

Atraumatische schouder instabiliteit

**Pol Huijsmans
The Hague
The Netherlands**

ATRAUMATIC INSTABILITY

- early onset
- more female-male
- minor/no trauma
- dislocations vs unstable feeling
- painfull versus non painful
- different classifications Gerber/AMBRI-TUBS/Stanmore

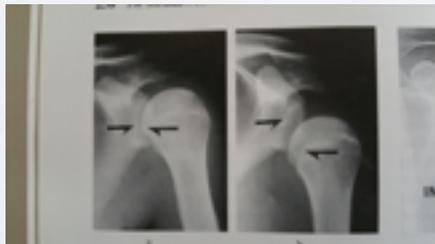
CLASSIFICATION OF INSTABILITY (GERBER)

- Chronic locked dislocation (B1)
- UDI without hyperlaxity (B2)
- UDI with hyperlaxity (B3)
- MDI without hyperlaxity (B4, rare)
- MDI with multi-directional hyperlaxity (B5)
- Voluntary instability

ATRAUMATIC INSTABILITY

- loose shoulder
- voluntary dislocation
- habitual dislocation
- sustained dislocation

PAIN



AETIOLOGY

- generalized hyperlaxity
- capsular laxity
- glenoid dysplasia
- disturbed muscle pattern
- neuromuscular disorder
- collagen disease (Ehler-Danlos/
Marfan)



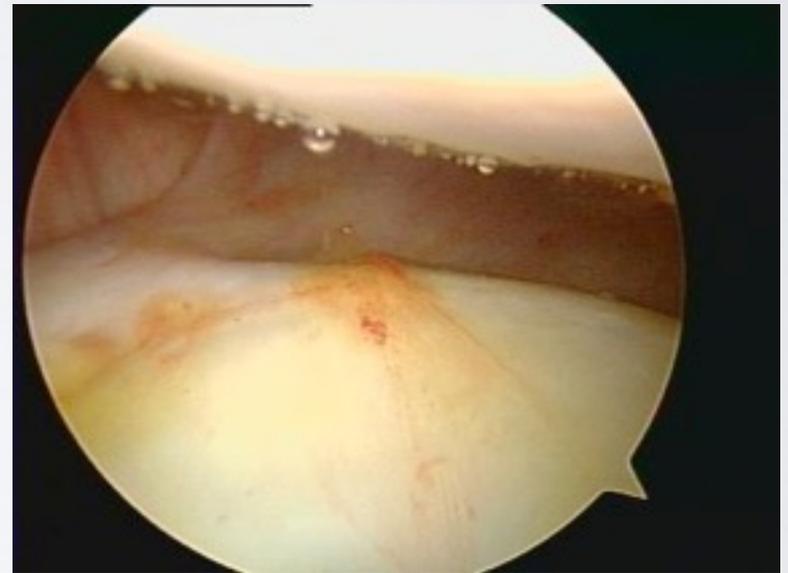
DE PATIENT

- wat is de klacht
- ontstaan
- type patient
- omstandigheden
- behandeling tot nu toe



ONDERZOEK/ AANVULLEND ONDERZOEK

- normaal screenend lichamelijk onderzoek + HAT
- standaard instabiliteitstesten
- hyperlaxiteit (Beighton score)
- aanvullend onderzoek:
 - standaard x-ray
 - echo (soms)
 - MRI (soms) (arthro?)



Joint	Finding	Points
left little (fifth) finger	passive dorsiflexion beyond 90°	1
	passive dorsiflexion <= 90°	0
right little (fifth) finger	passive dorsiflexion beyond 90°	1
	passive dorsiflexion <= 90°	0
left thumb	passive dorsiflexion to the flexor aspect of the forearm	1
	cannot passively dorsiflex thumb to flexor aspect of the forearm	0
right thumb	passive dorsiflexion to the flexor aspect of the forearm	1
	cannot passively dorsiflex thumb to flexor aspect of the forearm	0
left elbow	hyperextends beyonds 10°	1
	extends <= 10	0
right elbow	hyperextends beyonds 10°	1
	extends <= 10	0
left knee	hyperextends beyonds 10°	1
	extends <= 10	0
right knee	hyperextends beyonds 10°	1
	extends <= 10	0
forward flexion of trunk with knees full extended	palms and hands can rest flat on the floor	1
	palms and hands cannot rest flat on the floor	0

Arthroscopic Findings in Atraumatic Shoulder Instability

Andreas W. Werner, M.D., Sven Lichtenberg, M.D., Helge Schmitz, M.D.,
Ariane Nikolic, M.D., and Peter Habermeyer, M.D., Ph.D.

43 van de 226 ptn die operatie ondergingen ivm instabiliteit

27,5 yrs avg age

general laxity 16 of 43 ptns

Capsulabral lesions

Type I (fraying partial tears): 44,2%

Type II 30,2 %

Type III 25,6 %

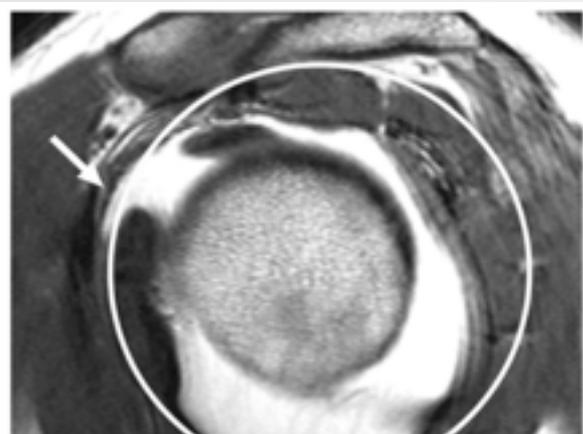
60,5 % Hill-Sachs lesions

Chondral lesions 23 %

PASTA 6,9 % (all dislocators)

MR arthrography including abduction and external rotation images in the assessment of atraumatic multidirectional instability of the shoulder

Christoph Schaeffeler · Simone Waldt · Jan S. Bauer · Chlodwig Kirchhoff · Bernhard Haller · Michael Schröder · Ernst J. Rummeny · Andreas B. Imhoff · Klaus Woertler



Eur Radiol (2014) 24:1376–1385

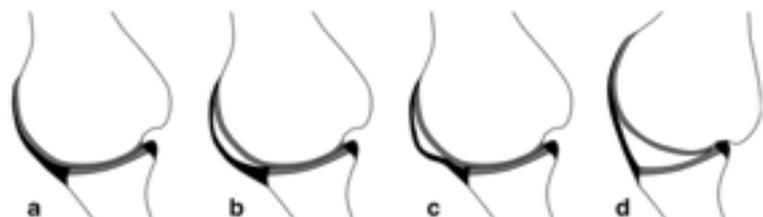
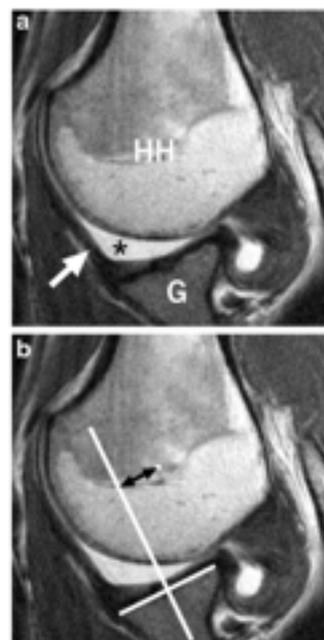
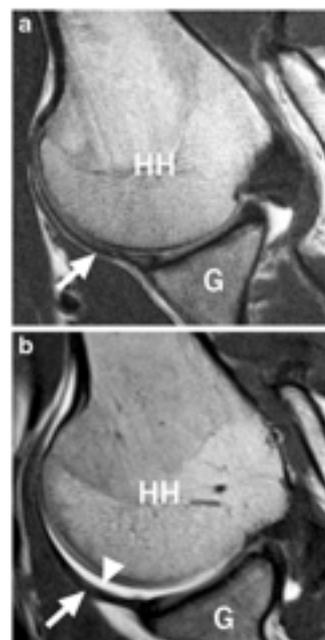


Fig. 1 Illustration of the shoulder on abduction and external rotation images. **a** Normal appearance of the anterior inferior labrum. The taut AIGHL serves as a primary soft tissue restraint for the humeral head in

abduction and external rotation. **b** Crescent sign with a patulous AIGHL, or **c** sigmoid shape of the redundant AIGHL. **d** Triangle sign: triangular shaped space between the AIGHL, the humeral head and the glenoid

1382

Eur Radiol (2014) 24:1376–



Three-dimensional relationship of the glenohumeral joint in the elevated position in shoulders with multidirectional instability

Hiroaki Inui, MD,^a Kazuomi Sugamoto, MD,^a Takashi Miyamoto, MD,^a Hideki Yoshikawa, MD,^a Akitoshi Machida, MD,^b Jun Hashimoto, MD,^b and Katsuya Nobuhara, MD,^b *Osaka and Hyogo, Japan*



Figure 1 Position investigated in an open MRI system.

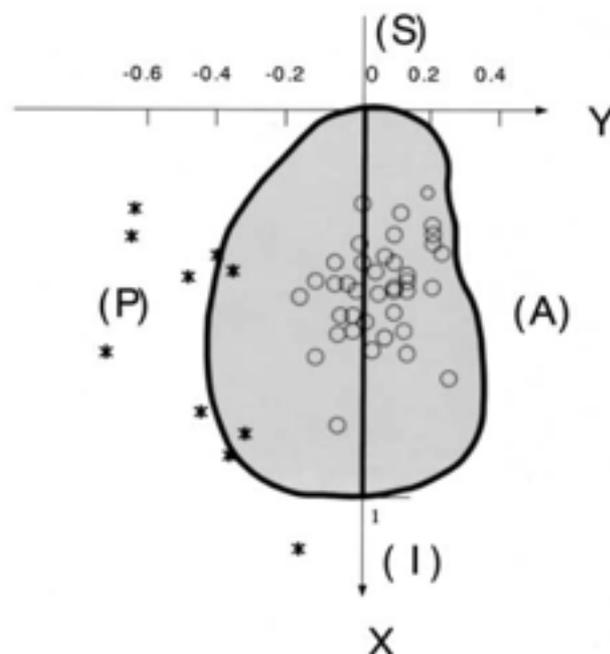
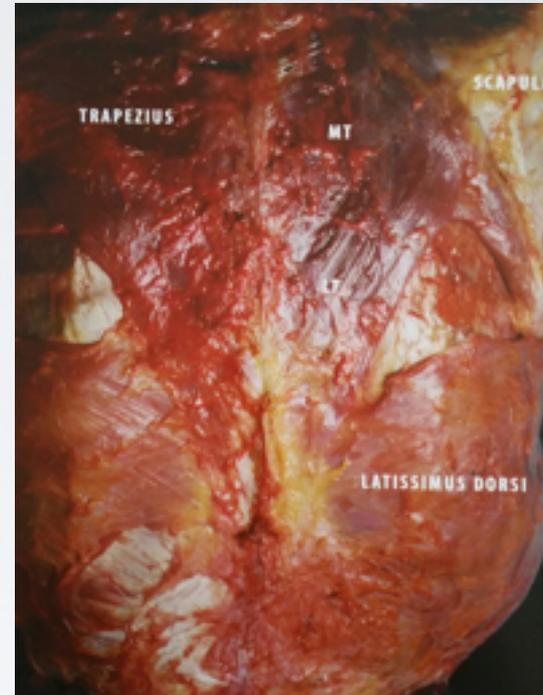
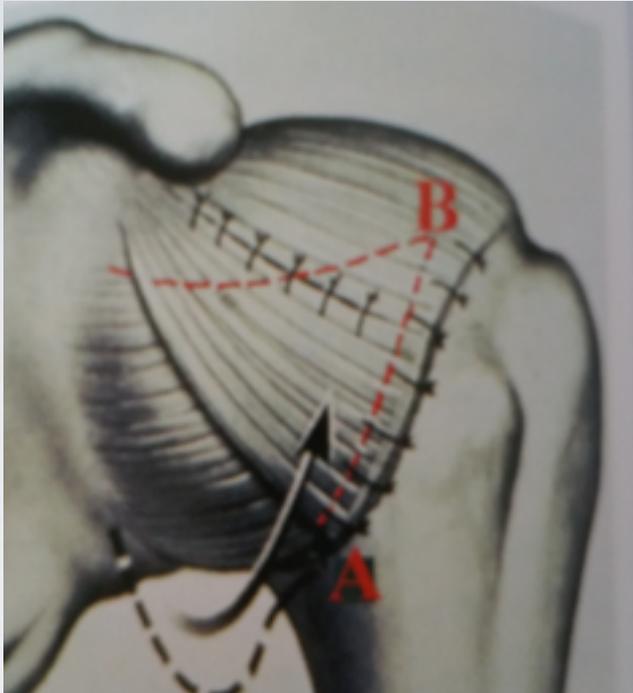


Figure 5 Head center of the groups on the glenoid (XY plane). O, Normal; *, atraumatic; S, superior; A, anterior; I, inferior; P, posterior.

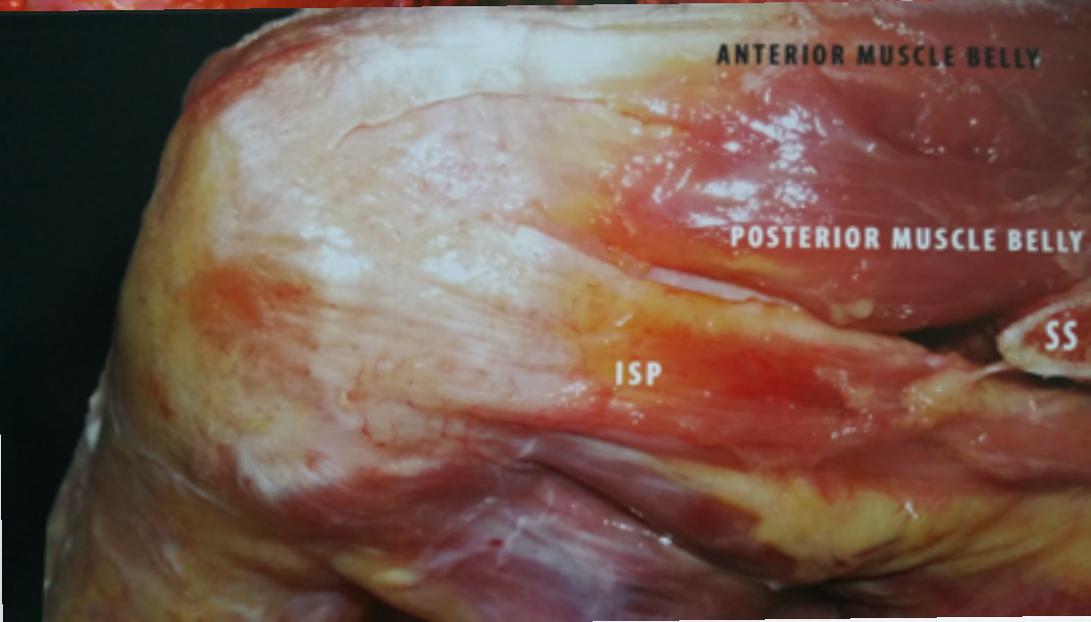
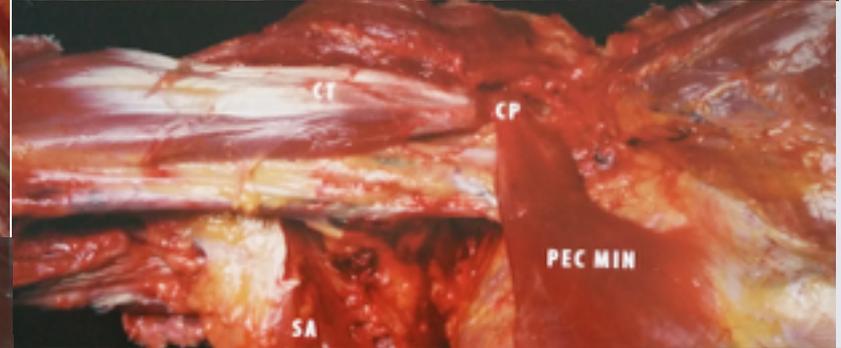
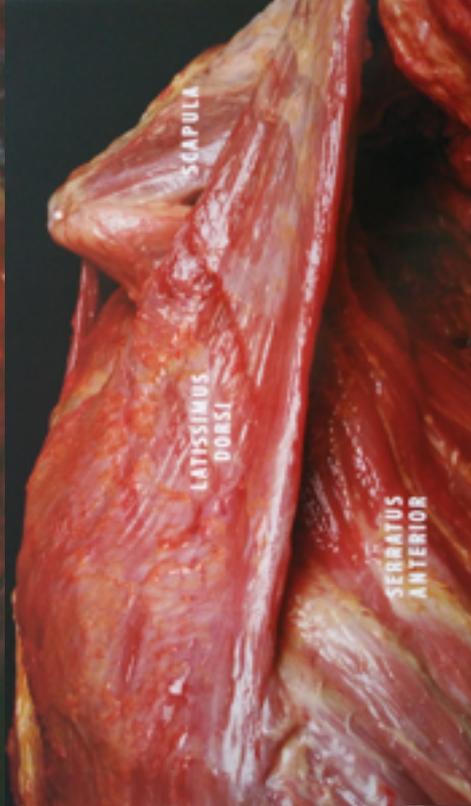


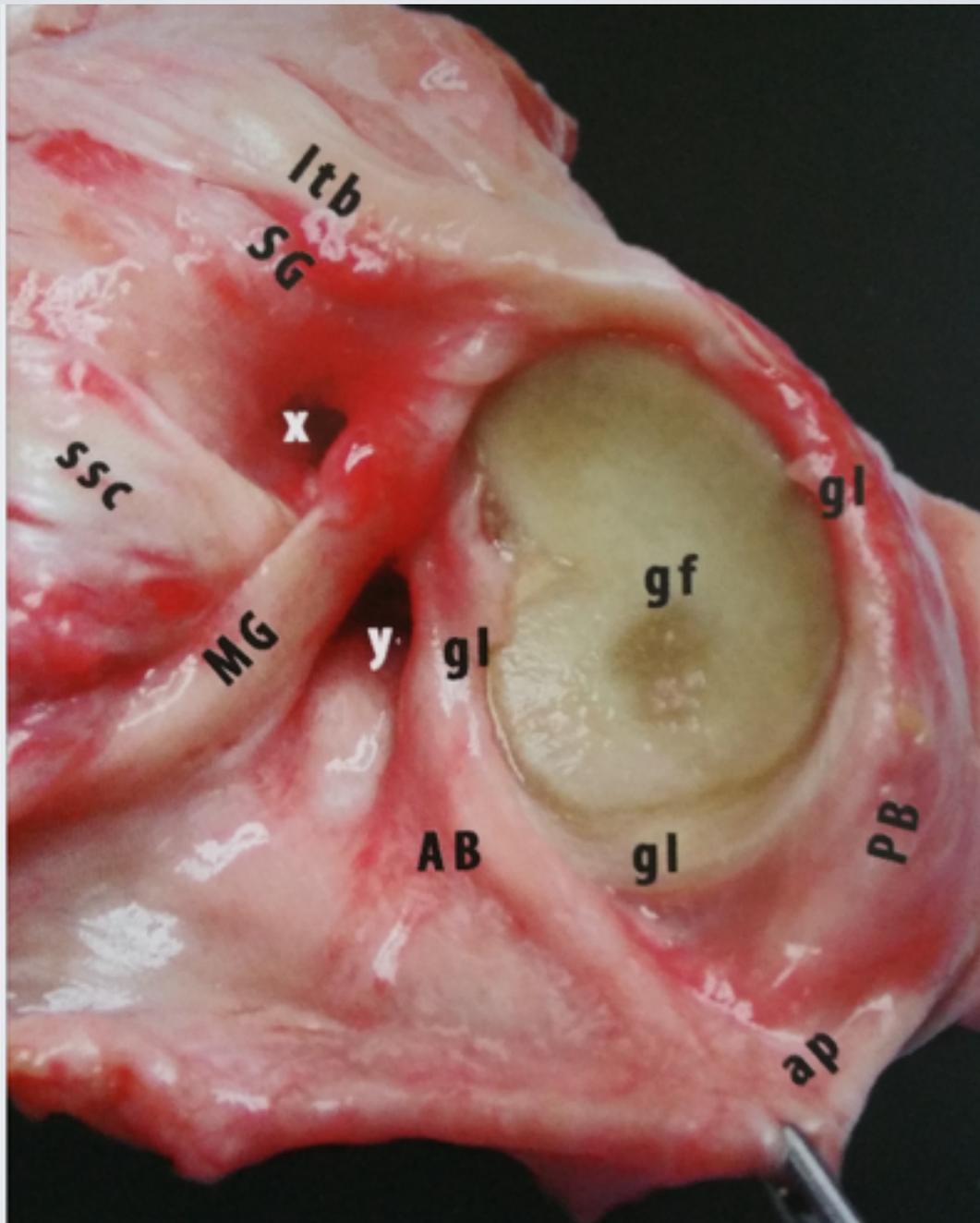
THERE IS A FRACTURE I MUST... *by ORTHOPAEDICSURGEON*





DiGiacomo et al.







TREATMENT

- physiotherapy
- what
 - emg/bewegingsanalyse
- how
- where
- who
- compliance/click
- adapt life style



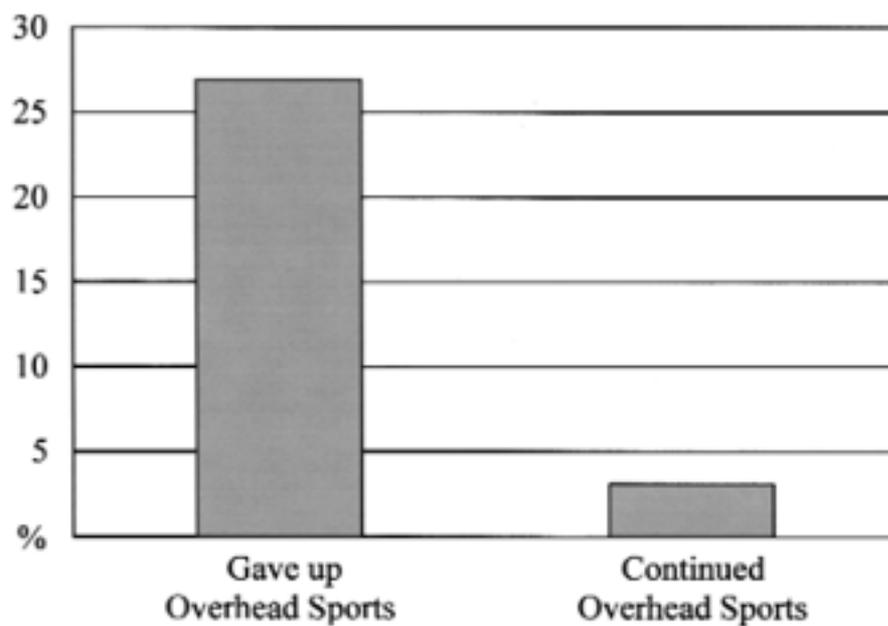


Figure 1 Incidence of spontaneous recovery in the group that discontinued overhead sports and in the group that continued overhead sports.

IF CONSERVATIVE TREATMENT FAILS.....

- **Open capsular shift**
 - **Anterior/posterior/both**
- **Arthroscopic capsular shift**
 - **Anterior/posterior/both**
- **Thermal shrinkage**
- **(Latarjet)/Boneblock**
- **arthrodesis**

PATIENT SELECTION

- “normale” patient
 - gevaarlijke beslissing, 5 minuten
- pijn vs instabiliteit
- leeftijd
- geen collageen stoornissen
- voluntary ?



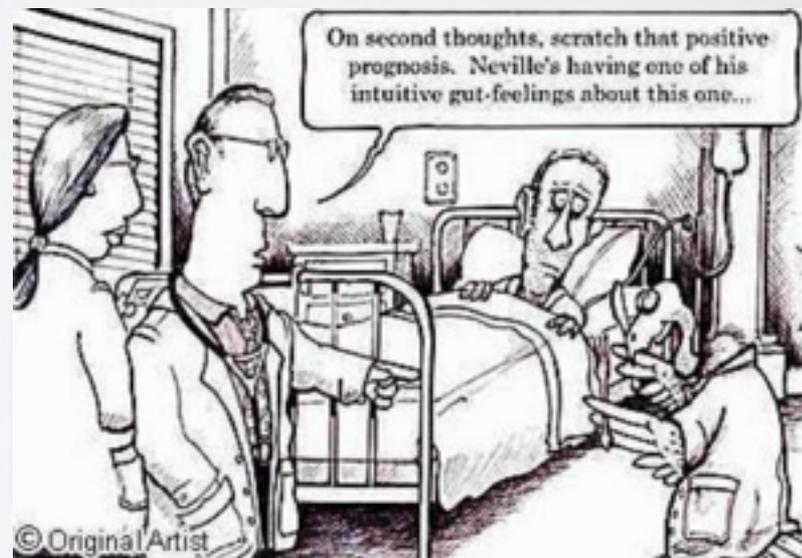
Can orthopaedic surgeons rely on their “orthopaedic gut feeling” in assessing patients for total hip and total knee arthroplasty?

W.P.R. Melman^a, P.M. van Kampen^b, H.E. Henkus^c, T. Hogervorst^c

^a Research trainee, Department of orthopaedics, The Hague

^b Research coordinator, Department of orthopaedics, The Hague

^c Orthopaedic surgeon, Department of orthopaedics, The Hague





Multidirectional Instability of the Shoulder: A Systematic Review



Umile Giuseppe Longo, M.D., M.Sc., Ph.D., Giacomo Rizzello, M.D., Mattia Loppini, M.D.,
Joel Locher, M.D., Stefan Buchmann, M.D., Nicola Maffulli, M.D., M.S., Ph.D., and
Vincenzo Denaro, M.D.

- 861 shoulders in 790 patients
- median age 24.3

Return to Sport

Fourteen studies^{14-16,18-20,22-24,26-28,30,31} included amateur or professional athletes, or both, in the study population. In these studies, 319 of 528 (60%) patients were athletes. In this population, 194 (60%) returned to choice of sport at the same level and 108 (34%) to a lower level, whereas 7 (2%) did not return to any sport.

undergoing surgical procedures^{1,2-24,26-32,34} (Table 4). The redislocation event occurred in 17 of 226 (7.5%) shoulders with open capsular shift management,^{18,24-27,31,33} in 21 of 268 (7.8%) shoulders with arthroscopic plication management,^{3,12-14,16,19,22,23,28,30,32,34} in 12 of 49 (24.5%) shoulders undergoing arthroscopic thermal shrinkage,^{13,34} and in 11 of 55 (22%) shoulders undergoing arthroscopic laser-assisted capsulorrhaphy.^{16,30}

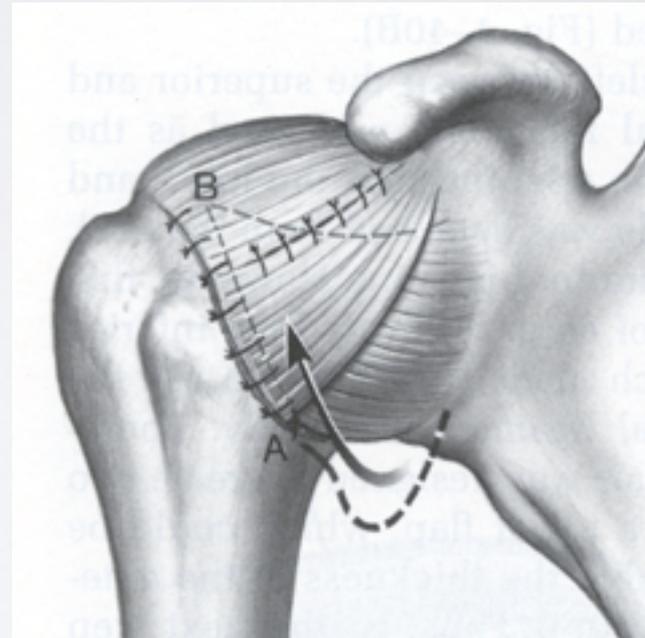
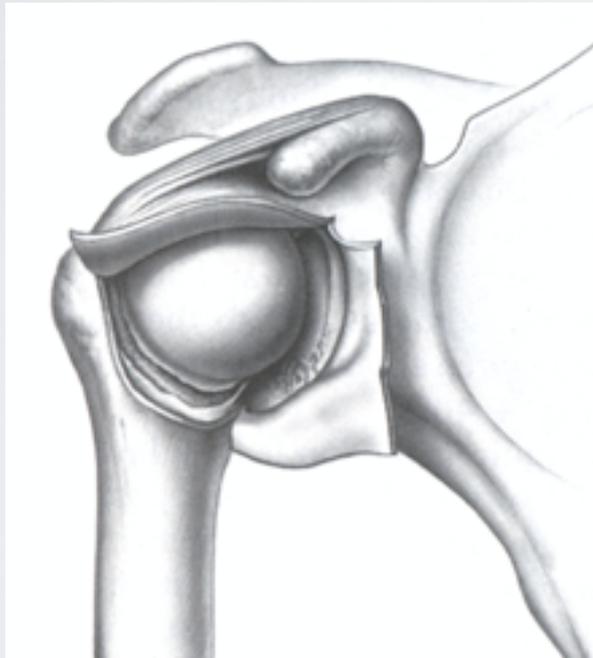
TABLE 1. *Summary of Results for Open and Arthroscopic Techniques for Treatment of MDI*

Author	Technique	Recurrence Rate	Range of Motion
Neer and Foster ¹	Open humeral T incision	2.5%	Not recorded
Cooper and Brems ¹⁰	Open humeral T incision	9%	Loss of ER of 8°
Pollock et al. ¹¹	Open humeral T incision	4%	FROM in 96%
Alchek et al. ¹²	Open glenoid T incision	10%	Loss of ER of 5°
Bak et al. ¹³	Open glenoid T incision via subscapularis split	8%	Full ER in 92%
Field et al. ¹⁴	Open rotator interval imbrication	0%	Loss of ER of 14°
McIntyre et al. ¹⁵	Arthroscopic transglenoid	5%	FROM in 100%
Treacy et al. ¹⁶	Arthroscopic transglenoid	12%	FROM in 96%
Gartsman et al. ¹⁷	Arthroscopic capsular plication with anchors and adjunctive thermal capsulorrhaphy/rotator interval closure	7%	Mean ER of 90°
Gartsman et al. ¹⁸	Arthroscopic capsular plication with anchors and adjunctive rotator interval closure	2%	No loss of ER
Kim et al. ³³	Posteroinferior labroplasty with capsular plication and rotator interval closure	3%	Loss of ER of 2°

Abbreviations: ER, external rotation; FROM, full range of motion.

Caprice, Sekiya Arthroscopy 2006

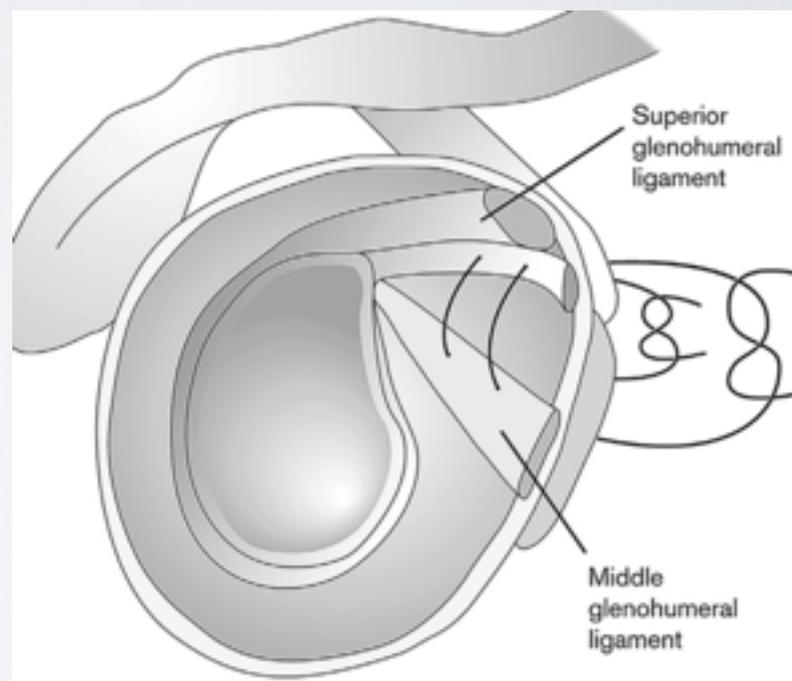
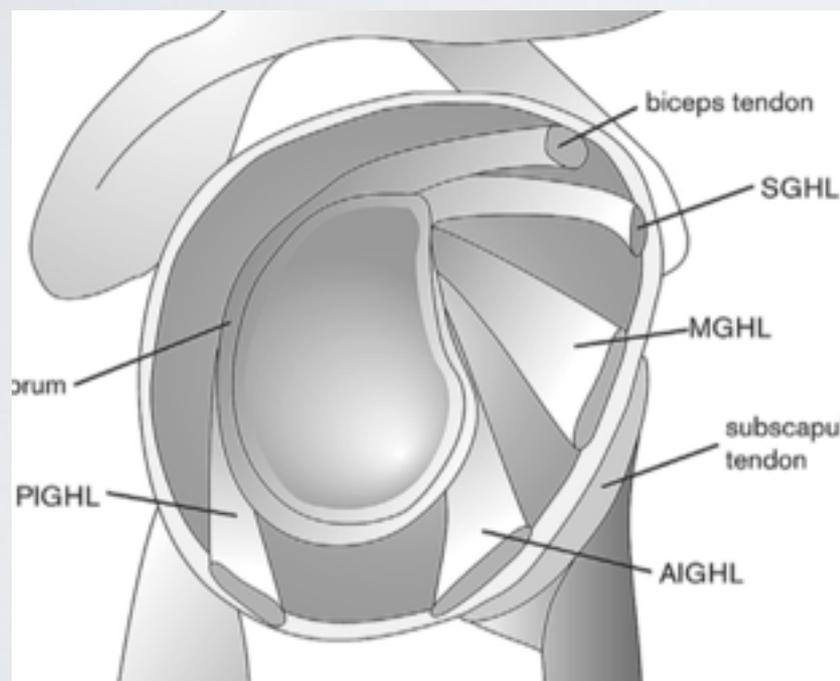
NEER CAPSULAR SHIFT



Lateral capsular incision + T-plasty

Isolated Arthroscopic Rotator Interval Closure for Shoulder Instability

Aaron J. Krych, M.D., Michael K. Shindle, M.D., Sean Baran, M.D., and Russell F. Warren, M.D.



ROTATOR INTERVAL CLOSURE

- Not for posterior laxity
- Does improve anterior laxity

2007 Aircast Award for Basic Science

The Addition of Rotator Interval Closure After Arthroscopic Repair of Either Anterior or Posterior Shoulder Instability

Effect on Glenohumeral Translation and Range of Motion

Timothy S. Mologne,[†] MD, Kristin Zhao,[‡] MA, Michio Hongo,[‡] MD, PhD, Anthony A. Romeo,[§] MD, Kai-Nan An,[‡] PhD, and Matthew T. Provencher,[¶] MD, LCDR, MC, USNR

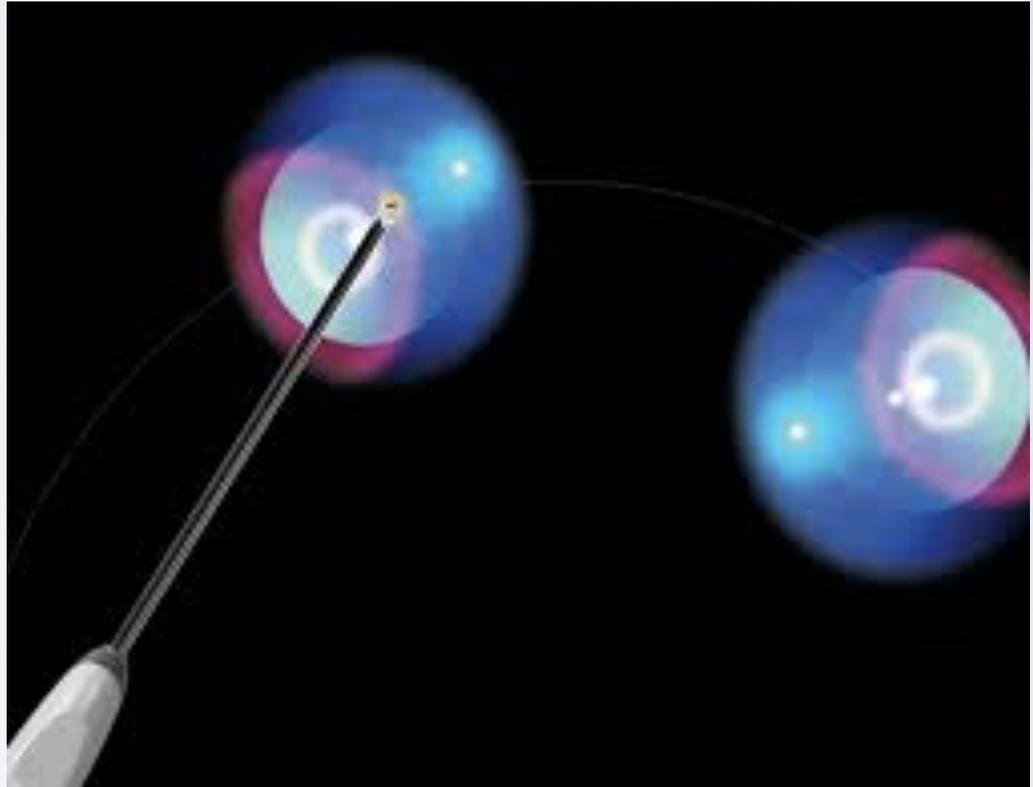
ROTATOR INTERVAL CLOSURE

- Adjacent procedure capsular shift / Bankart repair
- Patient with hyperlaxity without instability but with pain
- Only lateral part of interval
- Literature supports results (Nyiri 2010, Moon 2011)



THERMAL CAPSULORRHAPHY

- stiffness
- nerve injury
- cartilage damage
- capsular necrosis
- high failure rate
- 1996-?



Thermal Shrinkage for Shoulder Instability

Alison P. Toth, MD • Russell F. Warren, MD • Frank A. Petrigliano, MD • David A. Doward, MD • Frank A. Cordasco, MD, MS • David W. Altchek, MD • Stephen J. O'Brien, MD, MBA

- 101 pts (21 lost FU)

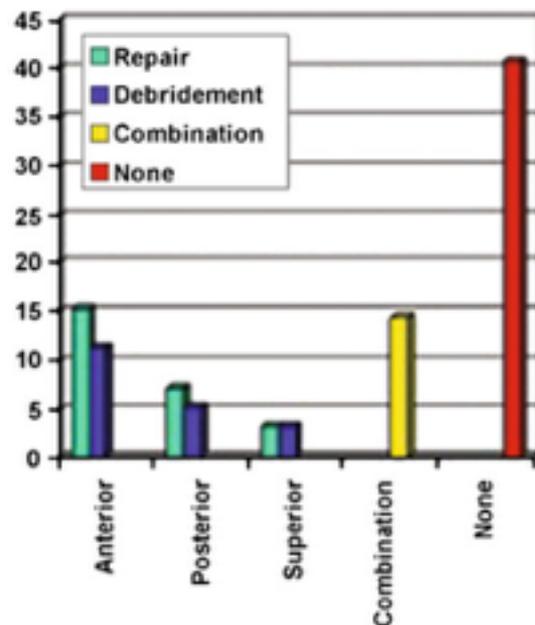
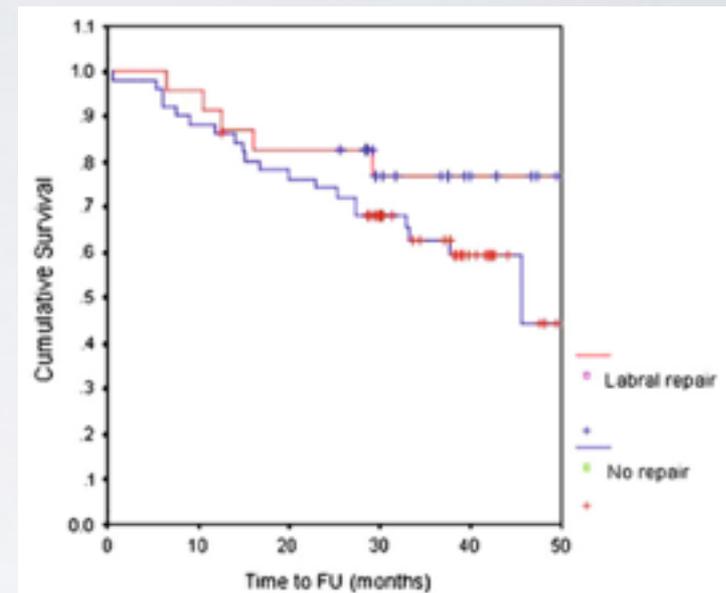
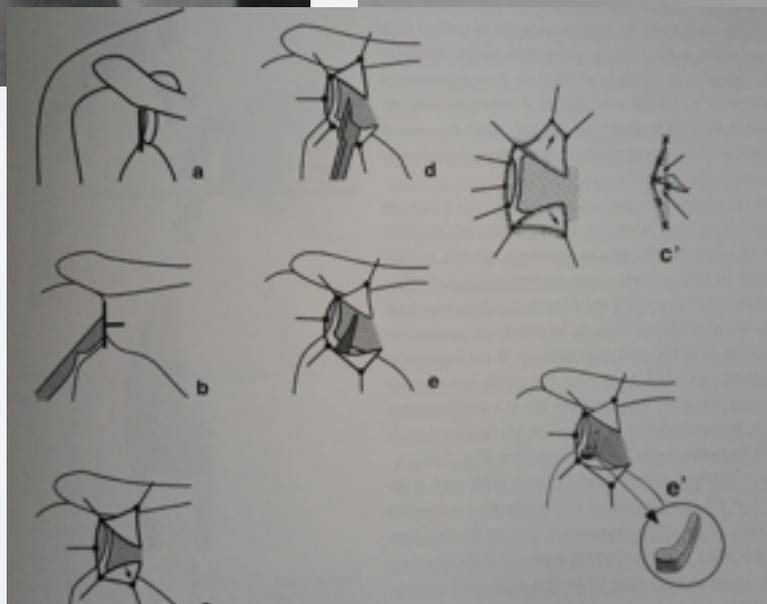
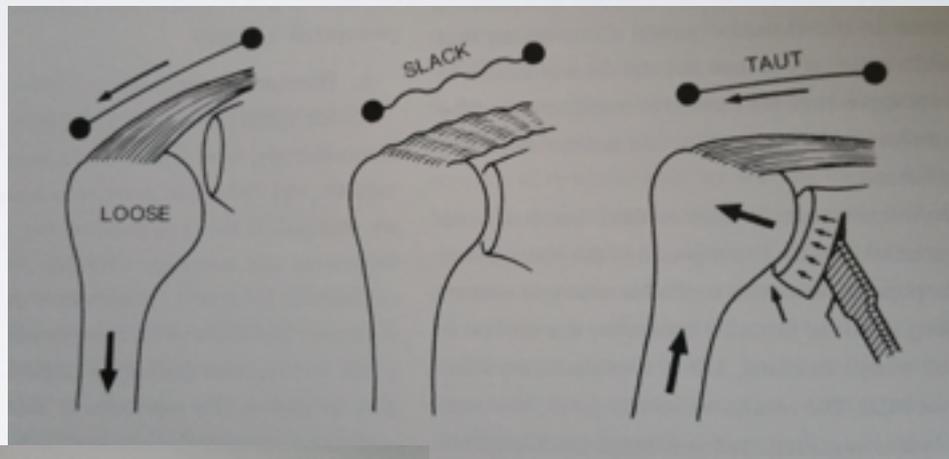
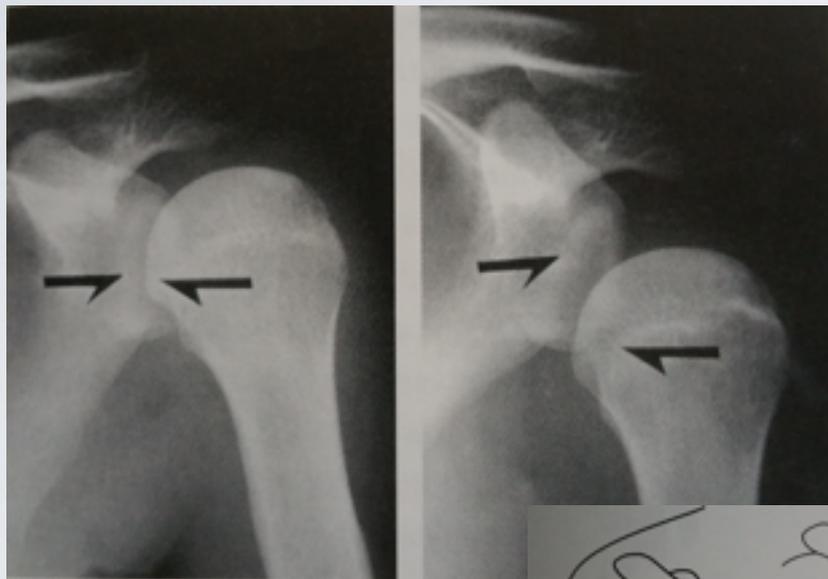


Fig. 1. Labral procedures performed at the time of thermal capsular shrinkage. Numbers expressed as a percent on Yaxis



In summary, thermal capsular shrinkage as an isolated treatment for instability had an unacceptably high incidence of failure at 31% in our series. When used as an adjunct to labral repair, the failure rate fell to 22%, suggesting that the labral repair was the more important variable. Essentially,

GLENOID OSTEOTOMY



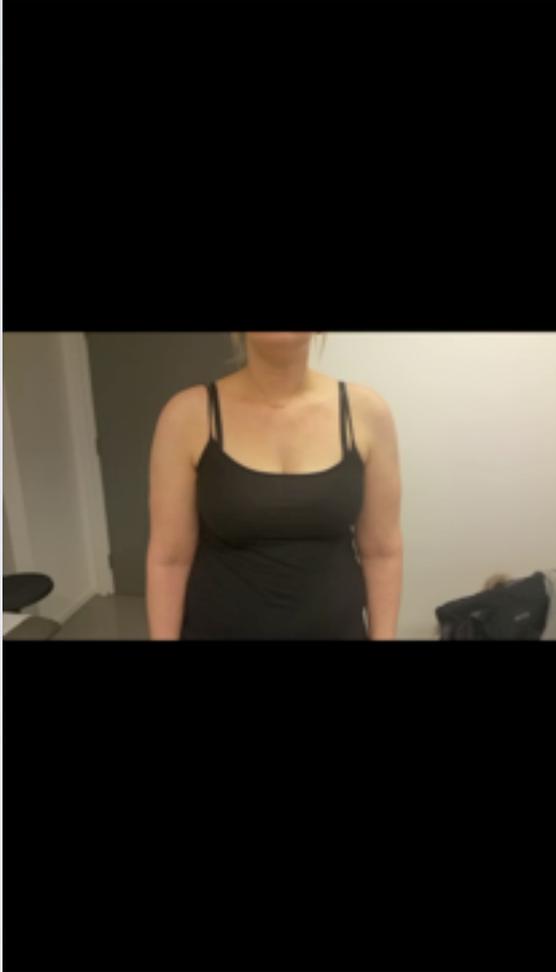
ARTHROSCOPIC CAPSULAR SHIFT:

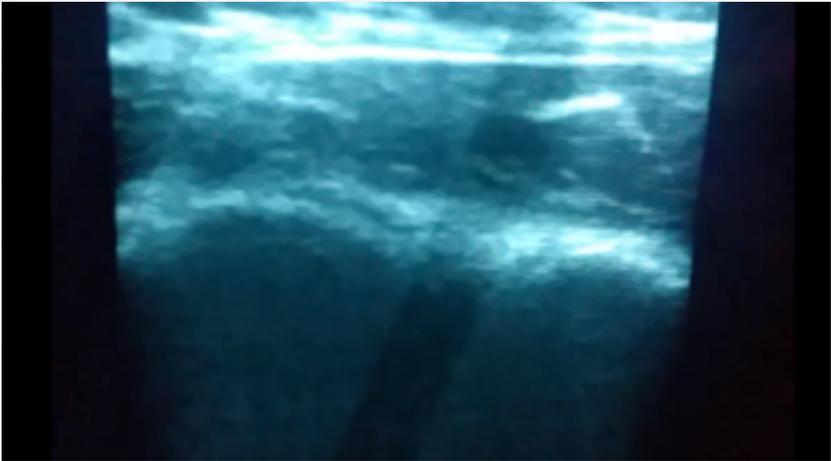
- Address pathology at glenoid side
- Separate labrum (around 6 o'clock)
- Mobilize labrum and ligaments
- Shift tissue superior and laterally (Close Hammock)
- Roll into pseudo labrum –
 using bone anchors(Labroplasty)
- (Interval plication)

ARTHROSCOPIC CAPSULAR CLIFT

- clinical
- placebo







POSITIONING OF PATIENT

- Preference of surgeon !!

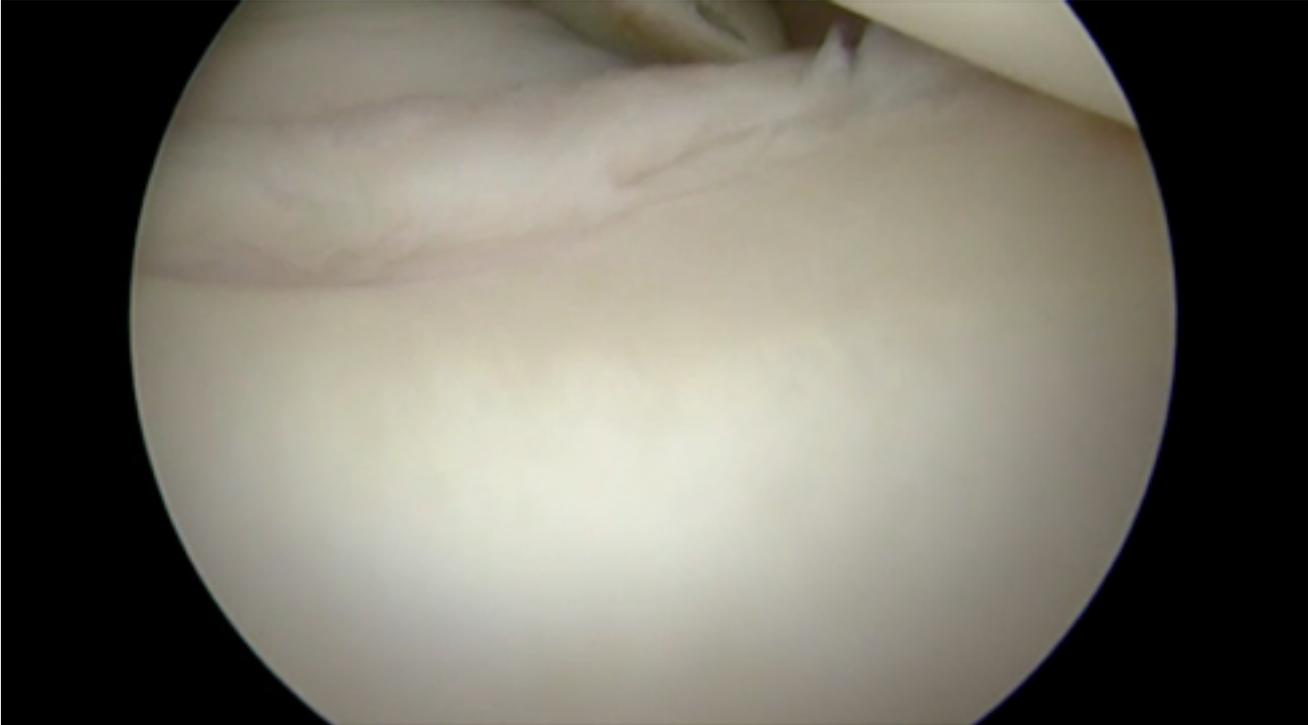


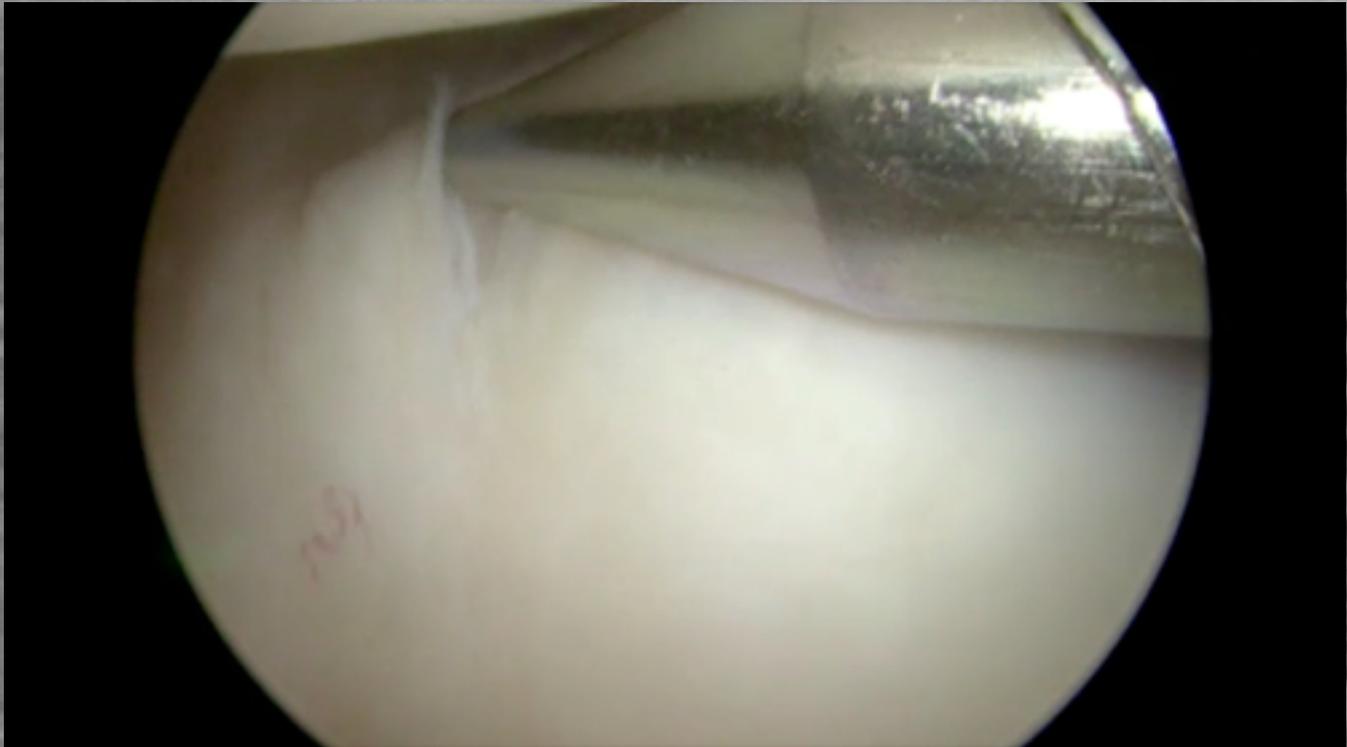
LATERAL DECUBITUS

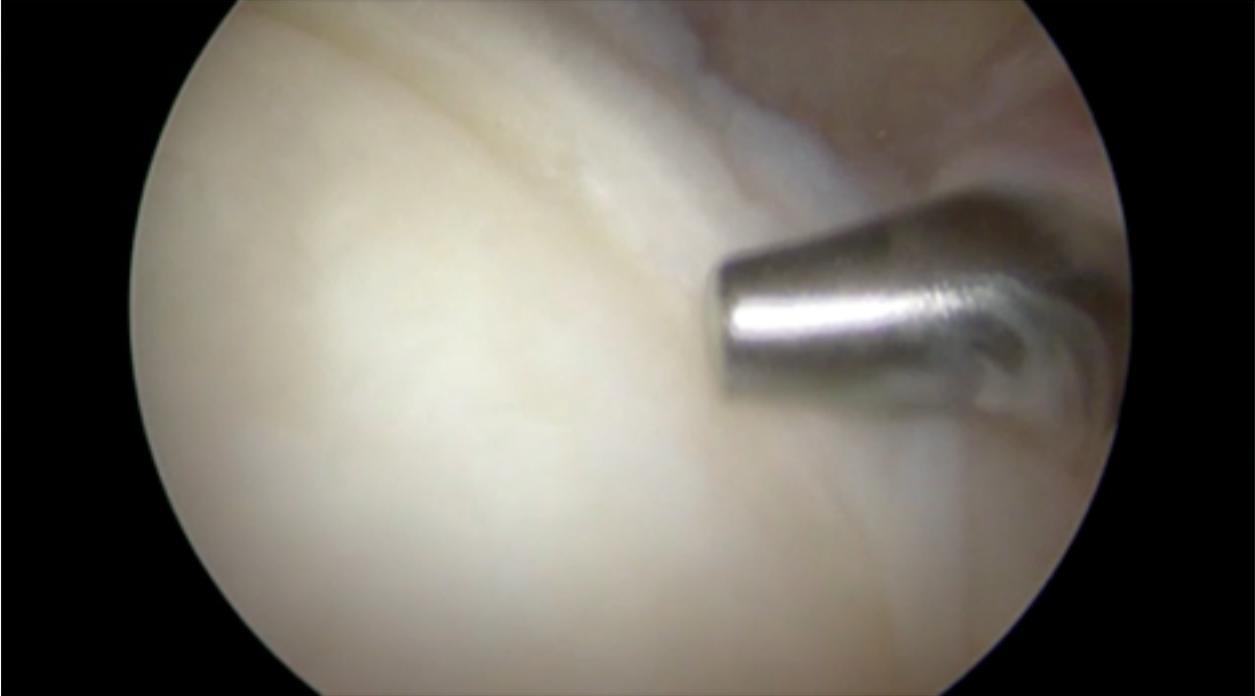
- interscalene block (USG)
 - >90 % choose again
- Bean Bag
- Spider / traction device
- Gelpad in beanbag to protect: elbow/
peroneus/ankle
- Pillow between knees
- Warm Blankets







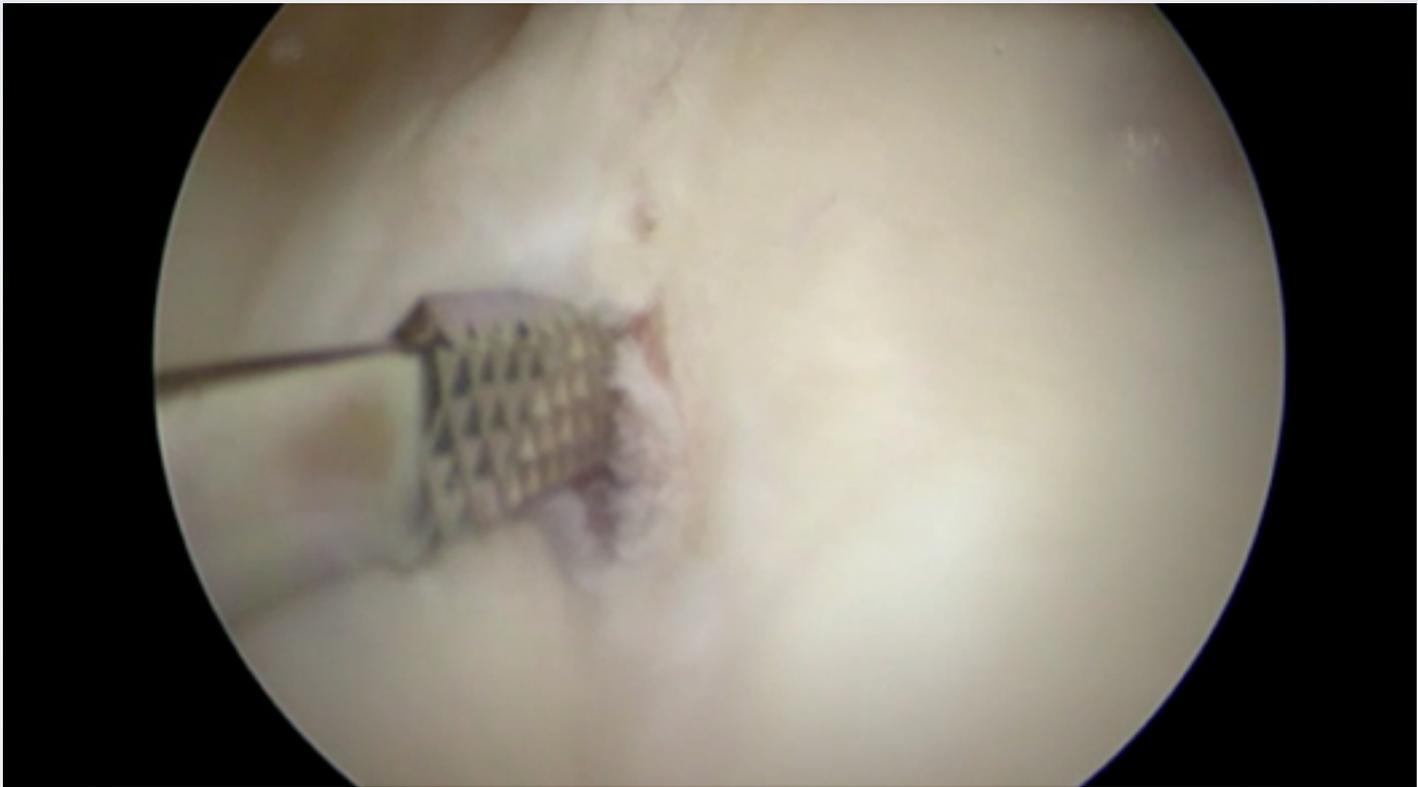




NO BARE AREA



ANT-INF CAPSULAR SHIFT



POSTERIOR CAPSULAR SHIFT



NABEHANDELING

- 6 weken sling
- periode van stijfheid/capsulitis
- fysio hoeft niet- mag wel



THANK YOU

