

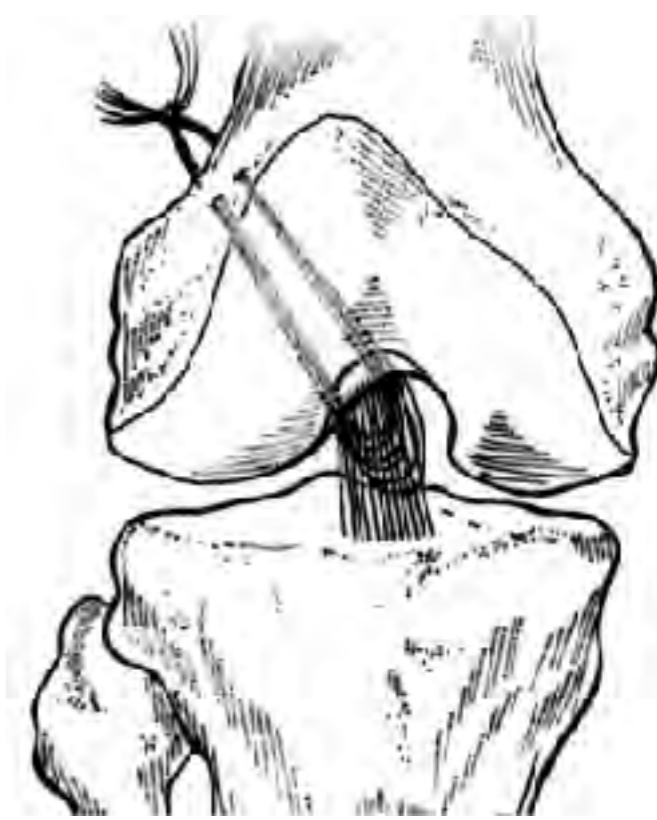
Frossen skulder

Professor Eirik Johan Solheim
Aleris Nesttun, Haraldsplass og UiB

eirik.solheim@uib.no
mobil 922 20 318
dagkirurgi.no



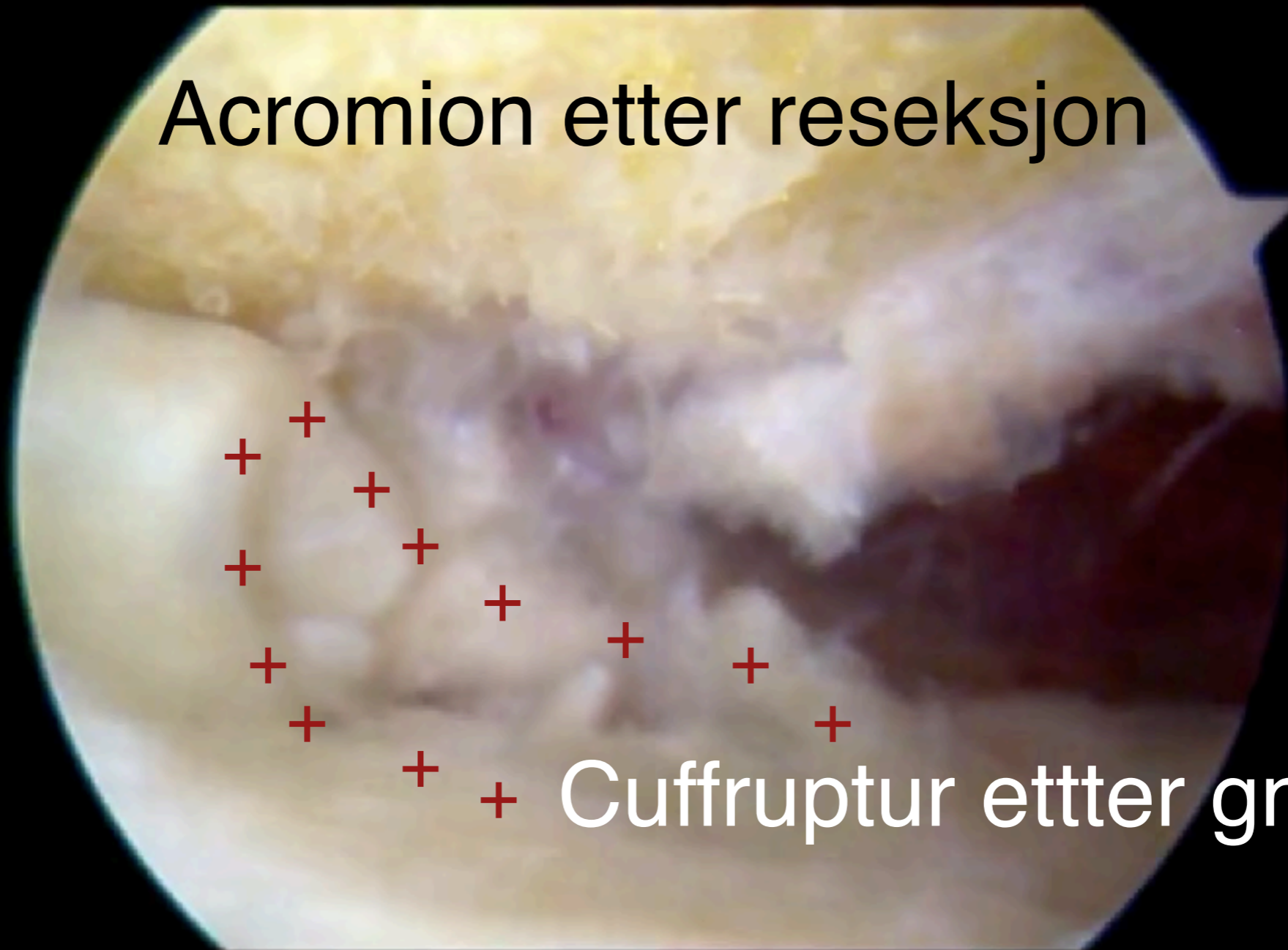




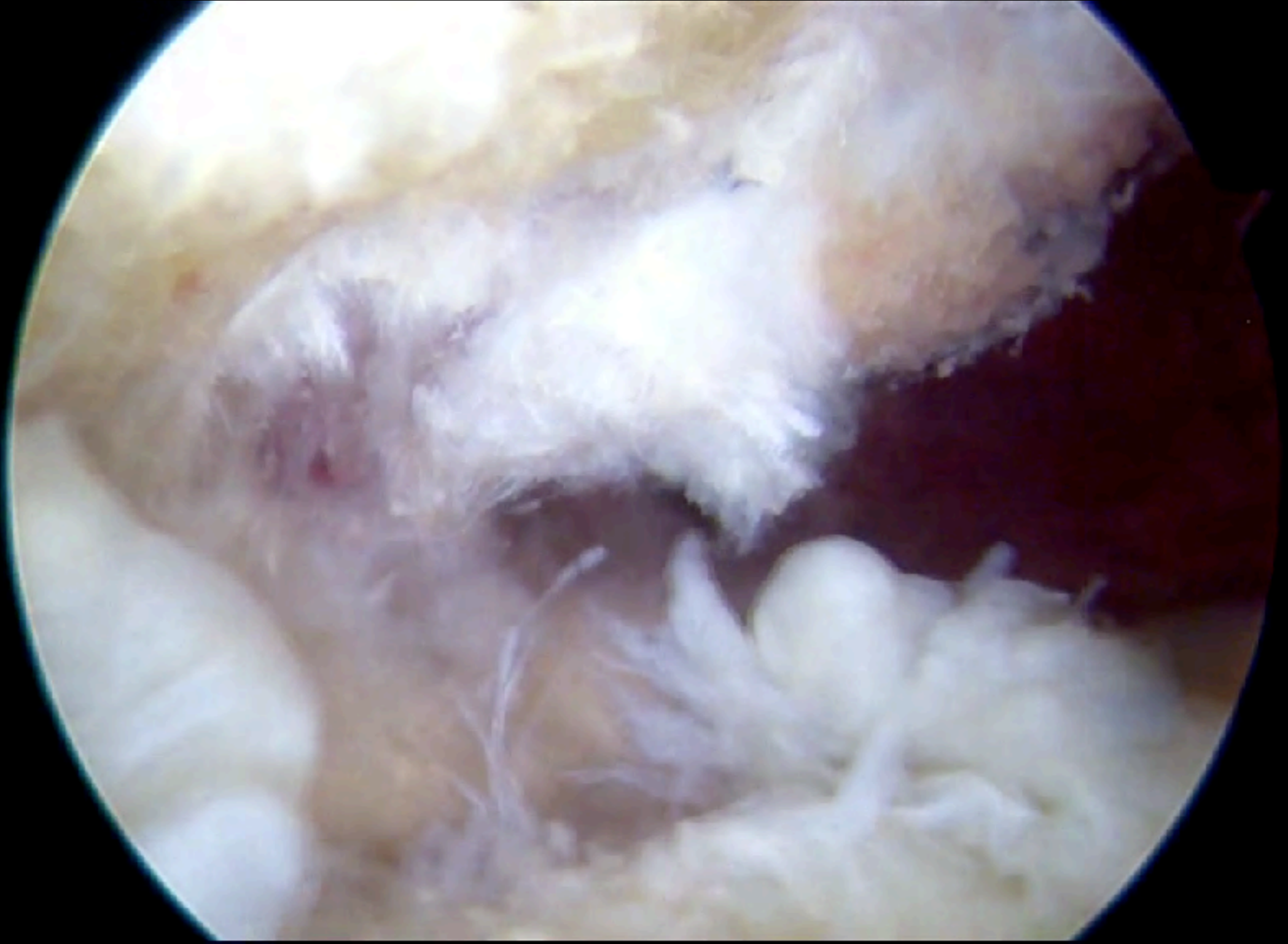
30+ år etter
Palmer sutur

Mølster & Strand

Acromion etter reseksjon



Cuffruptur etter gnag



Ultralyd diagnostikk



TERES BERGEN

01.09.2015 PHILIPS
14:01:21

HD



< <
Skulder - E
L12-3
< MI 1,3
TIS 0,3

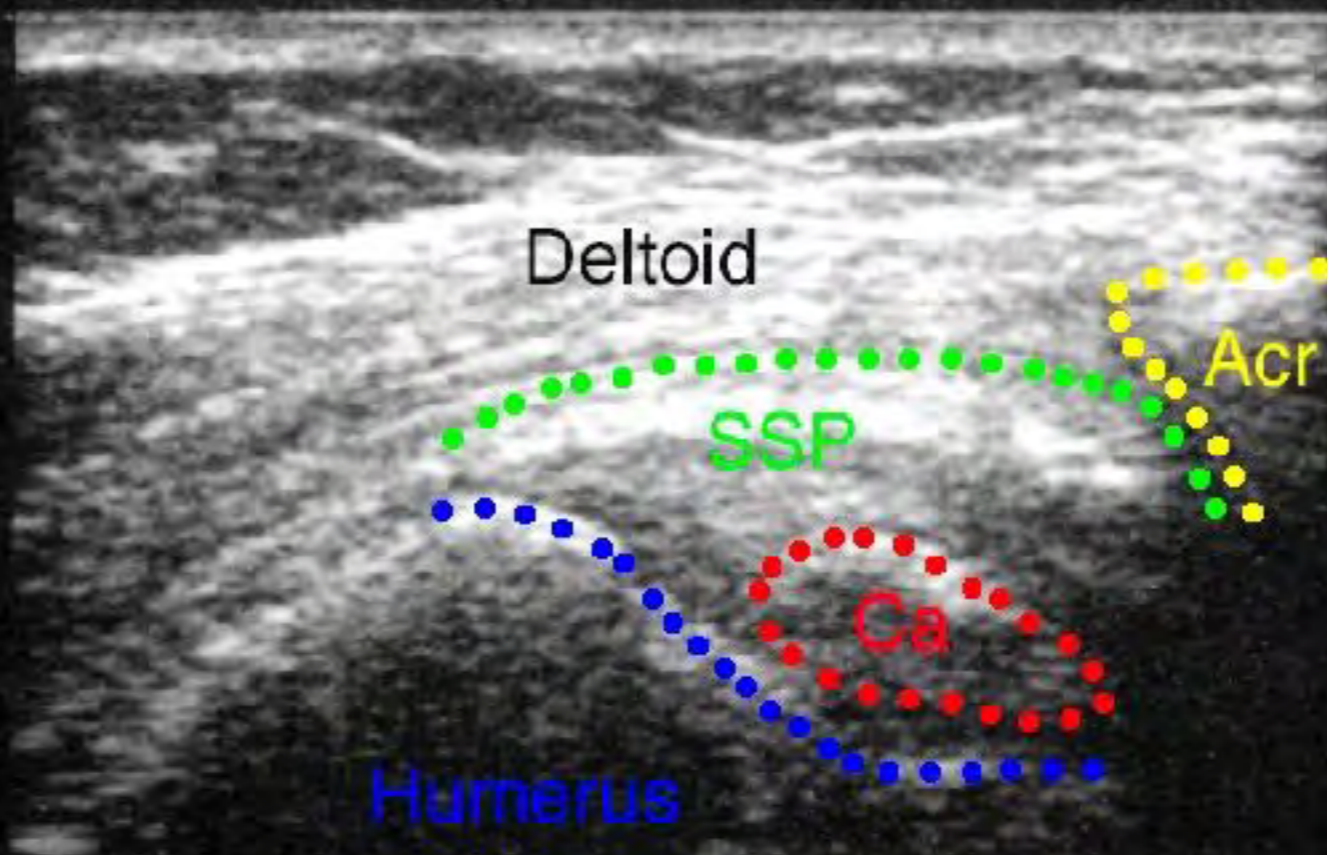
- F5 Gn 50
232dB/C3
E/2/2

29Hz 4cm

T
P R
3,0 12,0

off
Size

HD



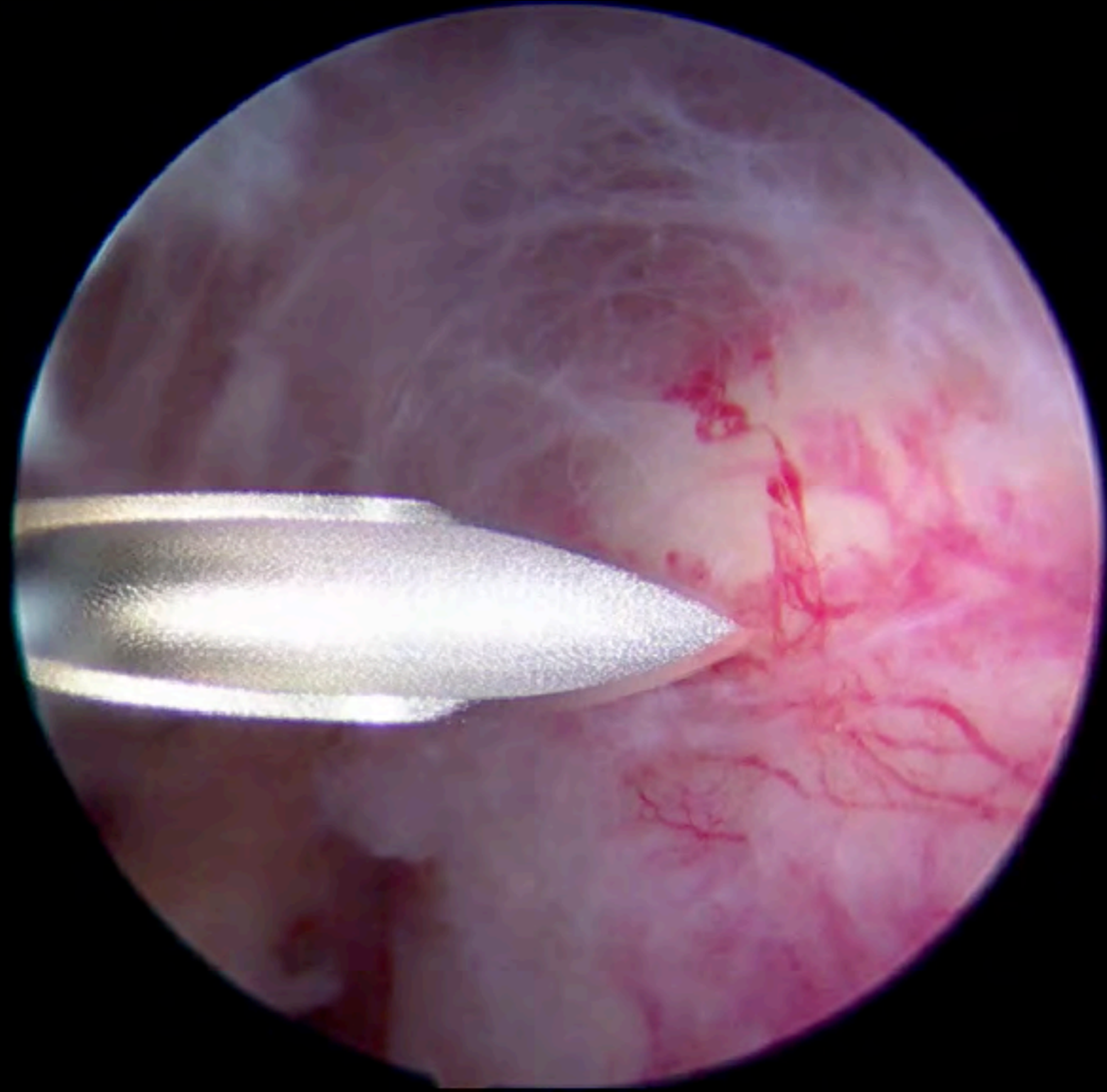
Skulder - E
 L12-3
 MI 1,3
 TIS 0,3

F5 Gn 50
 232dB/C3
 E/2/2

29Hz 4cm

T
 P R
 3,0 12,0

Off
 Size



Vanligste inngrep

- Subacromial dekompresjon
- Claviculareseksjon
- Cuffsutur (supra- og infraspinatus)
- Kapsulotomi ved frossen skulder
- Fjerne kalk (fra supraspinatus)
- SLAP reparasjon
- Bankart plastikk
- Biceps tenotomi/tenodese
- Subscapularis sutur

Indikasjon kirurgi

- Betydelige plager
- Kronisk - eller fare for forverring
 - Orker ikke vente (FS)
- Rehab. ikke ført frem
- Positiv MR (evt. UL)
 - FS klinisk diagnose
- Motivert og ellers frisk

SHOULDER

Implementation of conservative treatment prior to arthroscopic subacromial decompression of the shoulder

Ingrid Husdal Dørum¹ · Stig Heir² · Eirik Solheim^{3,4} · Liv Heide Magnussen^{1,5}

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Outcome measures and treatment of shoulder capsulitis (frozen shoulder) by corticosteroid injections

Satya P. Sharma

Thesis for the Degree of Philosophiae Doctor (PhD)
University of Bergen, Norway
2017



List of publications

- I Sharma SP, Baerheim A, Kvale A. Passive range of motion in patients with adhesive shoulder capsulitis, an intertester reliability study over eight weeks. BMC Musculoskelet Disord. 2015;16:37.
- II Sharma SP, Baerheim A, Moe-Nilssen R, Kvale A. Adhesive capsulitis of the shoulder, treatment with corticosteroid, corticosteroid with distension or treatment-as-usual; a randomised controlled trial in primary care. BMC Musculoskelet Disord. 2016;17(1):232.
- III Sharma SP, Moe-Nilssen R, Kvåle A, Baerheim A. Predicting outcome in frozen shoulder (shoulder capsulitis) in presence of comorbidity as measured with subjective health complaints and neuroticism. BMC Musculoskelet Disord. 2017;18(380):7.

Conclusion

Study I: Intertester reliability between the two testers over a time-period of 8 weeks measuring PROM in patients with adhesive shoulder capsulitis with a plurimeter was very good. This method can reliably determine passive range of motion in this patient population and be a reliable outcome measure.

Study II: This randomised controlled trial indicated that four serial injections with corticosteroid with or without distension during 8 weeks were better than treatment-as-usual in treatment of patients with adhesive shoulder capsulitis. However, no difference was found between any of the groups at 12 months, indicating that natural healing takes place independent of treatment.

Study III: Comorbidity as measured by the Pseudoneurology subscale in the SHC questionnaire did predict the treatment outcome in frozen shoulder as measured by SPADI at 8 weeks, whereas when measured by change in SPADI from baseline to 8 weeks, it did not. Comorbidity may affect symptoms but do not predict the rate of recovery.

Epidemiologi FS

- 2% av befolkningen
- Sjelden før 40 år
- Vanligst 40-60 år (“50-års-skulder”)
- Hyppigst hos kvinner

Etiologi

- Idiopatisk
 - Immunologiske og endokrine faktorer
- Posttraumatisk
- Postoperativ
- Artrose

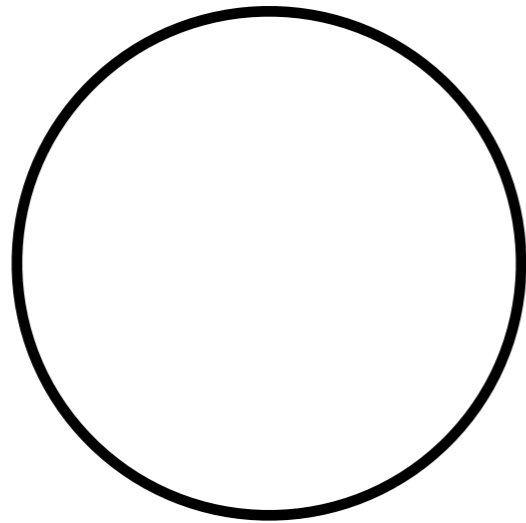
Patologi

- Inflammasjon (smerter)
- Fibrose (stivhet)
- Kontraktur kapsel og ligamenter

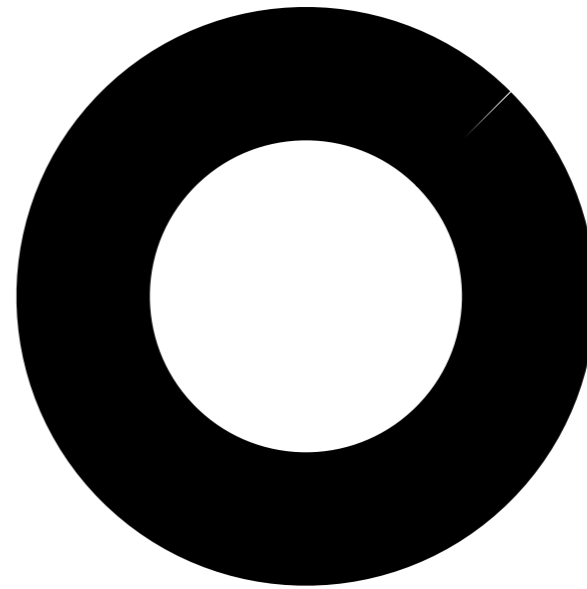
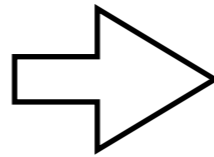
Patologi

- Global
- Lokalisert
 - Ant.sup. (utadrotasjon)
 - Ant.inf. (abduksjon)
 - Bakre (innadrotasjon)

kirurgi
traumer
artrose
ideopatisk/
uflaks



tynn og elastisk
kapsel

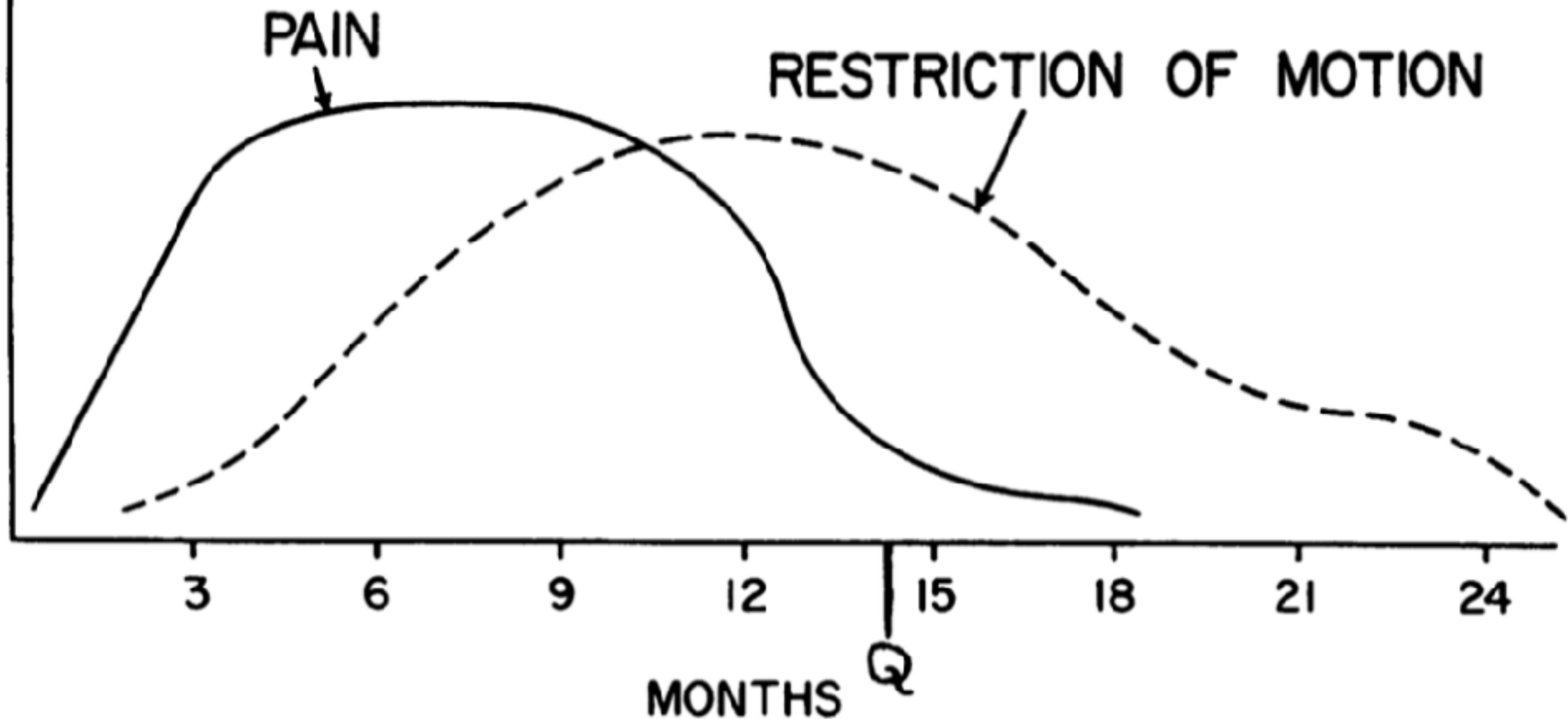


tykk bacon svor
kapsel

Naturlig forløp ?

Codman 1934

INTENSITY OR DEGREE



SHOULDER PAIN

With Particular Reference to the " Frozen " Shoulder

F. A. SIMMONDS, LONDON, ENGLAND

*From St Thomas's Hospital and The Rowley Bristow Orthopaedic Hospital, Pyrford **

It is believed from investigation of patients with " frozen shoulder " that the syndrome can be correlated with certain other types of shoulder pain. It is characterised by a well-known cycle of events: 1) there is increasingly severe pain in the shoulder, spreading down the arm, sometimes developing after injury, in a patient aged fifty to sixty years; 2) the pain persists and gleno-humeral movement decreases until only about twenty degrees remain; 3) the pain becomes less severe but stiffness persists; 4) the pain subsides and movement is slowly regained. The cycle may take from six months to two years. It is usually believed that the prognosis is excellent and that there is nearly always complete recovery (Codman 1934, Wilson 1943, Ferguson 1938, Lippmann 1944, Moseley 1945); but this has not been our experience. In a small series of twenty-one patients who suffered from " frozen " shoulder more than three years ago only six regained normal function; nine have both weakness of the joint and persistent pain; and six complain either of weakness or loss of movement.

It is often stated that the movements that are lost are external rotation and abduction; but the fact is that there is approximately equal limitation of movement in all directions from the position in which the limb is rested. If the limb is supported by the side of the trunk in a sling, abduction is limited; but if it is splinted in abduction the shoulder " freezes " in that position.

“It is usually believed that the prognosis is excellent and that there is nearly always complete recovery (Codman 1934); but this has not been our experience. In a small series of twenty-one patients, only six regained normal function.”



Systematic review

Natural history of frozen shoulder: fact or fiction? A systematic review

C.K. Wong^{a,*}, W.N. Levine^b, K. Deo^c, R.S. Kesting^c, E.A. Mercer^c,
G.A. Schram^c, B.L. Strang^c

^a *Department of Rehabilitation & Regenerative Medicine, Columbia University Medical Center, New York, NY, USA*

^b *New York Presbyterian-Columbia University Medical Center, New York, NY, USA*

^c *Columbia University Program in Physical Therapy, New York, NY, USA*



Of 508 citations, 13 articles were reviewed and seven were included in this review. Low-quality evidence suggested that no treatment yielded some, but not complete, improvement in range of motion after 1 to 4 years of follow-up.

No evidence supported the theory of progression through recovery phases to full resolution without treatment. On the contrary, moderate-quality evidence from three randomised controlled trials with longitudinal data demonstrated that **most improvement occurred early, not late.**

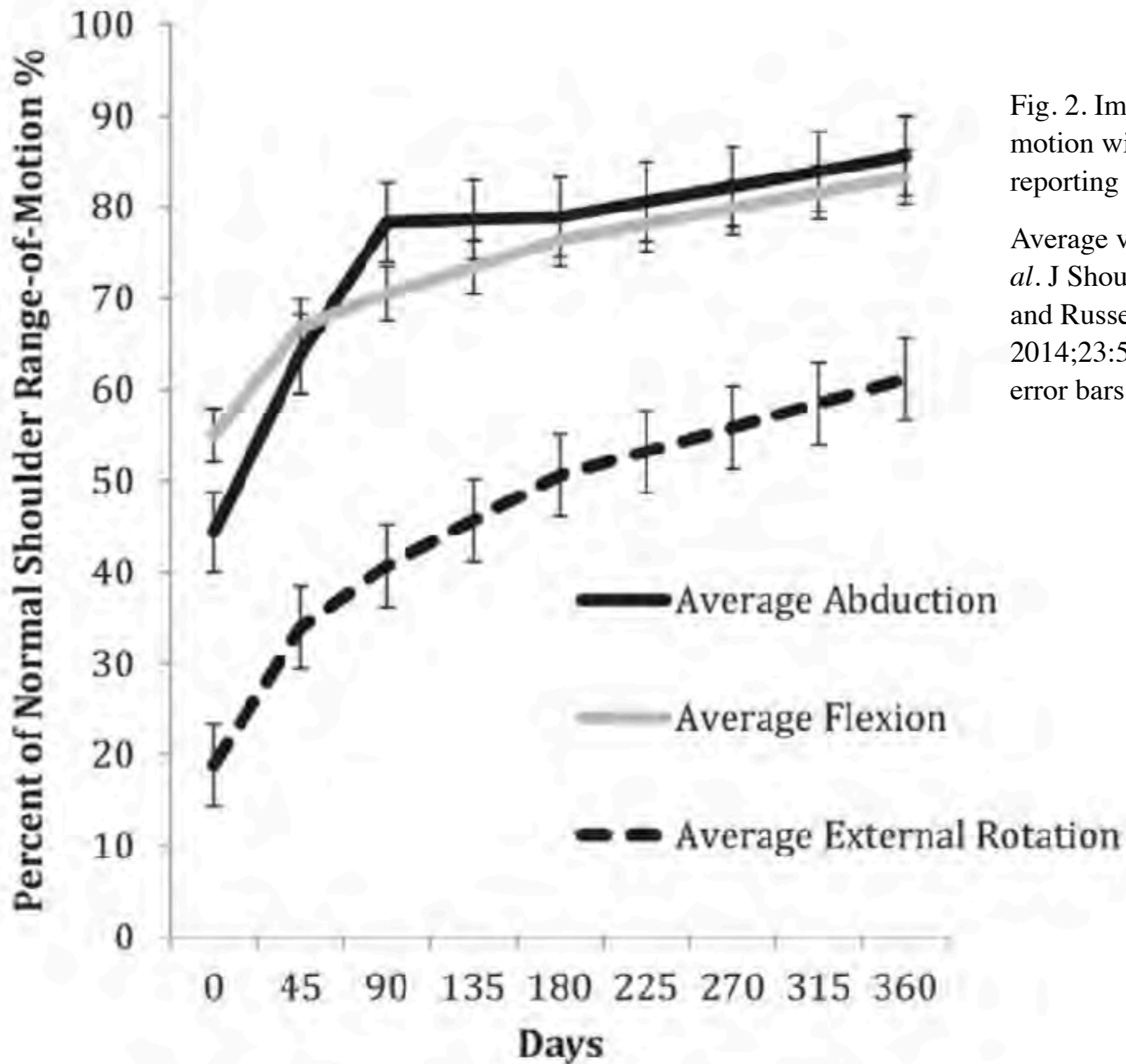
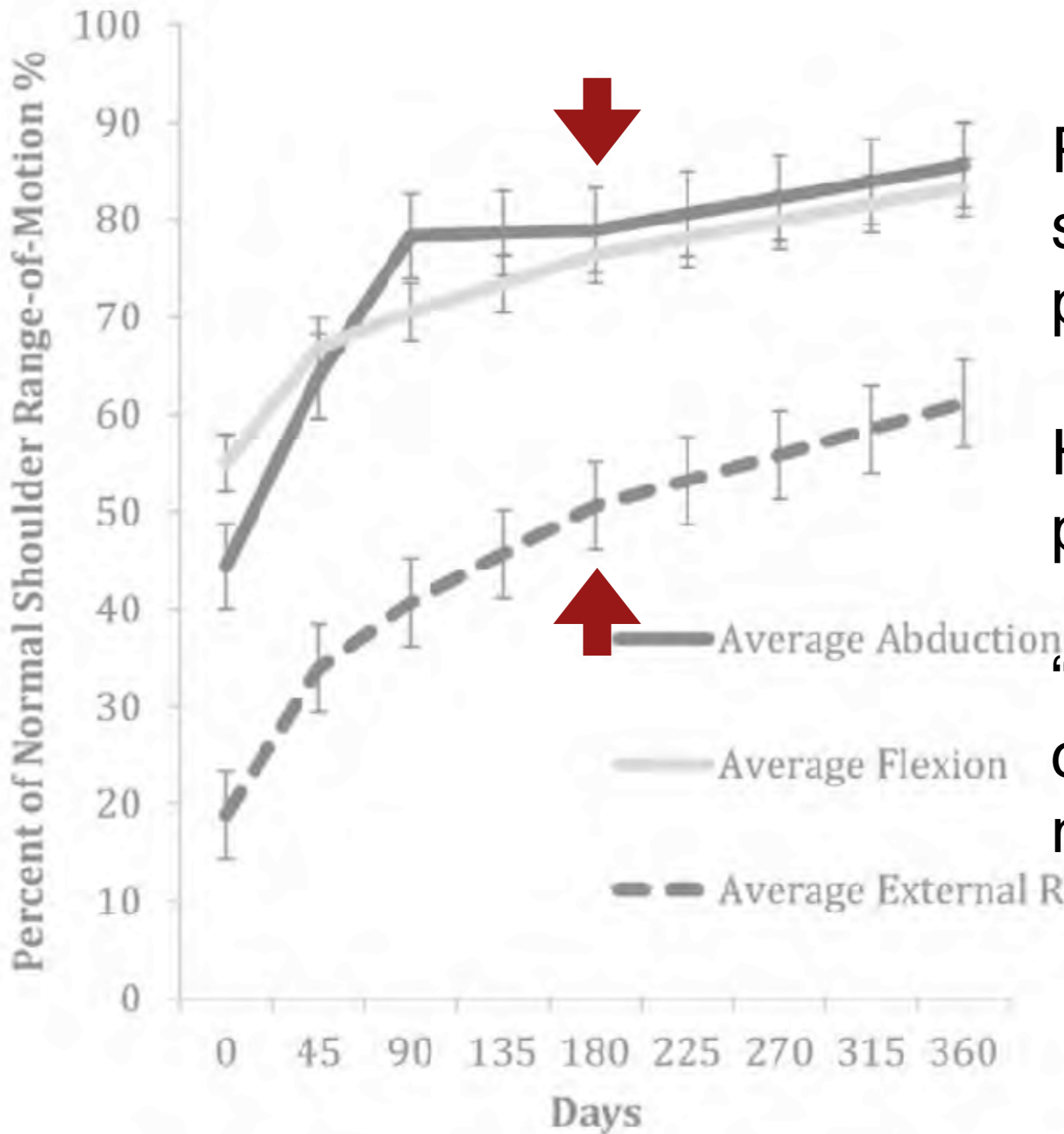


Fig. 2. Improvement in shoulder range of motion without treatment in studies reporting objective longitudinal data.

Average values extracted from Kivimäki *et al.* *J Shoulder Elbow Surg* 2007;16:722–6 and Russell *et al.* *J Shoulder Elbow Surg* 2014;23:500–7, and presented with standard error bars.



Pasient med 6 mnd. sykehistorie kommer på kontoret...

Hva skal du si om prognosen ?...

“Du har allerede opplevd fasen med mest forbedring...”



45 år gammel
fysioterapeut.

Verken hun selv
eller fysio-
terapeuten
hennes var klar
over at hun
hadde en (PO)
FS...

Mange forblir helt stive i
glenohumeralledet,
men lærer seg å leve med
tilstanden...

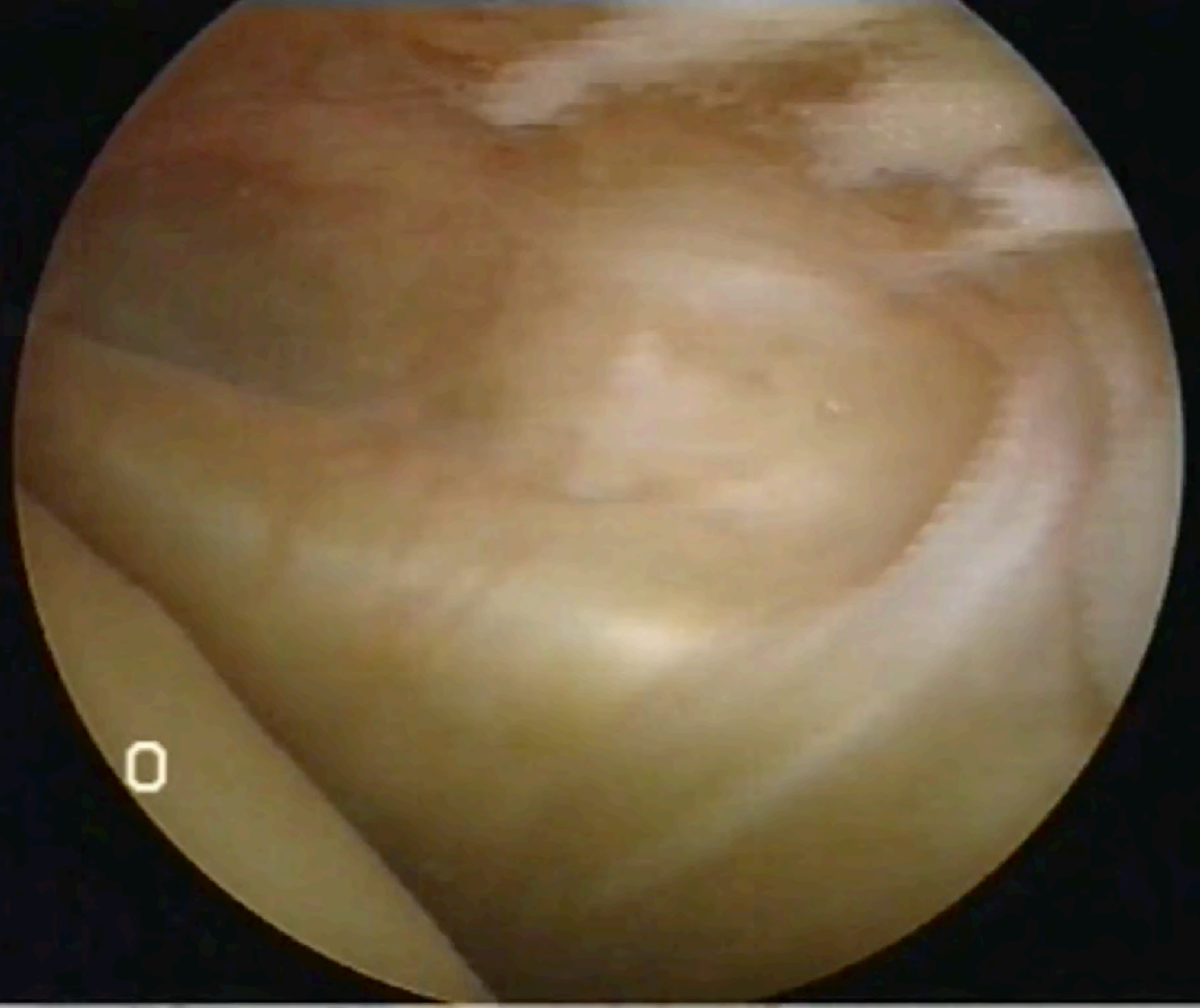
Ved å bevege scapula og overkropp... Og tilpasse aktiviteter...

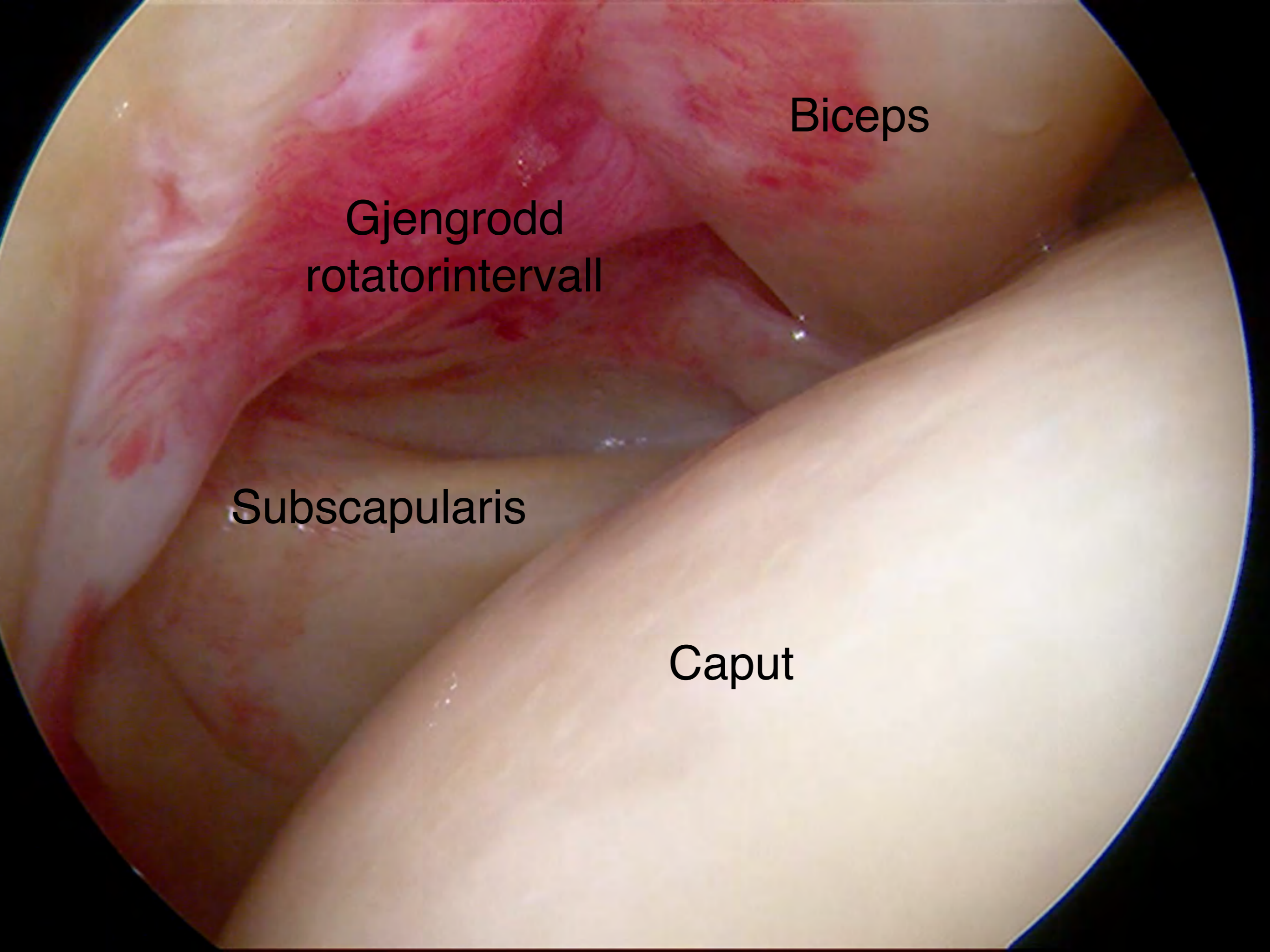
FØR



ETTER







Biceps

Gjengrodd
rotatorintervall

Subscapularis

Caput

Behandling

- Ekspektering, smertestillende
- Fysikalsk behandling
- Corticosteroider
- Dele kapselen (væske/manipulasjon/kirurgi)

Fylle med vann
til det sprekker?



Eller klippe !

Slite i stykker?



“You got to ask
yourself one
question...”



Harry Callahan AKA Dirty Harry

Hva er beste redskap for å skjære opp bacon?



Kapsulotomi ved FS

Arthroscopic treatment of adhesive capsulitis

Helen E. Segmüller, MD, David E. Taylor, MD, Charlotte S. Hogan, Andrew D. Saies, FRACS, and Michael G. Hayes, FRACS, *Stepney, Australia*

Although conservative management with or without manipulation performed with the patient under anesthesia is the generally accepted treatment strategy for adhesive capsulitis, considerable interest is being shown in arthroscopic surgical procedures for this disorder. This study reviews the outcome of patients who underwent an arthroscopic release of the inferior capsule, reproducing in a controlled fashion the traumatic disruption of the inferior capsule commonly caused by manipulation with the patient under anesthesia. The outcome of 24 patients (26 shoulders) was assessed with an average follow-up of 13.5 months. A total of 88% of patients were very satisfied with the procedure, and no operative complications occurred. A return to normal or near normal shoulder function in 76% or more of the study group for forward flexion, abduction, and external rotation was demonstrated. A total of 50% of patients still had some restriction in internal rotation. The Constant Scoring system, also used to assess clinical shoulder function, revealed 87% of patients had achieved an excellent or good result when compared with the contralateral normal shoulder score. Our results suggest that arthroscopic capsular release is a safe and effective treatment for adhesive capsulitis, with patterns of recovery that compare favorably to other treatment modalities. (J SHOULDER ELBOW SURG 1995;4:403-8.)

Although some studies have treated adhesive capsulitis with arthroscopic distention or in combination with manipulation performed while the patient is under anesthesia, to our knowledge no studies have been published describing arthroscopic capsulotomy for this condition.^{5, 10, 11, 21, 26, 28} This

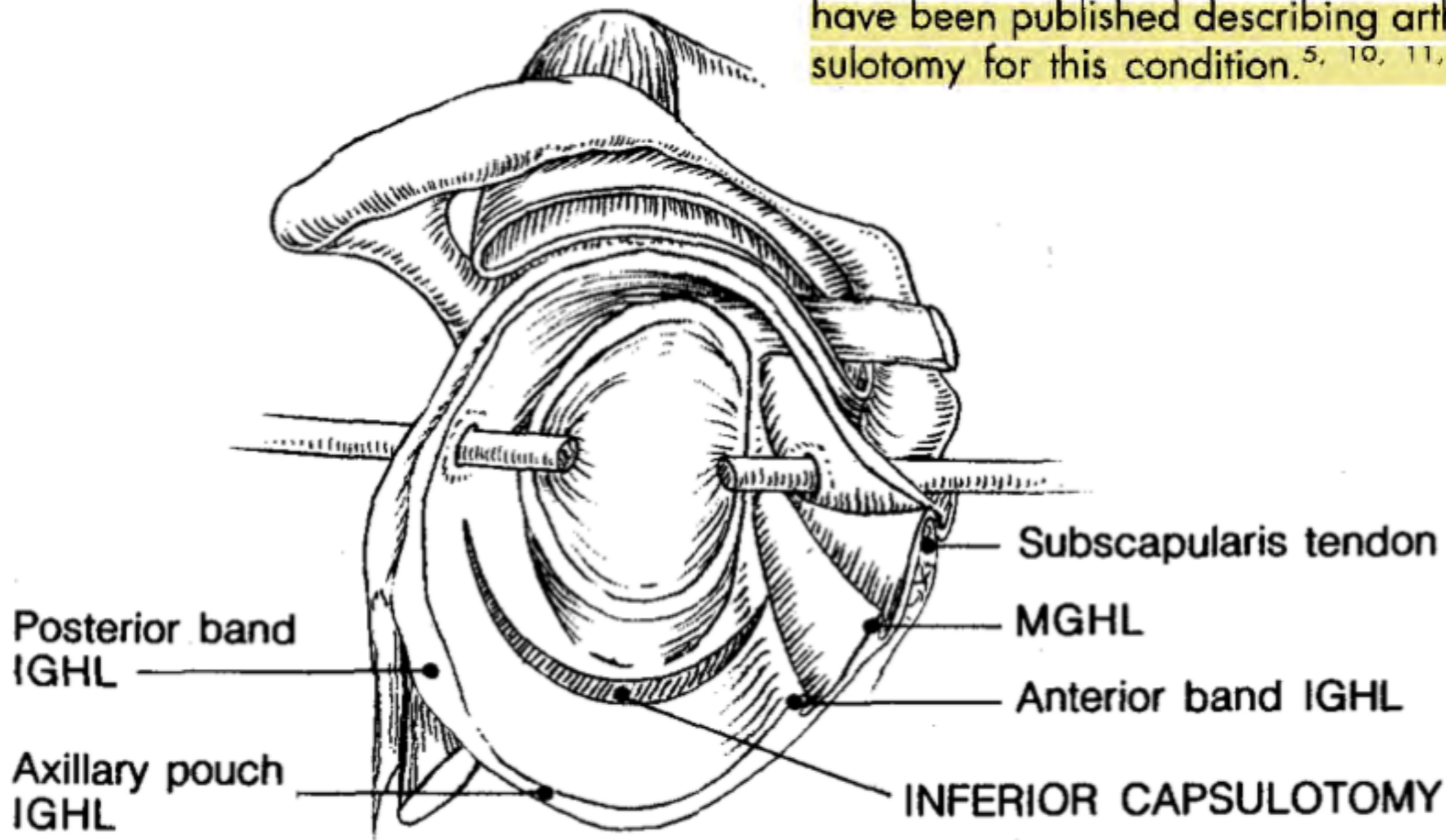


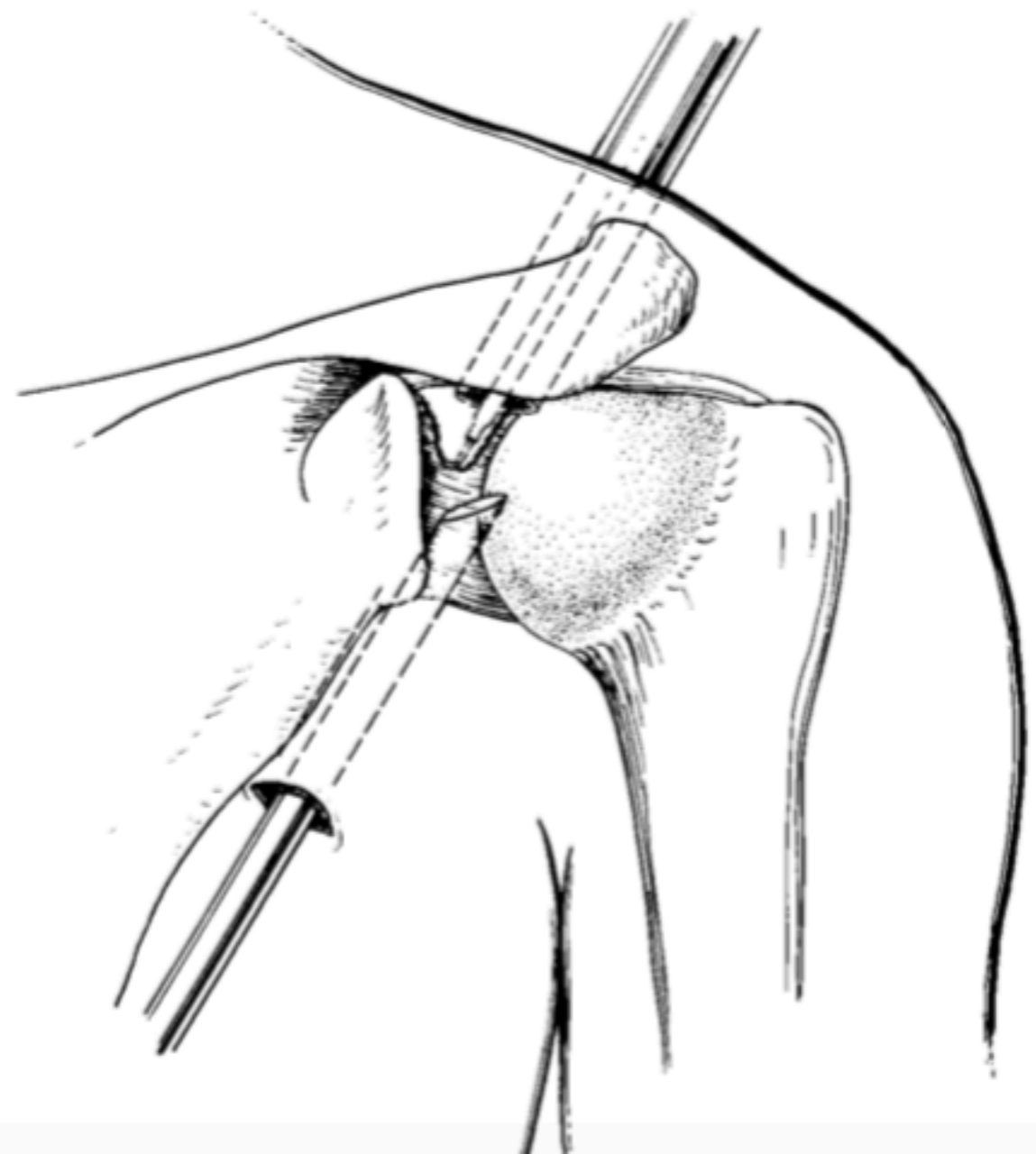
Figure 2 Inferior capsulotomy is performed from 3 o'clock position anteriorly to 9 o'clock position posteriorly.

Arthroscopic Release for Chronic, Refractory Adhesive Capsulitis of the Shoulder*

BY JON J. P. WARNER, M.D.†, ANSWORTH ALLEN, M.D.‡, PAUL H. MARKS, M.D., FR.C.S.(C)§,
AND PATRICK WONG, M.D.¶, PITTSBURGH, PENNSYLVANIA

Investigation performed at the Shoulder Service, Center for Sports Medicine, University of Pittsburgh, Pittsburgh

ABSTRACT: Idiopathic adhesive capsulitis usually responds to gentle physical therapy or, if that fails, to closed manipulation with the patient under anesthesia. In some patients, however, loss of motion may be refractory to either of these treatments and an operative release may be indicated. We are reporting on the technique and results of arthroscopic capsular release as a new alternative for the management of such patients. During a three-year period, we managed twenty-three patients who had idiopathic adhesive capsulitis that had failed to respond to physical therapy or closed manipulation. These patients had an arthroscopic anterior capsular release and received forty-eight hours of intensive physical therapy as inpatients. During the physical therapy, the patients received an interscalene regional analgesic with use of repeated nerve blocks or with a continuous infusion through an interscalene catheter. This was followed by a supervised outpatient physical-therapy program. Six patients also had an arthroscopic acromioplasty for the treatment of impingement. There were no complications related to any











Lateral portal

Bakre portal

Skop-hylse med mandreng presses (innenfra-ut) gjennom rotatorintervall og fremre portal



Mandreng fjernes.
Skopes settes nesten helt inn i hylsen.



Tupp av shaver plasseres i enden av hylsen.

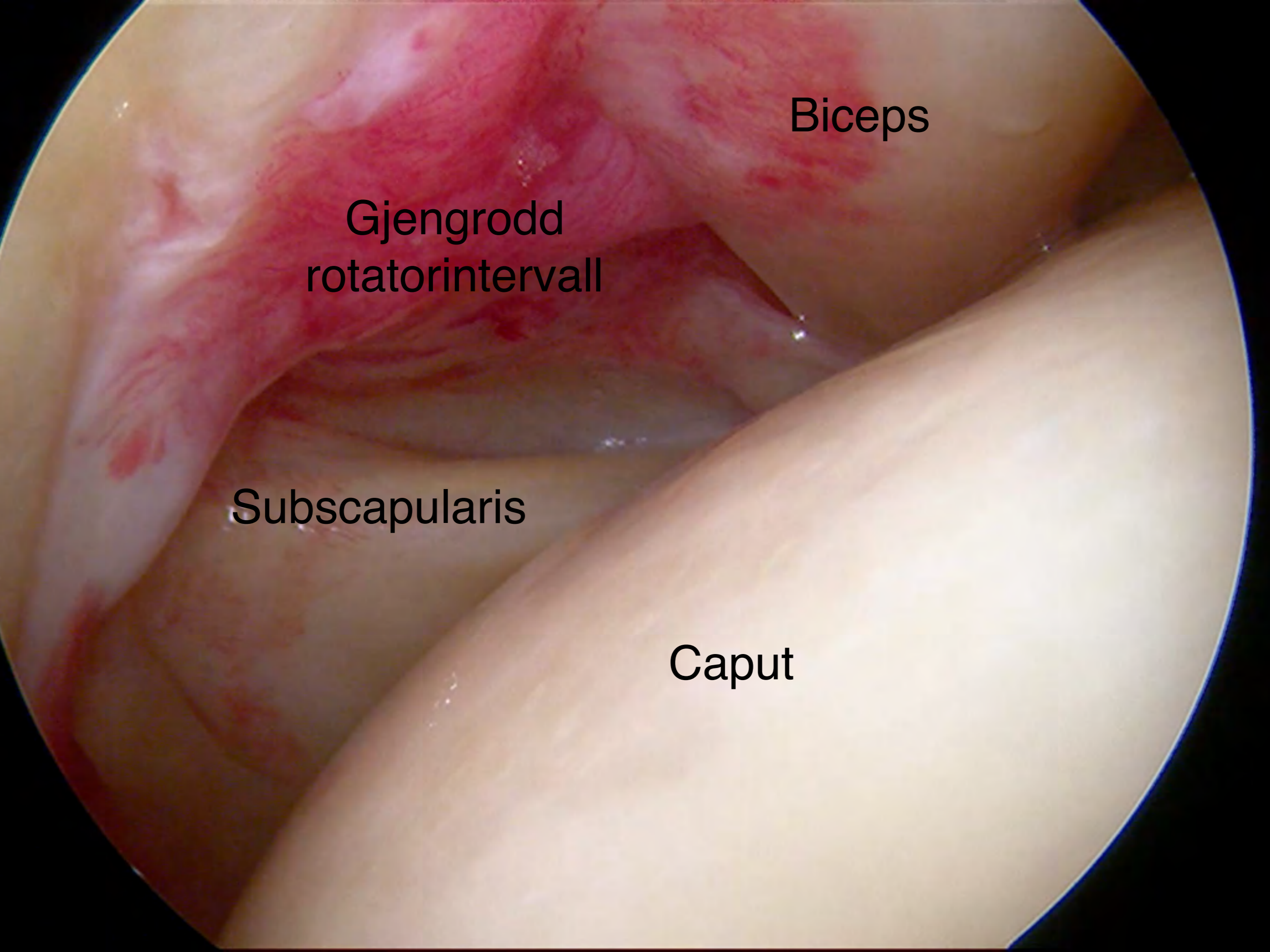


Skyv shaveren inn (og skop skubbes tilbake).



Stopp når du kjenner at begge ligger fritt i leddet.



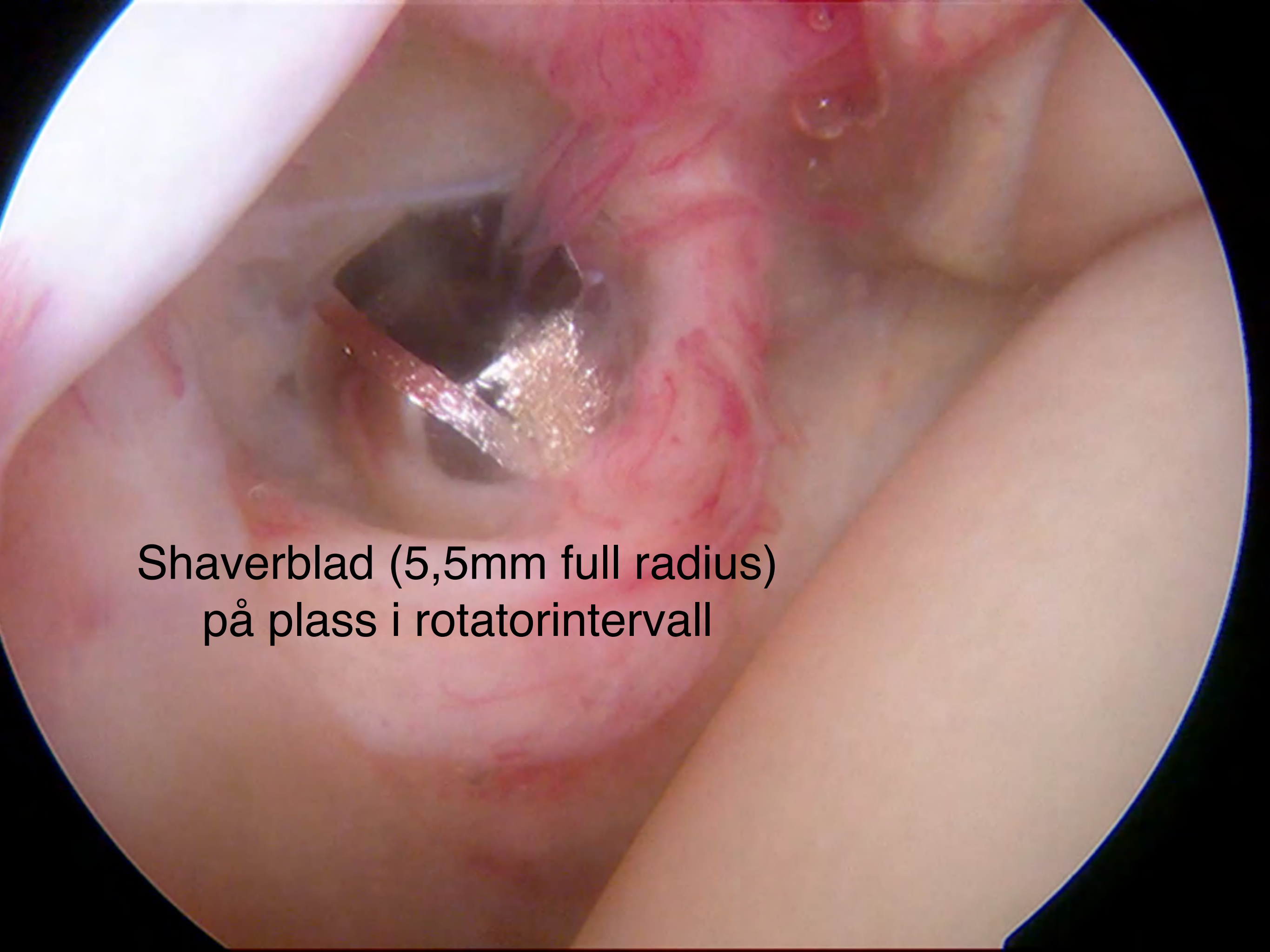


Biceps

Gjengrodd
rotatorintervall

Subscapularis

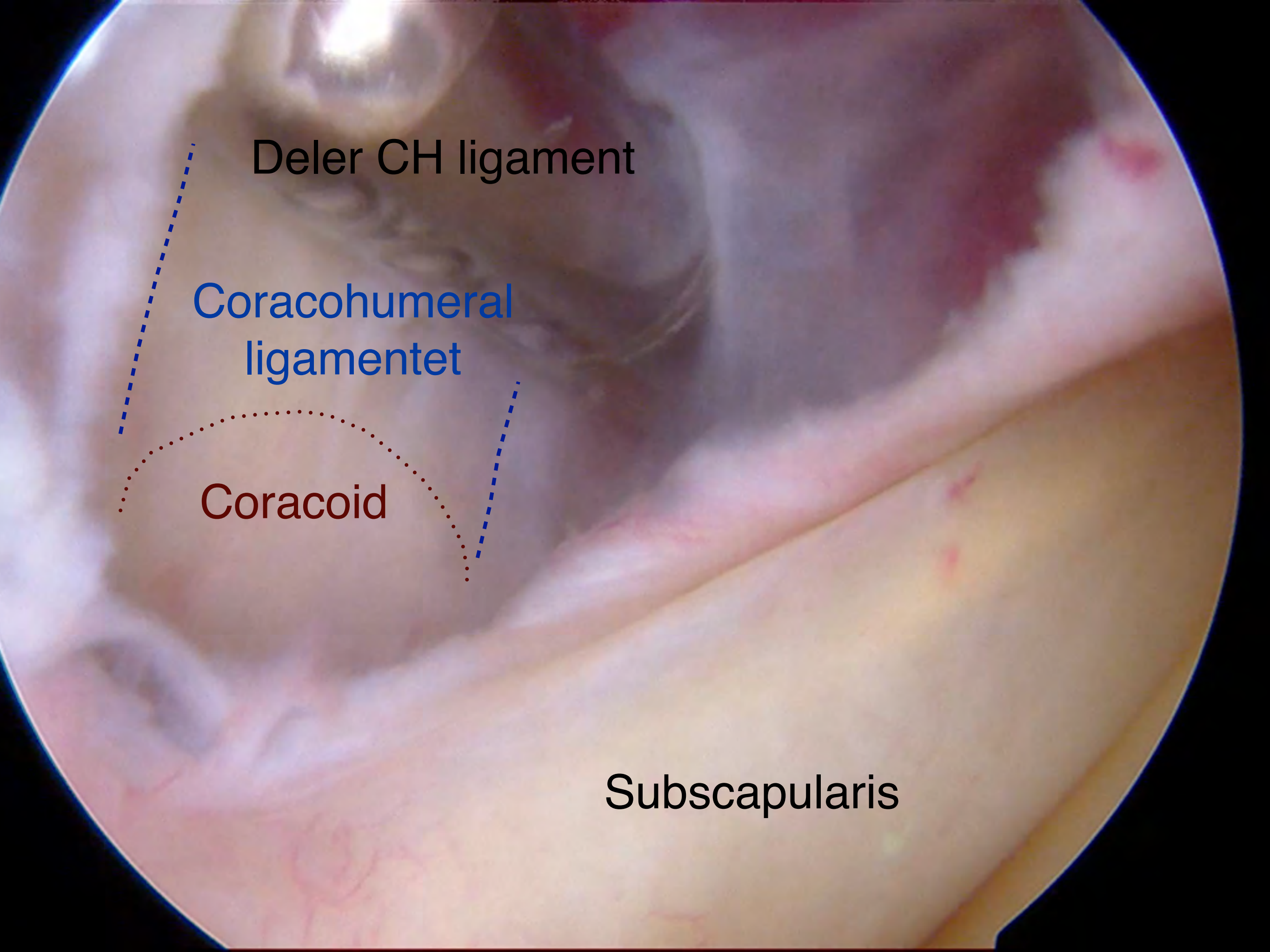
Caput

An arthroscopic view of a shoulder joint. A dark, diamond-shaped shaver blade is positioned in the rotator interval. The surrounding tissue is pinkish-red and appears to be the rotator interval. The blade is held in place by a clear, gel-like substance. The view is circular, typical of an arthroscopic camera.

Shaverblad (5,5mm full radius)
på plass i rotatorintervall

An arthroscopic view of a joint, likely a knee, showing inflamed synovium and a thickened capsule. The image is circular, typical of an arthroscopic view. The central part shows a bright, reflective area, possibly the joint space or a surgical instrument. The surrounding tissue is reddish and appears inflamed. The capsule is thickened and has a fibrous appearance. The text is overlaid in the center of the image.

Reseksjon inflamert
synovium og fortykket kapsel

An arthroscopic view of the shoulder joint. The image shows the glenoid surface of the scapula and the head of the humerus. The coracoid process is visible on the left. The coracohumeral ligament is shown as a thick, fibrous band connecting the coracoid to the greater tuberosity. The Deler CH ligament is also visible. The subscapularis muscle is seen at the bottom of the frame. Labels with leader lines identify these structures.

Deler CH ligament

Coracohumeral
ligamentet

Coracoid

Subscapularis

An arthroscopic view of a shoulder joint. A shaver is visible in the upper left quadrant, with a bright reflection. A red dotted line traces a path across the joint, starting from the shaver, moving right, then curving down and right, and finally curving down and left. The joint surfaces are light-colored and appear smooth.

Shaver

CH ligament
løsnet fra coracoid

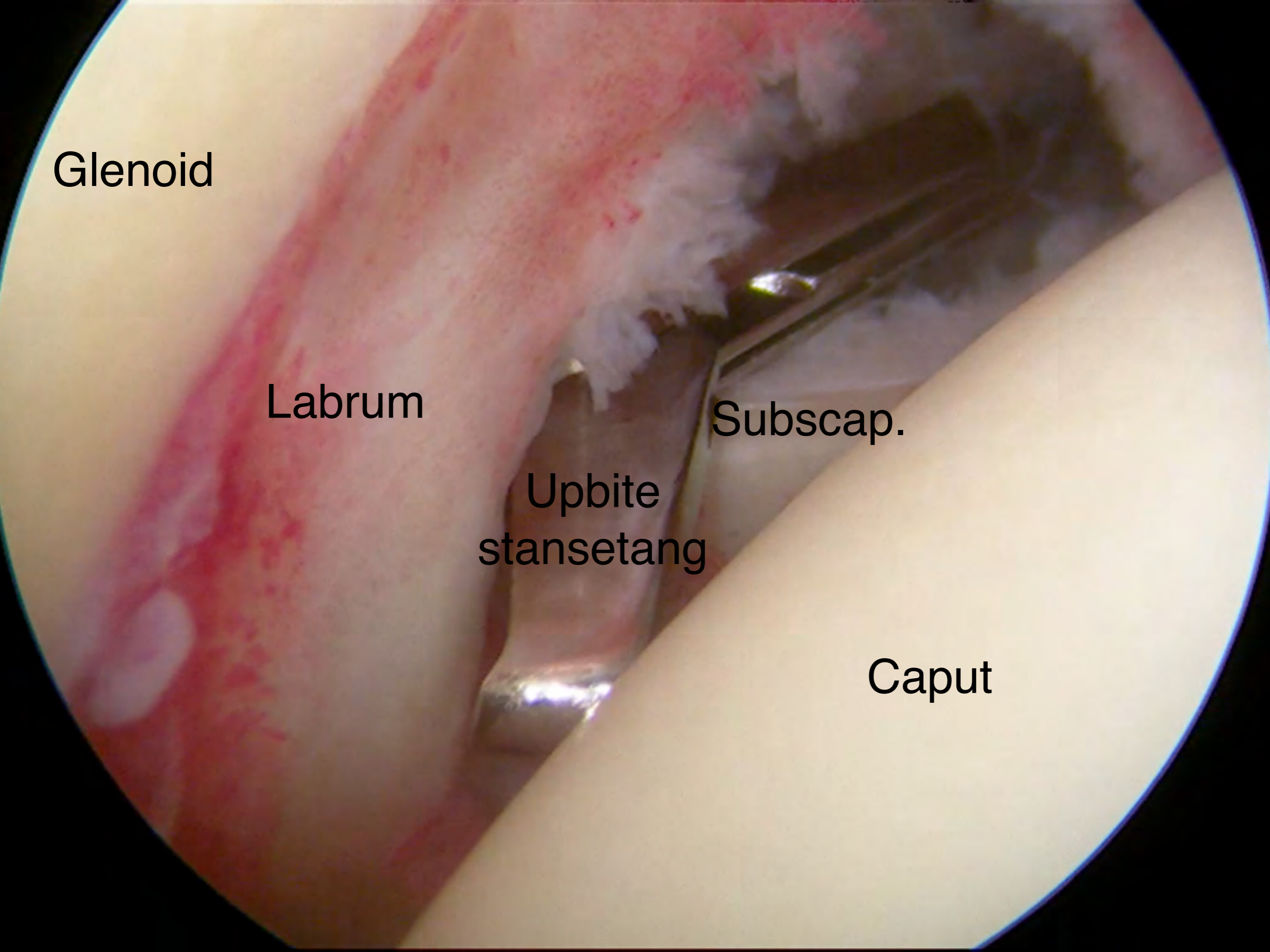
Glenoid

Labrum

Subscap.

Upbite
stansetang

Caput



An arthroscopic view of a knee joint. The image shows the anterior labrum, which is a wedge-shaped piece of cartilage that fits between the femur and tibia. A significant longitudinal tear is visible, extending along the length of the labrum. The surrounding articular surfaces appear relatively smooth. The text "Klipper langs labrum klokken 4" is overlaid on the lower part of the image.

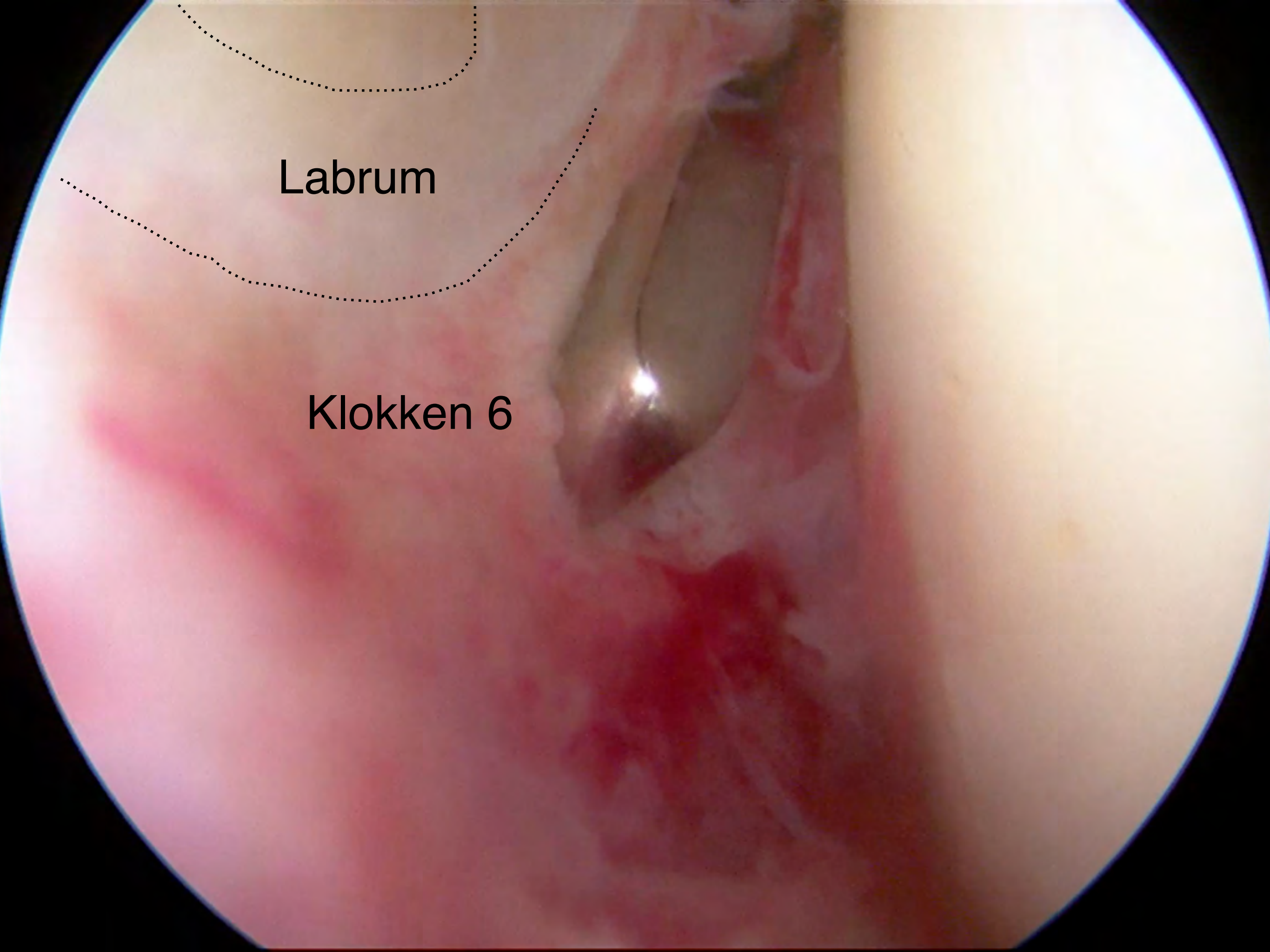
Klipper langs
labrum klokken 4



Stansetang

Kapselklipp-bit

Kapsulotomi åpner seg og avstand mellom caput og glenoid øker



Labrum

This is an endoscopic view of a joint, likely the shoulder. The image shows a reddish, fleshy structure labeled 'Labrum' at the top, which is a fibrocartilaginous ring. Below it, a structure is labeled 'Klokken 6' (Clock 6), which appears to be a clock-like structure, possibly a labral tear or a specific anatomical landmark. The background is a pale, yellowish-tan color, likely the articular surface. A dotted line outlines the labrum, and a solid line outlines the 'Klokken 6' structure.

Klokken 6

An arthroscopic view of a joint. The image shows a reddish, vascularized tissue surface on the left and a smoother, white, fibrous structure on the right. A metallic shaver tool is visible on the right side, positioned to remove loose fragments of the white structure. The overall scene is illuminated by a bright light source, creating a clear view of the internal joint structures.

Fjerner løse kapselklipp
biter med shaver

An arthroscopic view of a joint capsule. The image shows a reddish, vascularized surface with a network of fine blood vessels. A white, fibrous structure is visible at the top left. The overall appearance is that of a surgical site during a capsulotomy procedure.

Ferdig fremre kapsulotomi



Postoperativt regime

- 40ml Marcain 0.25%
- Demonstrere bevegelsesutslagene
- Kuldepakning
- Voltaren, Paracet, Pinex forte, OxyNorm
- Egenøvelser/tøyning
- Fysioterapeut

Komplikasjoner

- Ny tilstivning
- Instabilitet
 - Helst når FS etter stabilisering
- Nerveskader
 - N. axillaris

Kapselløsning ved FS

- Gjennomgått smertefase, > 3 mnd sykehistorie
- Nedsatt bevegelighet i skulderen
 - Fleksjon og abduksjon < 45 grader
 - Utadrotasjon < 20 grader
- Samtykke til dagkirurgisk behandling
- Alder 18-70, BMI < 33, ASA 1-2

Resultater

- 79 av 83 (95%) ville latt seg operere på nytt
- Fornøydhet med resultat (10=best): $8,6 \pm 1,8$
- Bedret bevegelighet, arbeidsevne og nattesøvn
- Oxford shoulder score (12 best, 60 dårligst) sank fra 41 preop til 18 postop ($p < 0,001$)
- Tre reoperert, Ingen komplikasjoner

Tabell 1 Skulderplagenes pre- og postoperative innvirkning på arbeidsevne, fysisk aktivitet og nattesøvn (0 = mest plager, 10 = minst plager). Spredningsmål er standarddeviasjon (SD)

| | Preoperativt | Postoperativt | P-verdi |
|------------------|--------------|---------------|---------|
| Arbeidsevne | 2,4 ± 2,6 | 7,4 ± 2,5 | < 0,001 |
| Fysisk aktivitet | 2,3 ± 2,5 | 7,4 ± 2,4 | < 0,001 |
| Nattesøvn | 1,7 ± 2,5 | 7,2 ± 2,6 | < 0,001 |

Tabell 2 Pre- og postoperativ utadrotasjon, abduksjon og fleksjon. Verdiene er angitt i grader ± SD

| | Preoperativt | Postoperativt | P-verdi |
|--------------|--------------|---------------|---------|
| Utadrotasjon | 3 ± 5 | 39 ± 23 | < 0,001 |
| Abduksjon | 34 ± 8 | 154 ± 37 | < 0,001 |
| Fleksjon | 35 ± 8 | 164 ± 28 | < 0,001 |

Suksessrate

- 94% idiopatisk FS
- 80-90% postoperativ