

Viewing Time

The program will take up to one hour to complete.

Target Audience

This program is designed for primary care physicians.

Other health care professionals working with patients and their families may also find this program of interest.

Faculty Disclosure

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Faculty Disclosure

Jamie Engels, MD has disclosed no actual or potential conflict of interest in relation to this educational activity.

During this educational activity **Dr. Engels** will not be discussing the use of any commercial or investigational product not approved for any purpose by the FDA.

Acute Anterior Shoulder Instability

Jamie Engels, MD
Pediatric Orthopedic Surgery
Children's Hospitals and Clinics of Minnesota

Acute Anterior Shoulder Instability

A lecture about the anatomy involved in acute shoulder dislocations, the problem of recurrence, and different treatments to help prevent recurrence

Program Objectives

Upon completion of this program, participants should be able to:

- Identify patients with acute anterior shoulder instability injury.
- Understand options of management of acute anterior shoulder injury.
- Understand the patho-anatomy of acute anterior shoulder instability.
- Understand the concepts of a new method of treating anterior should (acute) instability.

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Accreditation

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Receiving CME Credit

To receive CME credit you must view the entire program and complete the evaluation form at the end.

Acute Anterior Shoulder Instability:

A novel approach to its
management
Jamie Engels MD

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Acute Shoulder Dislocations

- Anterior-97%
- Posterior- 2%
- Inferior-<1%
- Multi-directional- usually atraumatic

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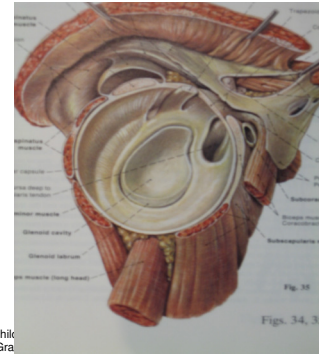
Shoulder Dislocations

- The most common major joint
- Edwin Smith Papyrus first report of a shoulder dislocation (3000-2500BC)
- First detailed description by Hippocrates(460 BC) including the first surgical procedure
- Red hot poker into the axilla for recurrent dislocations

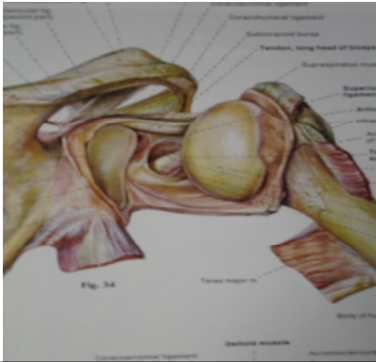
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Anatomy of the glenohumeral joint

- Glenoid
- Labrum
- Glenohumeral ligaments



Glenohumeral Joint Anatomy



Treatment of the Acute Dislocation

- X-rays A/P, lateral and Axillary
- Reduce the dislocation
- Typically sling or immobilizer and symptomatic treatment
- Physical Therapy
- Return to activities



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Acute Shoulder Dislocation Imaging



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Acute Shoulder Injury Immobilization

- Sling
- Immobilizer



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Then What Happens: Recurrence

- Recurrence rates vary after initial event
- 20-48 %
- Age of patient- rates vary
- 25 yrs or less, 66-94%
- 14-17 yrs, 92%
- Other studies have shown lower rates
- Why recurrence is so high in younger age groups is unknown
- Very few reports on the younger patient (<15)

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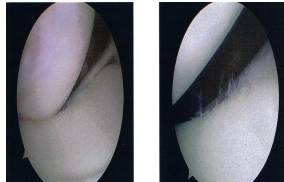
Recurrence: Can it stop?

- Some shoulders remain stable
- 52-80% never redislocate.
- 20% of recurrent instability cases cease to dislocate spontaneously.
- Recurrence doesn't seem to depend on duration of immobilization, how rigidly immobilized or if immobilized at all.

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Recurrence: Is there an essential lesion?

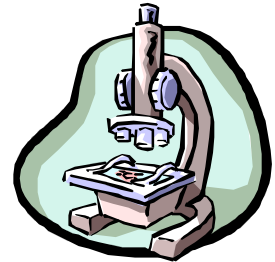
- The Bankart lesion
- Perthes
- Detachment of the inferior glenohumeral ligament-labral complex.
- 94-97% of all dislocations
- Lesion has the ability to heal.
- There may be associated lesions



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History of Treatment of the Acute Shoulder Dislocation

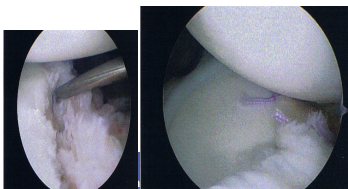
- Hippocrates
- Reduced and brought to the side and internally rotated
- Sling and swath or immobilizer
- 2000 years plus without question or validation.



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What might the best position be?

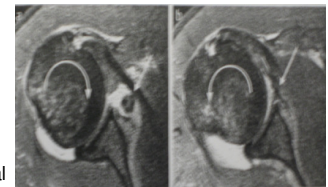
- The anterior labrum appears to be the cornerstone.
- Surgical treatment has centered on coaptation of the labrum back to its original position. Bankart and Perthes first proposed this.



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Positional Coaptation of the anterior labrum

It has recently been demonstrated that the position of external rotation is effective in obtaining good coaptation. (Itoi/Miller/Hart)
 Results compare nearly as favorably as surgical treatment
 85% vs. 75% vs. 58%




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James A. Engels, MD
 "Acute Anterior Shoulder Instability in
 the Young Athlete"

Positional Coaptation

- The orthotic is worn full time except for showers.
- Positioned in 10° of external rotation with minimal abduction or flexion. (Itoi)



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Surgery versus Itoi method in the very young

- My concerns-
 - Surgical risk with arthroscopic versus open
 - Growing skeleton- the glenoid apophysis and anecdotal reports of poor surgical results perhaps due to partial growth arrest causing a deficient glenoid volume.
 - Did Itoi use enough external rotation? (10° vs. 30° vs. 45° vs. 60°- Miller study on cadavers)

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What am I doing


- 30° of external rotation, 30° of abduction and slight flexion no more than 30°.



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My Prototype

- To achieve 30°, 30°, 30° I needed a new brace that would be comfortable to ensure good compliance



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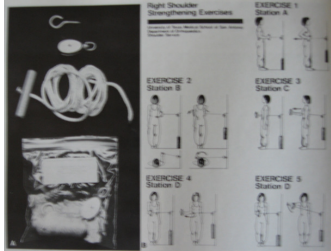
What I am doing: the protocol

- 4 weeks full time
- 2 weeks part time (bed and school) with isometrics for the rotator cuff and distal kinetic chain (elbow, forearm, wrist/hand)
- 6 weeks open chain exercises for the rotator cuff, scapular stabilizers, "outer cone"(deltoid, latissimus, pectoralis, teres major). LIMIT horizontal abduction to 90°.

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The Home Program

- A simple program can be done at home in addition to PT



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What I am doing: the protocol

- 6 weeks of continued limb girdle strengthening. Added plyometrics exercises (proprioceptive training).
- 6 weeks with gradual release of the 90* horizontal limit.
- Return to throwing at 6 months with a throwing program, if needed.
- Return to contact sports at 6 months if desired.

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How am I doing so far?

- 3 patients
- Teenage males, contact sports, under 16 years
- No recurrences thus far but all less than 2 years follow-up

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We have learned volumes but
there is more to learn.



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Question

Are there things that parents should be aware of when entering their children into different sports?

Question

Should we be more involved in "upstream medicine" in terms of helping our patients who are athletes avoid injuries?

*Thanks for viewing
this presentation!*



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