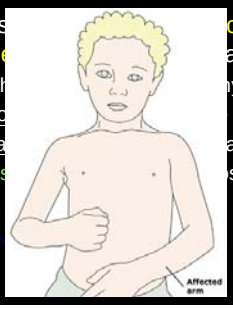
What is the radial head subluxation?

- 資料出處: Uptodate, Tintinalli
- Radial head subluxation
  - common elbow injury unique to young children
    - nursemaid's elbow, pulled elbow
    - annular ligament displacement
    - 1~4 years, peak: 2~3 years; girls > boys; left > right
  - The annular ligament has become thick and strong by the age of five years.

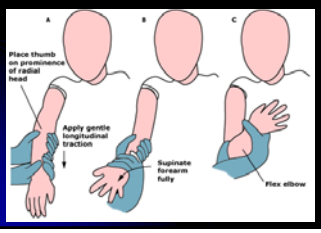
What is the clinical features of radial head subluxation?

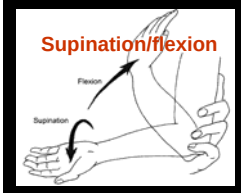
- 資料出處: Uptodate, Tintinalli
- Clinical features
  - The diagnos characteristic history and e are present.
    - not move th y distress
    - some disco radial head
    - pronation a arm are painful
    - adducted, s sition



What is the management about Radial head subluxation?

- 資料出處: Uptodate, Tintinalli
- Management
  - The displacement is generally easy to reduce.
  - **Reduction**





What is the management about Radial head subluxation?

- 資料出處: Uptodate, Tintinalli
- Management
  - **Postreduction evaluation**
    - immediate pain relief; occurs within 5 to 10 minutes
    - no immobilization, or activity restriction is necessary
  - **Recurrence**
    - sustains another injury with the typical mechanism
    - recurrence rates: 27~39%
    - no long-term sequelae
    - rarely recurs after four to five years of age

Foreground Question

EBM的步驟

- **Asking**
  - 將病人的問題寫成PICO
- **Acquire**
  - 找資料來回答問題
- **Appraisal**
  - 嚴格評讀文獻
- **Apply**
  - 是否可應用到病人身上

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PICO

P Patient/Problem	A child with radial head subluxation
I Intervention	Hyperpronation method of reduction
C Comparison	Supination/flexion method of reduction
O Outcome	successful reduction rate

EBM的步驟

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Search for Answers

UpToDate ONLINE 18.1

ACP Journal Club

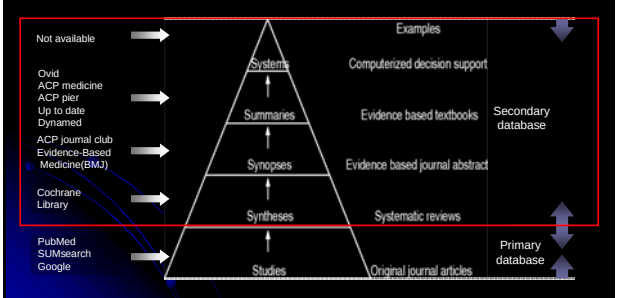
THE COCHRANE LIBRARY

PubMed.gov

Search Secondary Database

The "5S" levels of organisation of evidence from healthcare research

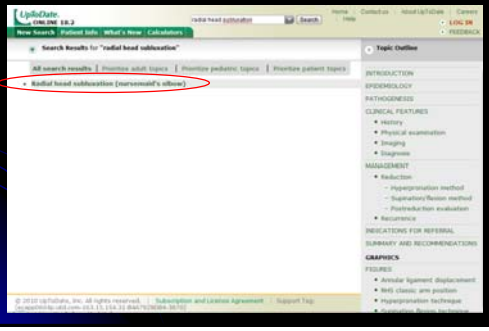
Brian Haynes, R Evid Based Med 2006;11:162-164



Search UpToDate

UpToDate ONLINE 18.1

- Key word
  - Radial head subluxation



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Radial head subluxation (nursemaid's elbow)

Authors: Brian R Moore, MD; Joan Bothner, MD
Section Editor: Anne M Stack, MD
Deputy Editor: James F Wiley, II, MD, MPH

Last literature review version 18.2: 五月 2010 | This topic last updated: 十一月 2, 2009 (More)

- **Reduction** Hyperpronation v.s supination/flexion
  - Both techniques are effective.
  - has been used most commonly: supination/flexion
    - However, metaanalysis of three randomized trials found that successful reduction on the first attempt was more likely with hyperpronation (RR 0.53, 95% CI 0.32-0.87) although the quality of the evidence was felt to be low.
    - Based on this analysis, nine children would require treatment by the hyperpronation method rather than supination/flexion to avoid one failed reduction on first attempt.

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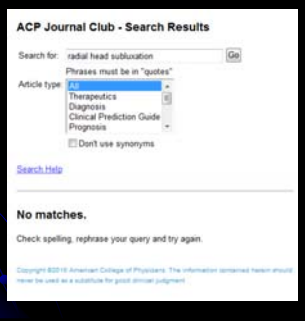
Last literature review version 18.2: 五月 2010 | This topic last updated: 十一月 2, 2009 (More)

- **Reduction**
  - In addition, hyperpronation may be less painful.
    - One trial compared physician, nurse, and caretaker assessments of perceived pain with each method of reduction.
    - Physicians did not note a significant difference in pain scores between the two methods.
    - However, both nurses and caretakers perceived hyperpronation as less painful.
  - Hyperpronation technique can be used primarily, or as a backup technique when supination fails.

Search ACP Journal Club

- Key word
  - Radial head subluxation


ACP Journal Club - Search Results

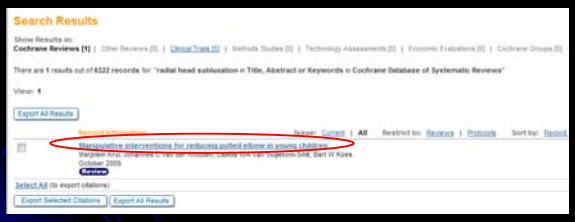
Search for: radial head subluxation Go
Phrases must be in "quotes"
Article type: All, Therapeutics, Diagnosis, Clinical Prediction Guide, Prognosis
Don't use synonyms
Search Help

No matches.

Check spelling, rephrase your query and try again.

Search Cochrane Library

- Key word
  - Radial head subluxation


Search Results

Manipulative interventions for reducing pulled elbow in young children.

Search Cochrane Library


Cochrane Database Syst Rev. 2009 Oct 7;(4):CD007759.

Manipulative interventions for reducing pulled elbow in young children.

Krul M, van der Wouden JC, van Suijlekom-Smit LW, Koes BW.

Department of General Practice, Erasmus MC, University Medical Center, PO Box 1738, Rotterdam, Zuid-Holland, Netherlands, 3000 DR.

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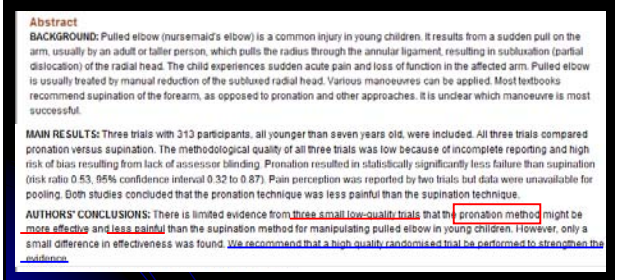
Abstract

BACKGROUND: Pulled elbow (nursemaid's elbow) is a common injury in young children. It results from a sudden pull on the arm, usually by an adult or taller person, which pulls the radius through the annular ligament, resulting in subluxation (partial dislocation) of the radial head. The child experiences sudden acute pain and loss of function in the affected arm. Pulled elbow is usually treated by manual reduction of the subluxed radial head. Various manoeuvres can be applied. Most textbooks recommend supination of the forearm, as opposed to pronation and other approaches. It is unclear which manoeuvre is most successful.

MAIN RESULTS: Three trials with 313 participants, all younger than seven years old, were included. All three trials compared pronation versus supination. The methodological quality of all three trials was low because of incomplete reporting and high risk of bias resulting from lack of assessor blinding. Pronation resulted in statistically significantly less failure than supination (risk ratio 0.53, 95% confidence interval 0.32 to 0.87). Pain perception was reported by two trials but data were unavailable for pooling. Both studies concluded that the pronation technique was less painful than the supination technique.

AUTHORS' CONCLUSIONS: There is limited evidence from three small low-quality trials that the pronation method might be more effective and less painful than the supination method for manipulating pulled elbow in young children. However, only a small difference in effectiveness was found. We recommend that a high quality randomised trial be performed to strengthen the evidence.

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Search Primary Database

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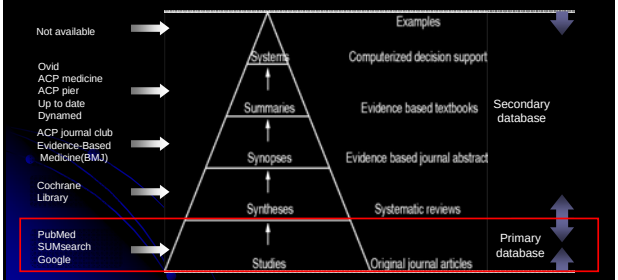
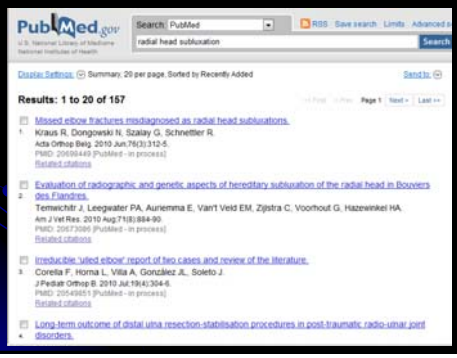


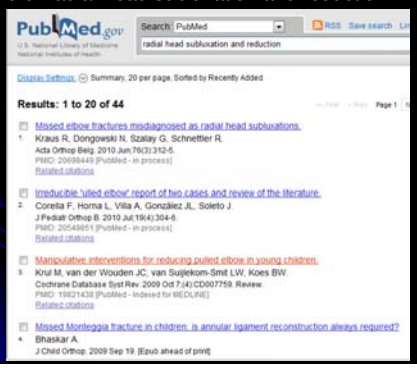
Search PubMed

- Key word: radial head subluxation



Search PubMed

- Key word: radial head subluxation and reduction



Search PubMed

- Key word: nursemaid's elbow

Search PubMed

Pediatrics. 1998 Jul;102(1):e10.

A comparison of supination/flexion to hyperpronation in the reduction of radial head subluxations.

Macias CG, Bothner J, Wiebe R.

Department of Pediatrics, Section of Emergency Medicine, Baylor College of Medicine, Houston, Texas, USA.

Search PubMed

Abstract

OBJECTIVE: To compare supination at the wrist followed by flexion at the elbow (the traditional reduction technique) to hyperpronation at the wrist in the reduction of radial head subluxations (nursemaid's elbow).

MATERIALS AND METHODS: This prospective, randomized study involved a consecutive sampling of children younger than 6 years of age who presented to one of two urban pediatric emergency departments and two suburban pediatric ambulatory care centers with a clinical diagnosis of radial head subluxation. Patients were randomized to undergo reduction by one of the two methods and were followed every 5 minutes for return of elbow function. The initial procedure was repeated if baseline functioning did not return 15 minutes after the initial reduction attempt. Failure of that technique 30 minutes after the initial reduction attempt resulted in a cross-over to the alternate method of reduction. The alternate procedure was repeated if baseline functioning did not return 15 minutes after the alternate procedure was attempted. If the patient failed both techniques, radiography of the elbow was performed.

RESULTS: A total of 90 patients were enrolled in the study. Five patients were removed from further analysis secondary to a final diagnosis of fracture, 84 were reduced successfully, and 1 failed both techniques. Demographic characteristics of each group were similar. Thirty-nine of 41 patients (95%) randomized to hyper-pronation were reduced successfully on the first attempt versus 34 of 44 patients (77%) randomized to supination. Two patients in the hyperpronation group required two attempts versus 10 patients in the supination group. Hyperpronation was more successful; 40 of 41 patients (97.5%) in the hyperpronation group were reduced successfully versus 38 of 44 patients (86%) in the supination group. Of the 6 patients who crossed over from supination to hyperpronation, 5 were reduced on the first attempt and 1 was reduced on the second attempt.

CONCLUSIONS: In the reduction of radial head subluxations, the hyperpronation technique required fewer attempts at reduction, compared with supination, was successful more often than supination, and was often successful when supination failed.

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Acad Emerg Med. 1999 Jul;6(7):715-8.

Radial head subluxation: comparing two methods of reduction.

McDonald J, Whitelaw C, Goldsmith LJ.

Department of Pediatrics, University of Louisville, KY, USA. jamcdo01@gwise.louisville.edu

Comment in:

Acad Emerg Med. 2000 Feb;7(2):207-8.

Search PubMed

Abstract

OBJECTIVES: To determine whether reduction of radial head subluxation (RHS) is more successful using pronation and flexion (PF) vs the more widely used supination and flexion (SF) method.

METHODS: Prospective study in a tertiary care children's hospital ED from August 1996 through December 1997. Inclusion criteria included age <7 years with an upper-extremity injury. Exclusion criteria included neurologic impairment, congenital malformation, or obvious bony deformity or edema. Patients were randomized to receive either PF or SF. Reduction was considered successful if the child used the injured arm. Both the physician and the parent rated the child's pain during the procedure using a descriptive ordinal scale, from 0 (no pain) to 3 (severe pain).

RESULTS: 148 patients were enrolled; 13 were excluded. Success was achieved on the first attempt in 53/67 (80%, 95% CI = 0.67 to 0.88) of patients receiving PF and in 47/68 (69%, 95% CI = 0.57 to 0.80) of those receiving SF (p = 0.186). For those injuring the left arm, 29/41 (71%, 95% CI = 0.54 to 0.84) were successfully reduced using SF, while 33/37 (89%, 95% CI = 0.75 to 0.97) were successfully reduced using PF (p = 0.044). Physicians perceived PF to be less painful than SF (p = 0.013). There was no significant pain score difference rated by parents.

CONCLUSIONS: Both PF and SF can be used with success to reduce RHS. For left arm injuries, PF should be attempted first since it may decrease the need for further treatment. PF may be less painful, particularly for first reduction attempts.

Search PubMed

Pediatr Emerg Care. 2006 Apr;22(4):235-8.

Randomized comparison of pain perception during radial head subluxation reduction using supination-flexion or forced pronation.

Green DA, Linares MY, García Peña BM, Greenberg B, Baker RL.

Baylor College of Medicine and Emergency Center, Texas Children's Hospital, Houston, TX, USA.

Abstract

OBJECTIVE: To determine if a difference exists in perceived pain between the forced pronation and supination-flexion methods of radial head subluxation (RHS) reduction.

DESIGN AND METHODS: We developed a prospective randomized trial of children aged 6 months to 7 years who presented to the emergency department (ED) at Miami Children's Hospital with an immobile arm and physical findings suggestive of RHS. Children were randomized into 2 groups for RHS reduction: forced pronation and supination-flexion. Parents, physicians, and nurses were given a standard visual analog pain scale for pain assessment before, during, and at 1 minute after successful reduction.

RESULTS: Seventy-five children presented to the ED with RHS, 3 children were excluded from the study because of nonadherence to the protocol and another 9 were excluded because of unsuccessful reduction during the first attempt. Of the remaining children, 32 children underwent forced pronation and 31 underwent supination-flexion. Physicians did not find a significant difference in pain scores between their perceptions of the premeasure and postmeasure of pain between those patients receiving supination-flexion and those receiving forced pronation. For nurses ($P < 0.031$) and parents ($P < 0.043$), there were statistically significant differences in pain scores. Nurses and parents perceived forced pronation as being less painful. The mean difference for parents was 1.7 cm, which exceeded the value of 1.3 cm identified as clinically significant.

CONCLUSIONS: Forced pronation is perceived as less painful than the supination-flexion method by parents of children treated for RHS in our ED.

EBM的步驟

- **Asking**
  - 將病人的問題寫成PICO
- **Acquire**
  - 找資料來回答問題
- **Appraisal**
  - 嚴格評讀文獻
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Search PubMed

Acad Emerg Med. 1999 Jul;6(7):715-8.

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McDonald J, Whitelaw C, Goldsmith LJ.

Department of Pediatrics, University of Louisville, KY, USA. jamcdo01@gwise.louisville.edu

Comment in:

Acad Emerg Med. 2000 Feb;7(2):207-8.

Did the study ask a clearly-focused question?

☑ 是	☐ 否	☐ 不清楚

評論：

- the population studied
  - -- All children less than 7 years old
- the intervention given
  - -- rapid supination of the forearm followed by flexion or extension
  - -- rapidly hyperpronating the forearm followed by flexion
- the outcomes considered
  - -- whether reduction is **more successful**
  - -- which method was **less painful**
  - -- whether the rate of success was **dependent on the arm injured**

RCT appraisal sheet

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Was this a RCT and was it appropriately so?

■ 是	□ 否	□ 不清楚

評論：
- This was a prospective, randomized study.
- Randomization was performed using a blocked randomization list generated by computer.
- The physician then attempted to reduce the subluxation using the assigned method.

RCT apprasial sheet

Were participants appropriately allocated to intervention and control groups?

■ 是	□ 否	□ 不清楚

評論：
- Patients were randomized to receive either the rapid supination method or the rapid pronation method at the time of enrollment.
- Randomization was performed using a blocked randomization list generated by computer.
- The randomization was designed so that the trial was balanced after every ten patients, thus ensuring balance over time.
- The physician then attempted to reduce the subluxation using the assigned method.

RCT apprasial sheet

Were participants, staff and study personnel 'blind' to participants' study group?

□ 是	■ 否	□ 不清楚

評論：
- the fact that double blinding is not always possible

RCT apprasial sheet

Were all of the participants who entered the trial accounted for at its conclusion?

□ 是	■ 否	□ 不清楚

評論：
- 148 children were enrolled in the study.
- Thirteen subjects were excluded:
  -- six were found to have a fracture
  -- two spontaneously reduced while being enrolled
  -- in two cases the study protocol was not followed
  -- data were missing for three cases

RCT apprasial sheet

Were the participants in all groups followed up and data collected in the same way?

■ 是	□ 否	□ 不清楚

評論：
- A reduction was considered successful if the subject used the injured arm to reach for a piece of candy or a favorite toy.
  -- First attempt → 30 minutes → Second attempt (same method)
  → 30 minutes → Third attempt (alternative method)
- Both the physician and the parent rated the perceived amount of pain the child experienced during each reduction.
  -- ordinal scale demarcated
  0 (no pain), 1 (little pain), 2 (quite a lot of pain), to 3 (very bad pain)

RCT apprasial sheet

Did the study have enough participants to minimise the play of chance?

□ 是	□ 否	■ 不清楚

評論：

RCT apprasial sheet

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How are the results presented and what is the main result?

評論：
- Both PF and SF can be used with success to reduce RHS.
- PF may be less painful.
- For left arm injuries, PF should be attempted first.

RCT apprasial sheet

How precise are these results?

評論：
- Both PF and SF can be used with success to reduce RHS.
  - -- on the first attempt
    - PF 53/67 (80%, 95% CI = 0.67 to 0.88)
    - SF 47/68 (69%, 95% CI = 0.57 to 0.80) (p = 0.186)
  - -- on the second attempt
    - PF 9/14 (64%, 95% CI = 0.35 to 0.87)
    - SF 4/21 (19%, 95% CI = 0.54 to 0.42) (p = 0.009)
  - -- on the third attempt
    - PF 3/ 5 (75%, 95% CI = 0.19 to 0.99)
    - SF 13/17 (76%, 95% CI = 0.50 to 0.93) (p =1.000)
- PF may be less painful.
  - -- Physicians perceived PF to be less painful than SF (p = 0.013).
  - -- There was no significant pain score difference rated by parents.
- For left arm injuries, PF should be attempted first.
  - -- PF 33/37 (89%, 95% CI = 0.75 to 0.97)
  - SF 29/41 (71%, 95% CI = 0.54 to 0.84) (p = 0.044)

RCT apprasial sheet

Were all important outcomes considered so the results can be applied?

■ 是	☐ 否	☐ 不清楚

評論：
- I can provide the same treatment in my setting.

RCT apprasial sheet

Level of evidence

Oxford Centre for Evidence-based Medicine Levels of Evidence (May 2001)
Produced by Bob Phillips, Chris Ball, Dave Sackett, Doug Badenoch, Sharon Straus, Brian Haynes, Martin Dawes since November 1998.

Level	Therapy/Prevention, Aetiology/Harm
1a	SR (with homogeneity*) of RCTs
1b	Individual RCT (with narrow Confidence Interval‡)
1c	All or none§
2a	SR (with homogeneity*) of cohort studies
2b	Individual cohort study (including low quality RCT; e.g., <80% follow-up)
2c	"Outcomes" Research; Ecological studies
3a	SR (with homogeneity*) of case-control studies
3b	Individual Case-Control Study
4	Case-series (and poor quality cohort and case-control studies§§)
5	Expert opinion without explicit critical appraisal, or based on physiology, bench research or "first principles"

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結合實證醫學的結果、臨床專業經驗給予病人建議

- 因為所搜尋到的研究都無法做到blinded，來exclude all bias，所以降低了paper的level of evidence，因此需要更多high-quality的研究來加強證據等級。
- 根據上述搜尋到的研究結果，因為以hyperpronation reduction治療小朋友時，在first attempt叫不會疼痛，且second attempt時有較高的successful rate，所以會建議radial head subluxation時，先以hyperpronation reduction治療為主。

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