LA RIPARAZIONE DELLA LUSSAZIONE ACROMION – CLAVEARE CRONICA CON ALLOGRAFT ESPERIENZA PRELIMINARE

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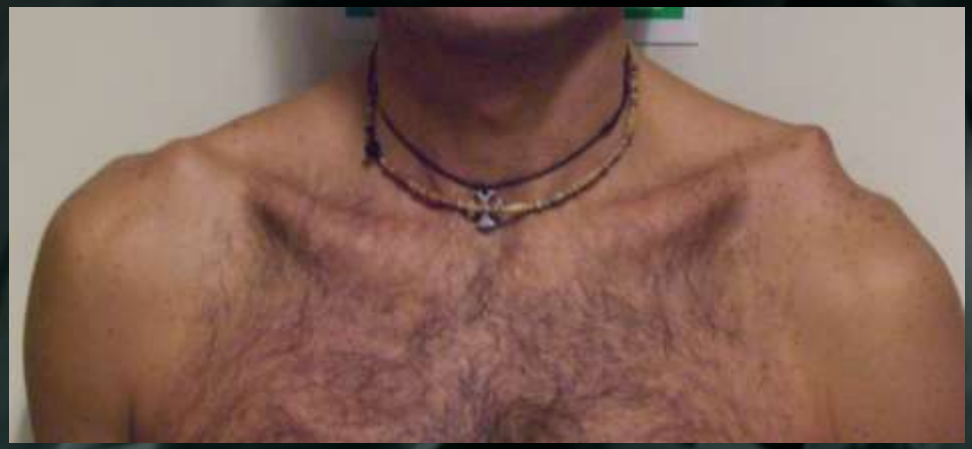
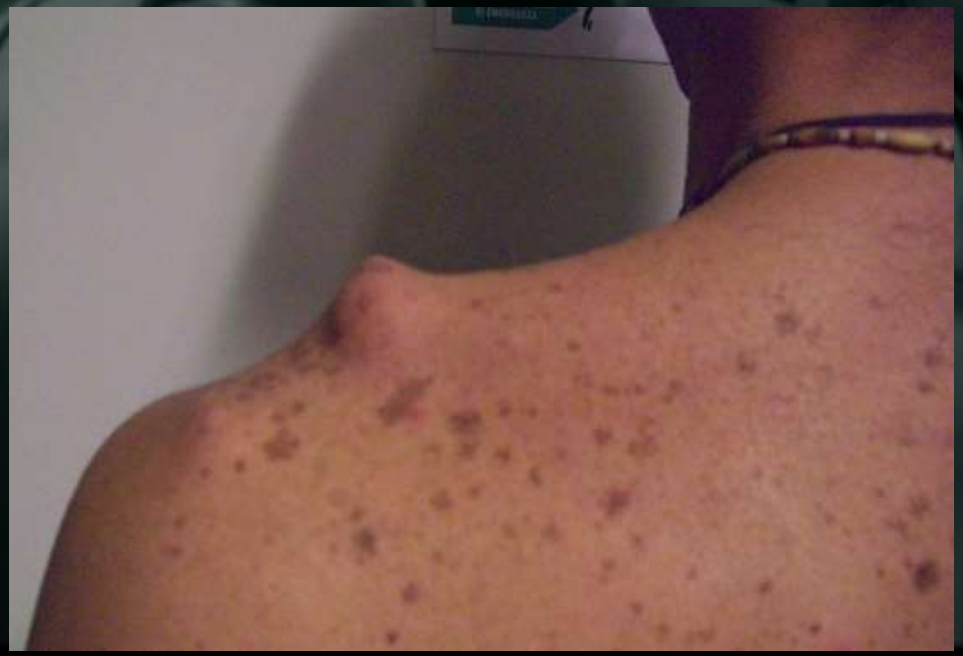
Azienda ospedaliera San.Camillo-Forlanini ROMA





LUSSAZIONE A-C CRONICA SINTOMATICA

Dismorfismo disfunzionale con alterazione della quotidianità lavorativa e/o sportiva.

RIPARAZIONE

A METHOD OF REPAIR OF SYMI
CHRONIC ACROMIO-CLAVICULAR D

JOHN S. THIEMEYER, JR., A.B., M.D.

NORFOLK, VIRGINIA

FROM THE U. S. NAVAL HOSPITAL, PORTSMOUTH, V

NUMEROUS METHODS OF repair of symptomatic acromio-clavicular joint dislocation have been devised, and some of them give good results. These vary from repair of the coraco-clavicular and acromio-clavicular ligaments with materials such as fascia lata (Bunnell[1] and Meyerding[4]) braided silk (Watkins[9]), or kangaroo tendon, to fixation of the clavicle to the coracoid and/or acromion by various devices as screws or wires (Murray,[6] Phemister,[7] Vere Hodge[10]).

In addition, many surgeons have obtained adequate results by resection of the distal end of the clavicle (Gurd,[3] Mumford[5]), or fusion of the acromio-clavicular joint.

clavicular jc
was designe
surgical app
ent at the s
material was
be detected
any vital st
Best of all,
ments were
most exactly
ments and i
the importa
tions of the
living tissue
fication than
and it thus

1 Bunnell, S.: Fascial Graft for Dislocation of Acromioclavicular Joint. Surg., Gynec. & Obst., **46**: 563, 1928.

2 Campbell, W. C.: Operative Orthopedics. 1st Ed., C. V. Mosby Co., St. Louis, 1939.

3 Gurd, F. B.: Treatment of Complete Dislocation of Outer End of Clavicle. Am. Surgeon, **113**: 1094, 1941.

4 Meyerding, H. W.: Treatment of Acromioclavicular Dislocation. S. Clin. North America, **17**: 1199, 1937.

5 Mumford, E. B.: Acromioclavicular Dislocation. J. Bone & Joint Surg., **23**: 799, 1941.

6 Murray, Gordon: Fixation of Dislocation of the Acromioclavicular Joint. Canad. M. A. J., **43**: 270, 1940.

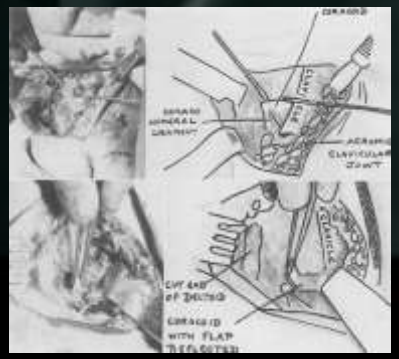
7 Phemister, D. B.: Treatment of Acromioclavicular Dislocation by Open Reduction and Threaded-Wire Fixation. J. Bone & Joint Surg., **24**: 166, 1942.

8 Schneider, C. C.: Acromioclavicular Dislocation. J. Bone & Joint Surg., **15**: 957, 1933.

9 Watkins, J. T.: Operation for Acromioclavicular Luxations. J. Bone & Joint Surg., **7**: 790, 1925.

10 Watson-Jones, Sir R.: Fractures and Joint Injuries. 3rd Ed., Williams & Williams Co., Baltimore, 1946.

Ann Surg. 1954 Ju



TRASPOSIZIO
CORACO ACR
PRO CLAVICO

8 casi ottimi risultati
medio 3 aa circa

TAB. 12-4. TECNICHE OPERATORIE PER LE LESIONI DI TIPO III

Riparazione	Autori
Sintesi primaria	Bateman[20], Bundens e Cook[35],
Trasposizioni muscolari dinamiche Con o senza resezione della clavicola distale	Dewar e Barrington[47], Bailey e O'Connor[40,51], Berson e coll.[52], Glorian e Delplace[201]

JB&JS

Knee Surg, Sports Traumatol, Arthrosc (2001) 9:307–312

SHOULDER

DOI 10.1007/s001670100222

Attila Pavlik
Dezsö Csépai
Péter Hidas

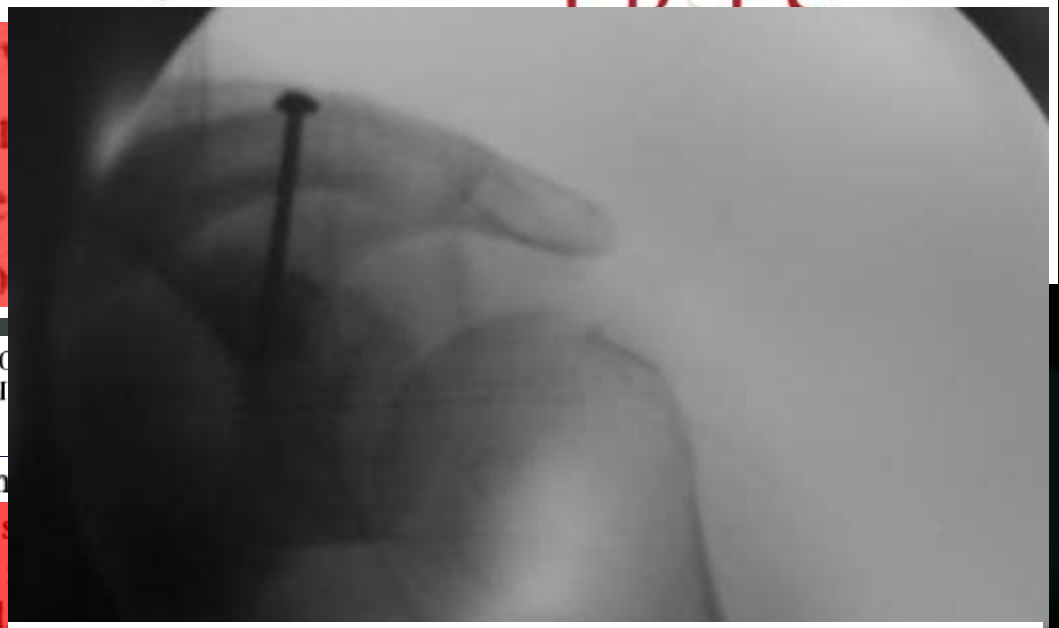
Surgical treatment of chronic acromioclavicular joint dislocation by modified Weaver-Dunn procedure

there is no lateral cla
section, the coracoacr
graft is sutured to the
the clavicle by transo

A METHOD OF REPAIR OF SYMPTOMATIC CHRONIC ACROMIO-CLAVICULAR DISLOCATI

JOHN S. THIEMEYER, JR., A.B., M.D., F.A.C.S.

This flap is then sutured to the in
surface of the clavicle by chromic 0
passed through two small drill holes
clavicle, which has been roughened
reduplicating the conoid-trapezoid
ments. The acromio-clavicular joint ca
is then plicated securely. The delt



Injuries to the acromion clavicular joint

Rokwood CA 1984 Lippincott

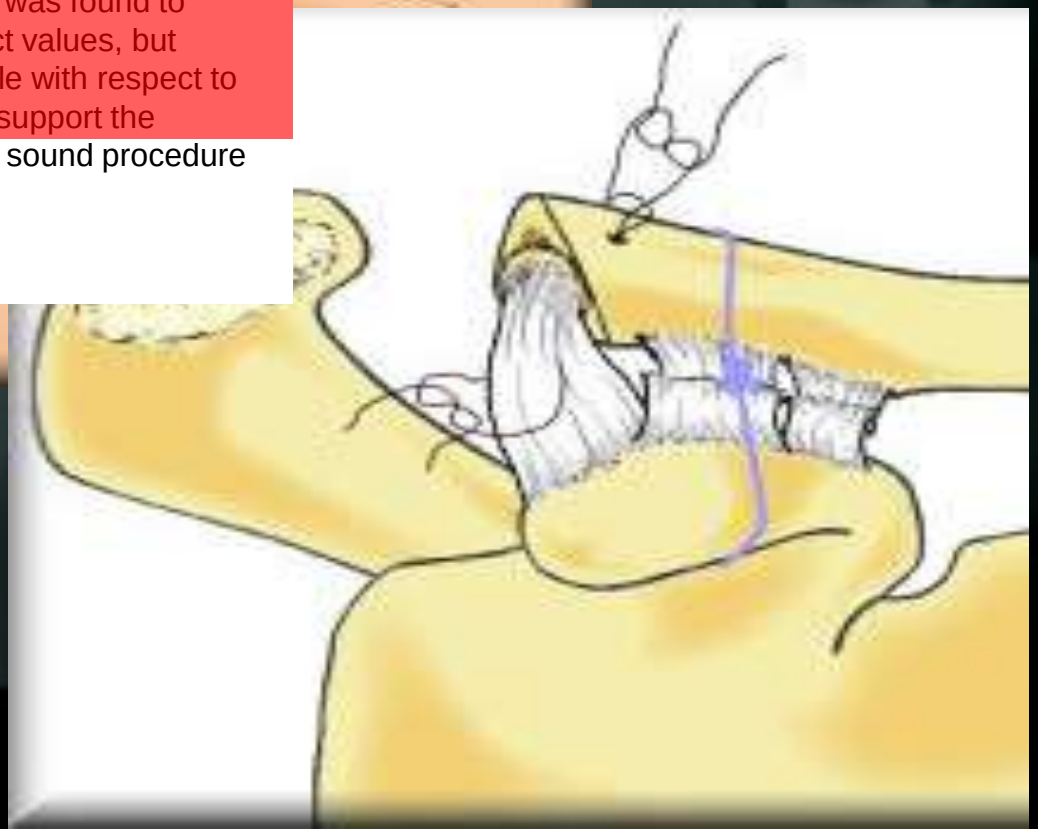
The American Journal of Sports Medicine

Kinematic Evaluation of the Modified Weaver-Dunn Acromioclavicular Joint Reconstruction

LAPRADE Robert F. WICKUM Daren J.; GRIFFITH Chad J.; LUDEWIG Paula M

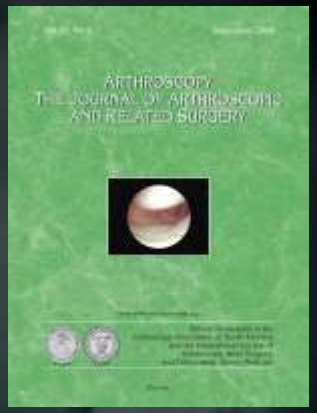
American journal of sports medicine
2008, vol. 36, nº11, pp. 2216-2221

Conclusion: The modified Weaver-Dunn reconstruction was found to restore motion of the acromioclavicular joint to near-intact values, but created a more anterior and inferior position of the clavicle with respect to the acromion. Clinical Relevance: These kinematic data support the modified Weaver-Dunn reconstruction as a kinematically sound procedure to treat displaced acromioclavicular joint injuries.



Arthroscopic reconstruction for acromioclavicular joint dislocation

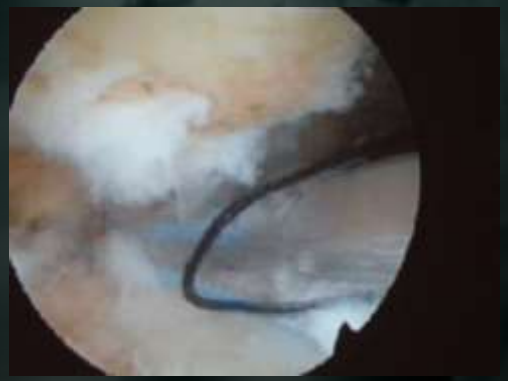
Wolf EM & Pennington WT Arthroscopy 2001

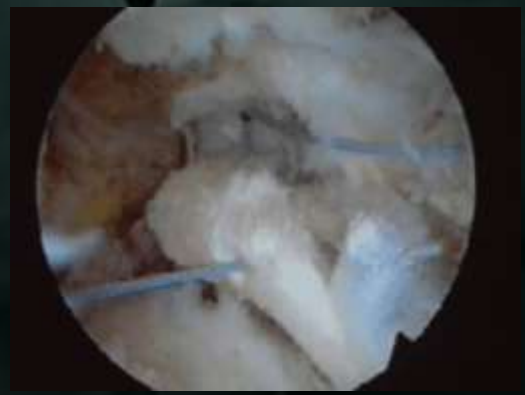


Arthroscopic Treatment of Acute and Chronic Acromioclavicular Joint Dislocation

La Fosse L et al Arthroscopy 2005

The coracoacromial ligament is dissected from the undersurface of the acromion and is reinserted on the inferior clavicle by transosseous suture fixation. Additional wire or screw stabilization may be used.





Arch Orthop Trauma Surg (2006) 126: 575–581
DOI 10.1007/s00402-005-0073-6

ORIGINAL ARTICLE

Bancha Chernchujit · Thomas Tischer
Andreas B. Imhoff

Arthroscopic reconstruction of the acromioclavicular joint disruption: surgical technique and preliminary results

the preliminary results. *Materials and methods*: Thirteen patients with a mean follow-up of 18 months underwent the arthroscopic acromioclavicular joint reconstruction using suture anchors and small titanium plate. The

Knee Surg Sports Traumatol Arthrosc (2009) 17:92–97
DOI 10.1007/s00167-008-0633-8

SHOULDER

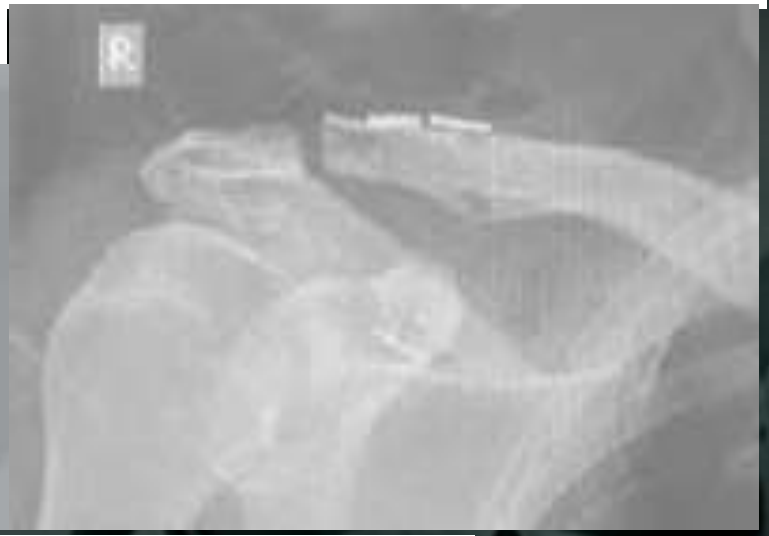
Arthroscopic reconstruction of chronic AC joint dislocations by transposition of the coracoacromial ligament augmented by the Tight Rope device: a technical note

Hamid Hosseini · Svenja Friedmann ·
Markus Tröger · Philipp Lobenhoffer ·
Jens D. Agneskirchner

Triple Endobuttton Technique in Acromioclavicular Joint Reduction and Reconstruction

Yeow Wai Lim,[1] *MBBS, MMed (Surg), FRCSEd (Ortho)*

Ann Acad Med Singapore 2008;37:294-9



In chronic cases, the author recommends an excision of the distal end of the clavicle and an allograft or autograft reconstruction of the coracoclavicular and acromio-clavicular ligaments. The author prefers to utilise the allograft hamstring tendon as a graft. The role of adjunct fixation using the triple endobutton is to provide initial fixation to help reduce and maintain reduction until the graft has ligamentised.

The American Journal of Sports Medicine

Semitendinosus Tendon Graft Versus a Modified Weaver-Dunn Procedure for Acromioclavicular Joint Reconstruction in Chronic Cases

Mark Tauber et al

Am J Sports Med January 2009 vol. 37 no. 1 181-190

24 patients

Conclusion Semitendinosus tendon graft for coracoclavicular ligament reconstruction resulted in significantly superior clinical and radiologic outcomes compared to the modified Weaver-Dunn procedure.

Operative Orthopädie und Traumatologie

Casuistry

A Salvage Procedure for Failed Weaver-Dunn Reconstruction

Chlodwig Kirchhoff[1,2], Volker Braunstein[1,2,3], Sonja Buhmann[4], Wolf Mutschler[1], Peter Biberthaler[1,2]

The Problem

The failure rate after surgical acromioclavicular (AC) joint stabilization is of up to 10%. For revision, several techniques including modifications of the Weaver-Dunn procedure have been suggested. However, patients with failure of such revision techniques represent a special challenge due to the altered anatomic relationships and the lack of stabilizing structures.

Fallimenti 10%

Anatomia alterata

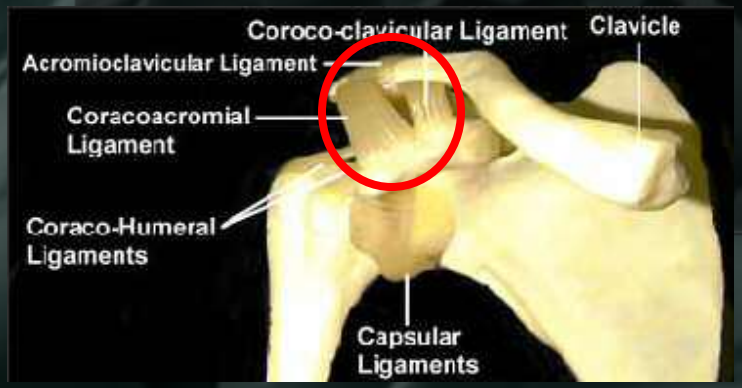
Lussazione A-C

RESISTENZA DEI LEG. CORACO-CLAVICOLARI

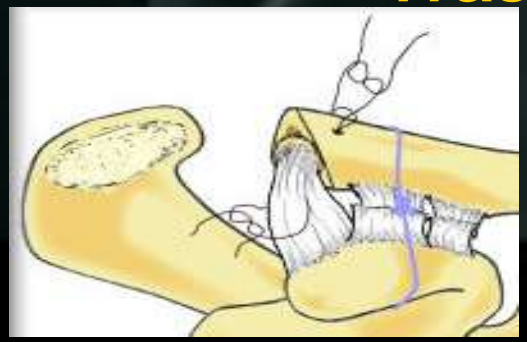
598 N

RESISTENZA COMPLESSO ART. A-Co-Cl

815 N



Trasf. Leg Co - Ac. Pro clavicola



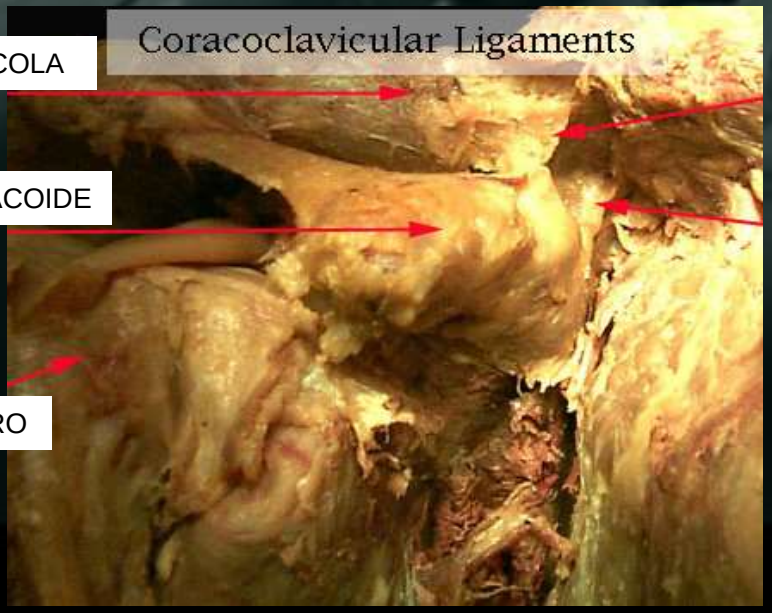
483 N

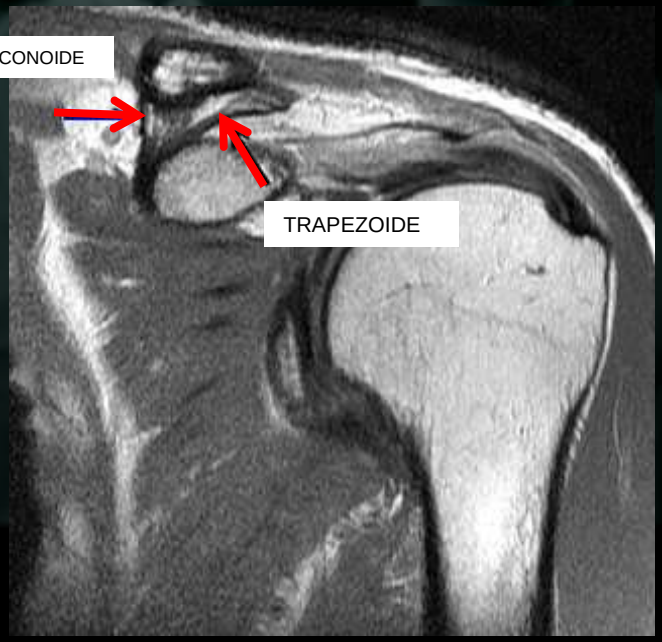
WALZ AJSM 2008

ORIENTAMENTO MODERNO

Ricostruzione Legamenti C-C

- anatomica
- Mininvasiva
- Meccanicamente resistente
- Tecnicamente semplice
- Biologica

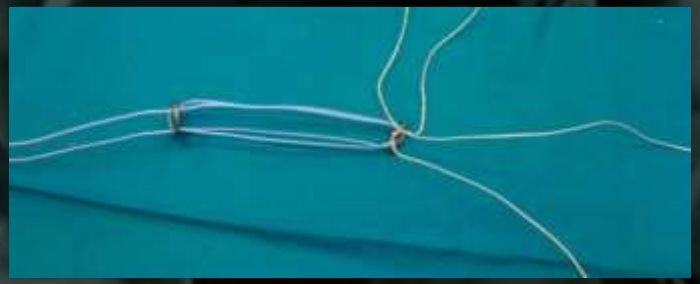




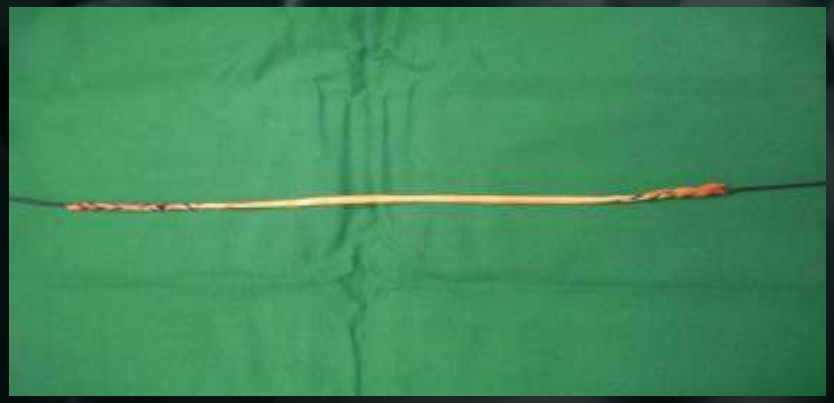
FIBER WIRE + BUTTON

485 N

1086 N

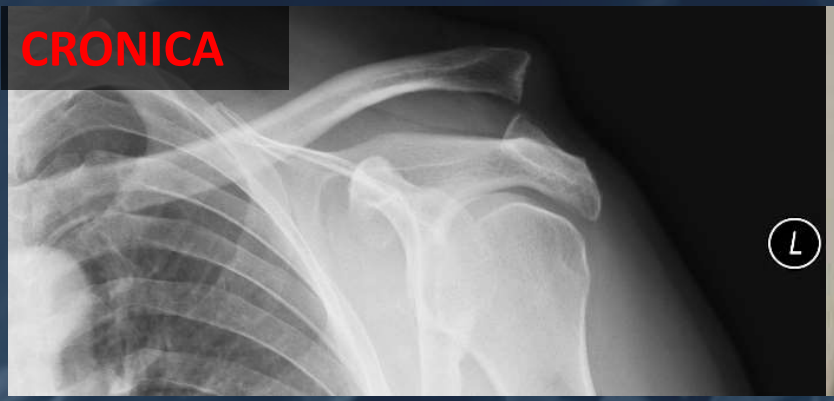


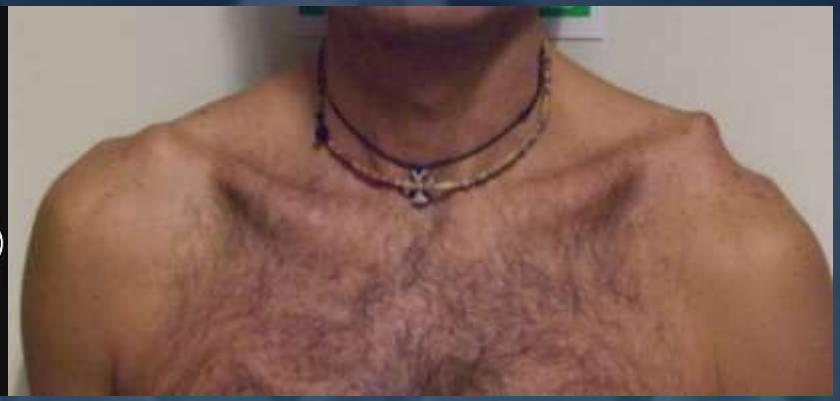
ALLOGRAFT *(EPA duplicato)*



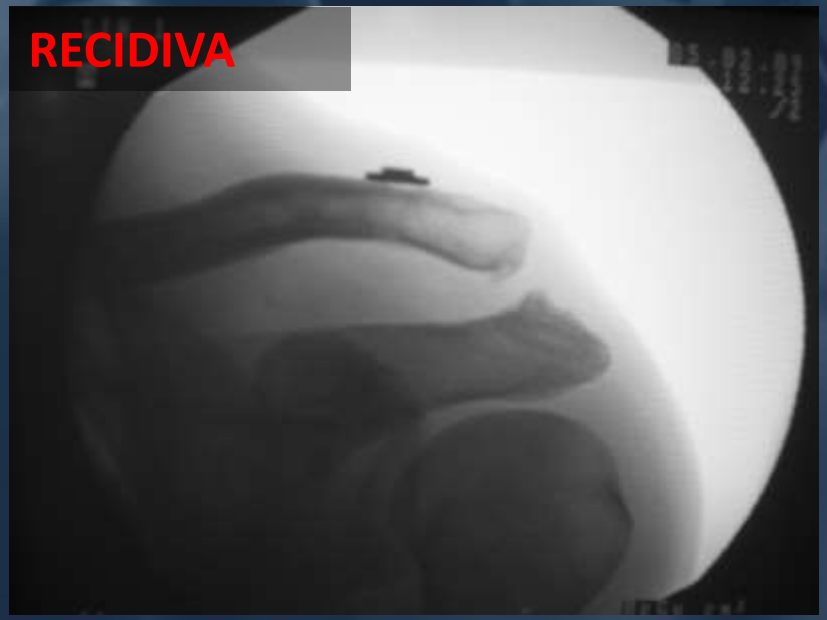
AC GRAFT ROPE

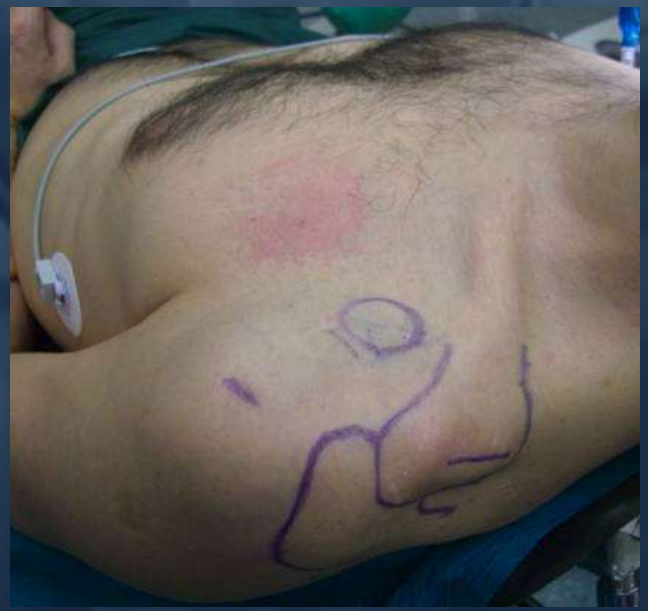
CRONICA



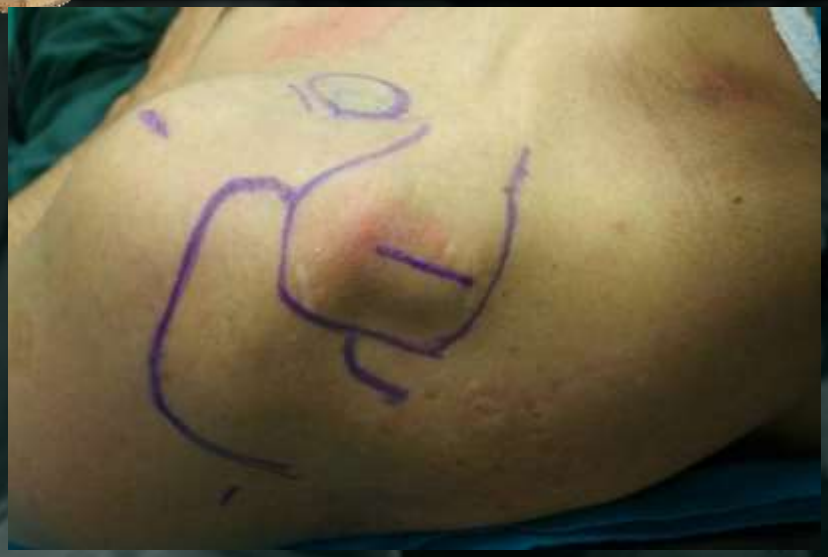


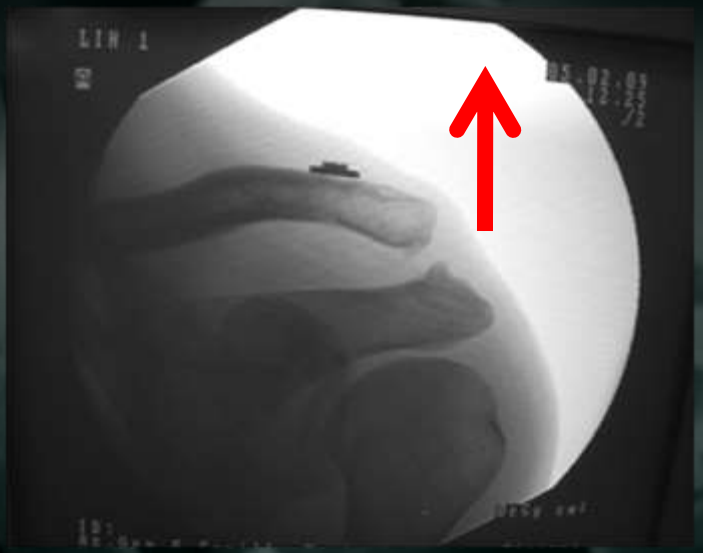
RECIDIVA

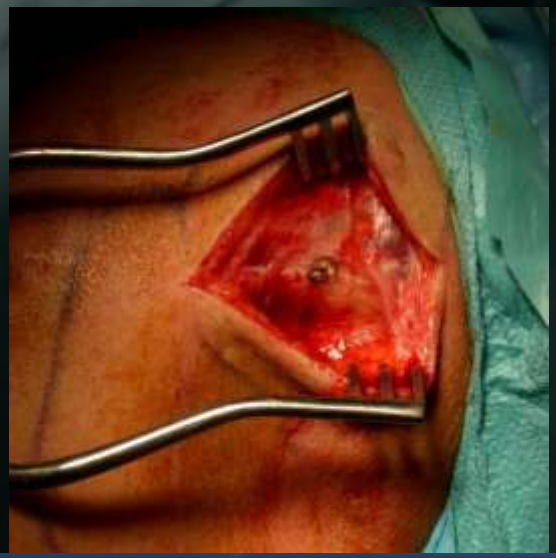


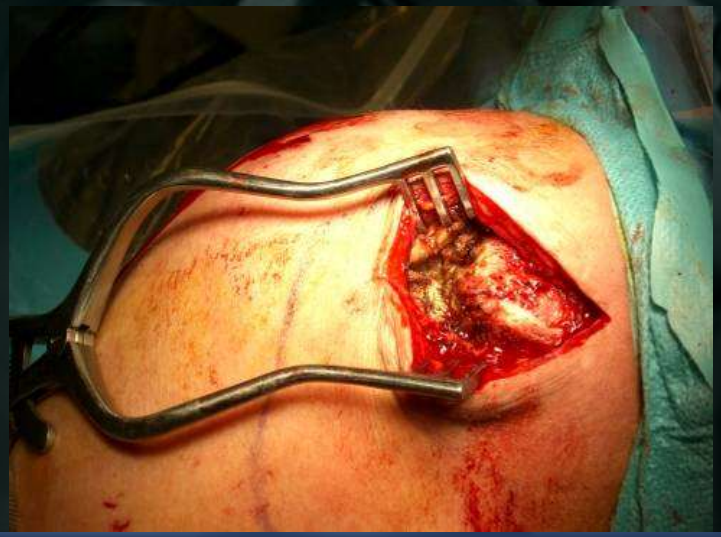


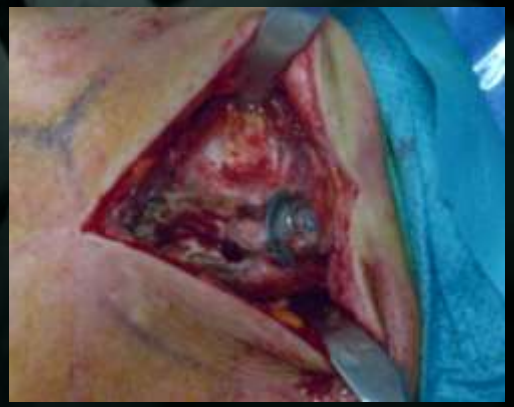
AC GRAFT ROPE





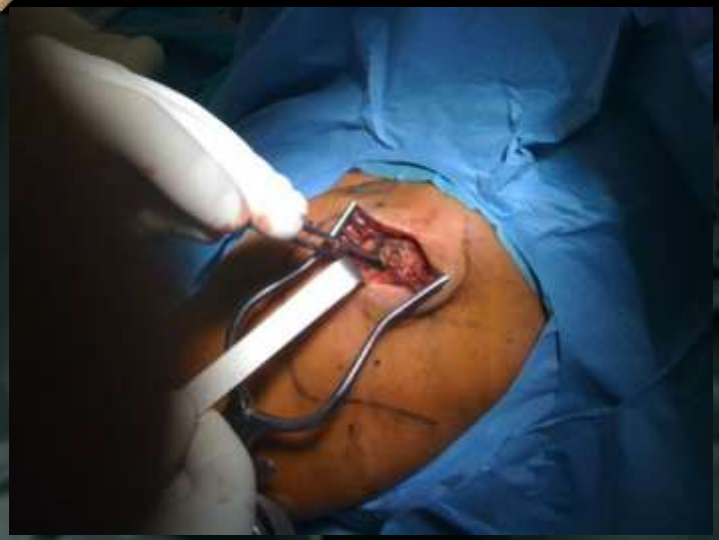


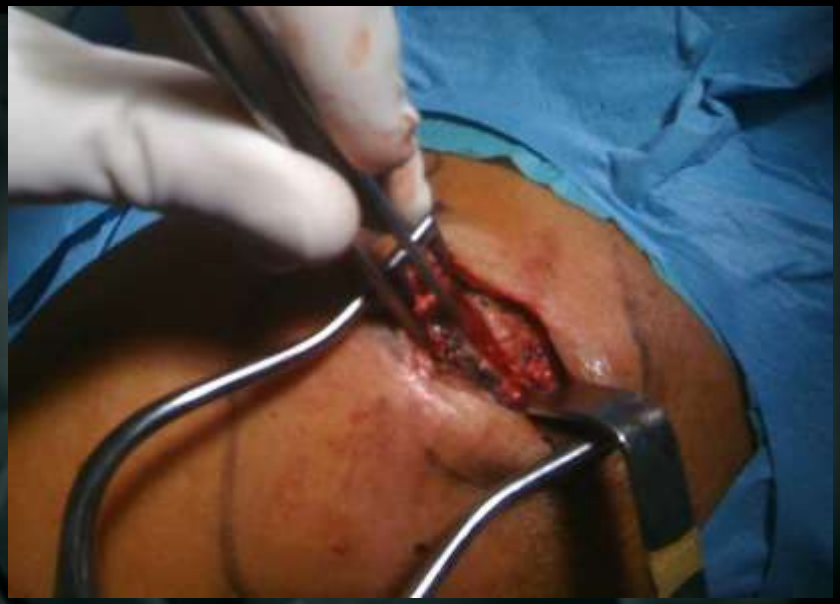


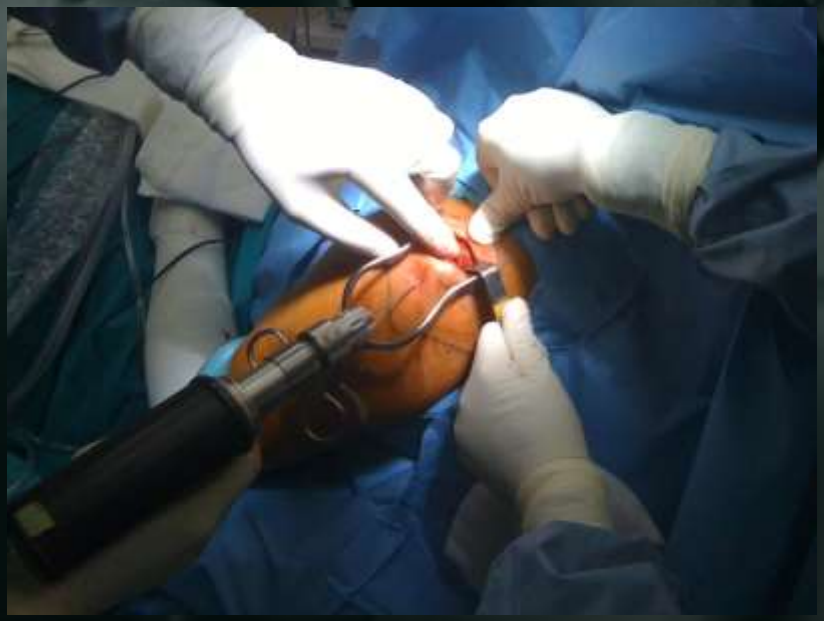


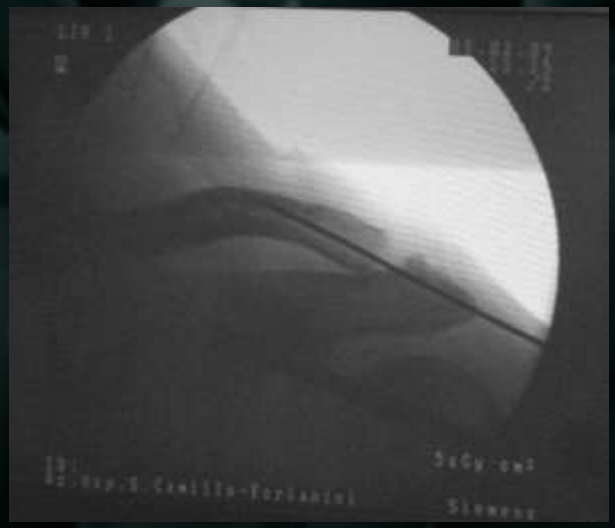
Art. dolorosa lussata anteriormente e sup.- rimozione placchetta cleveare

AC GRAFT ROPE



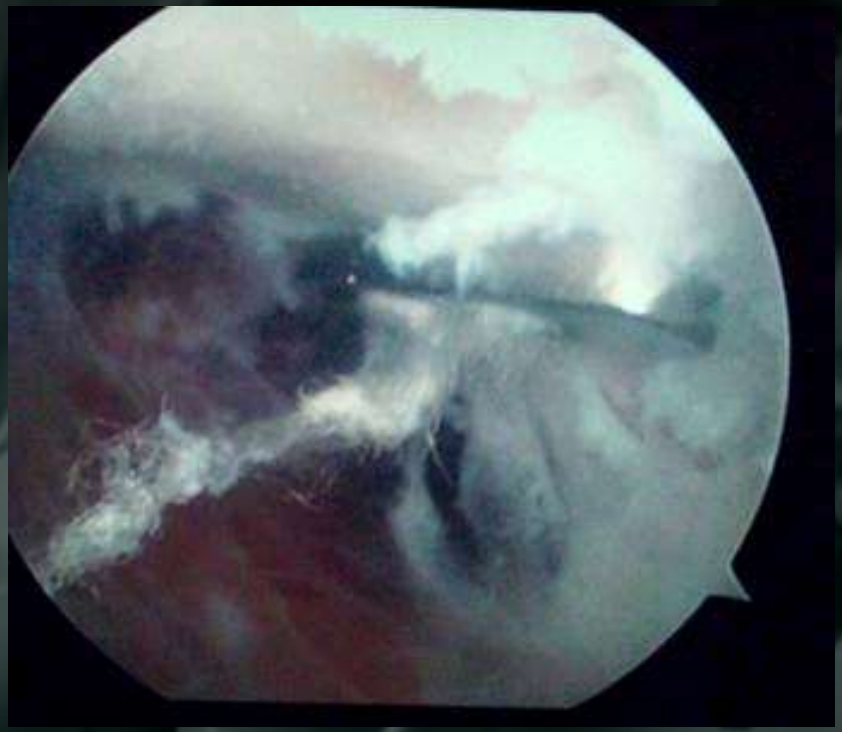


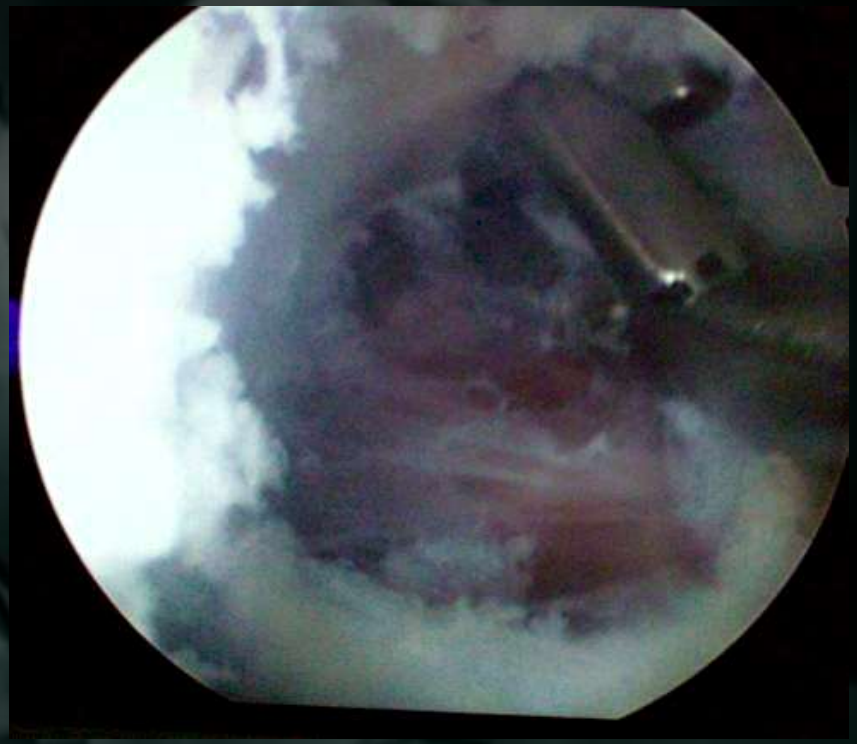




Art. dolorosa - decompressione - stabilizzazione transitoria con filo di K

AC GRAFT ROPE





RIMOZIONE BOTTONE CORACOIDEO

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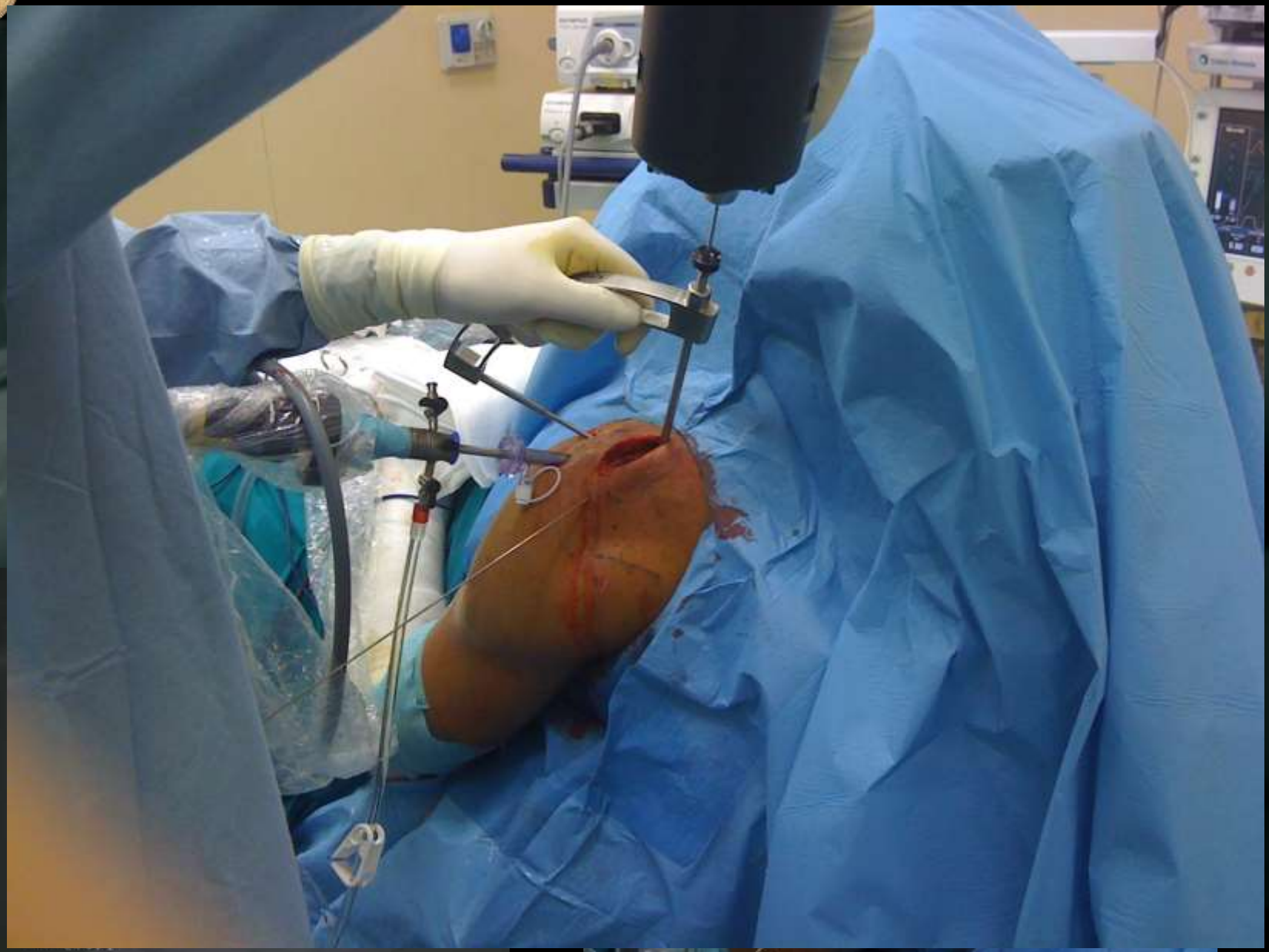

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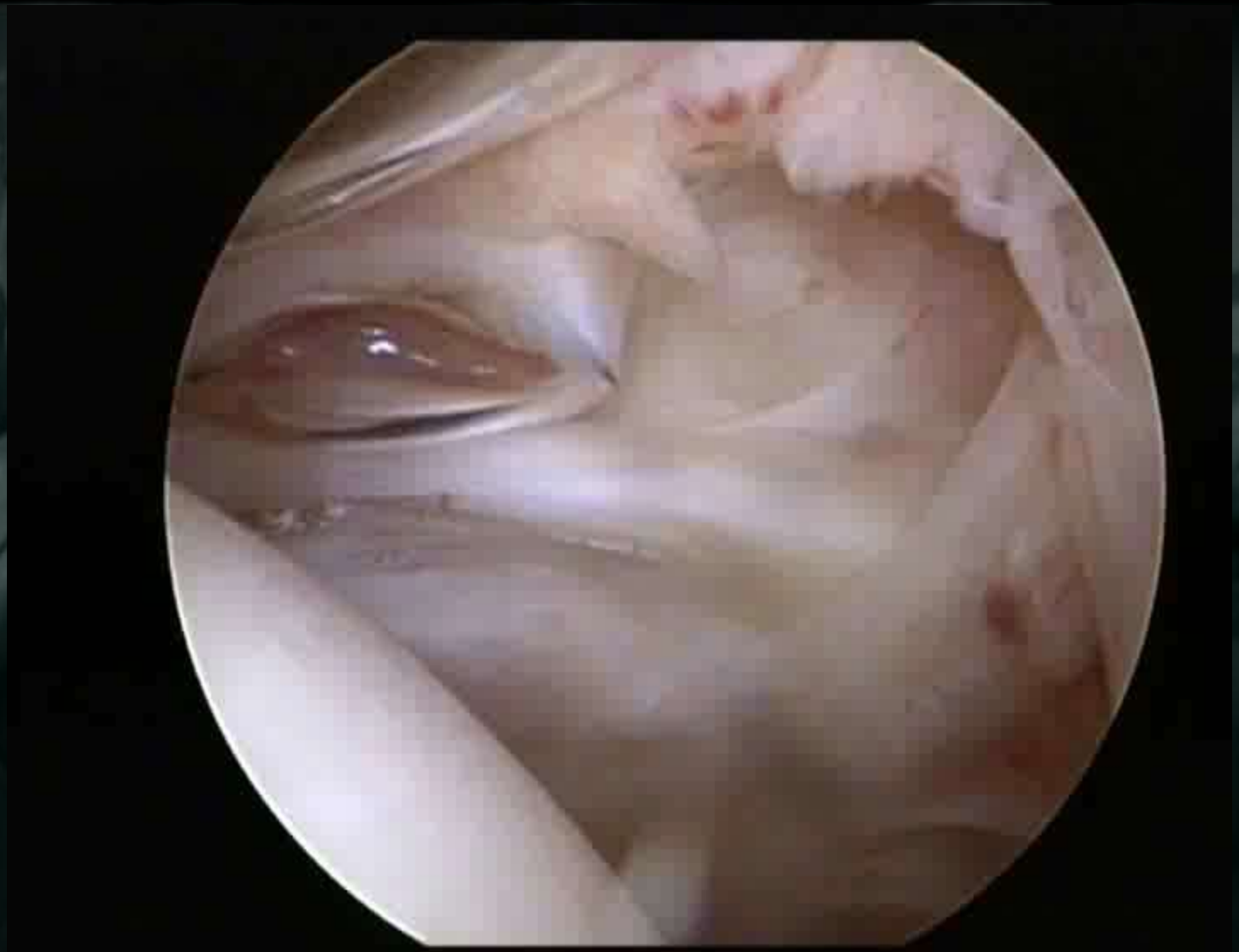

AC GRAFT ROPE

PREPARAZIONE DELL'IMPIANTO (ALLOGRAFT EPA)

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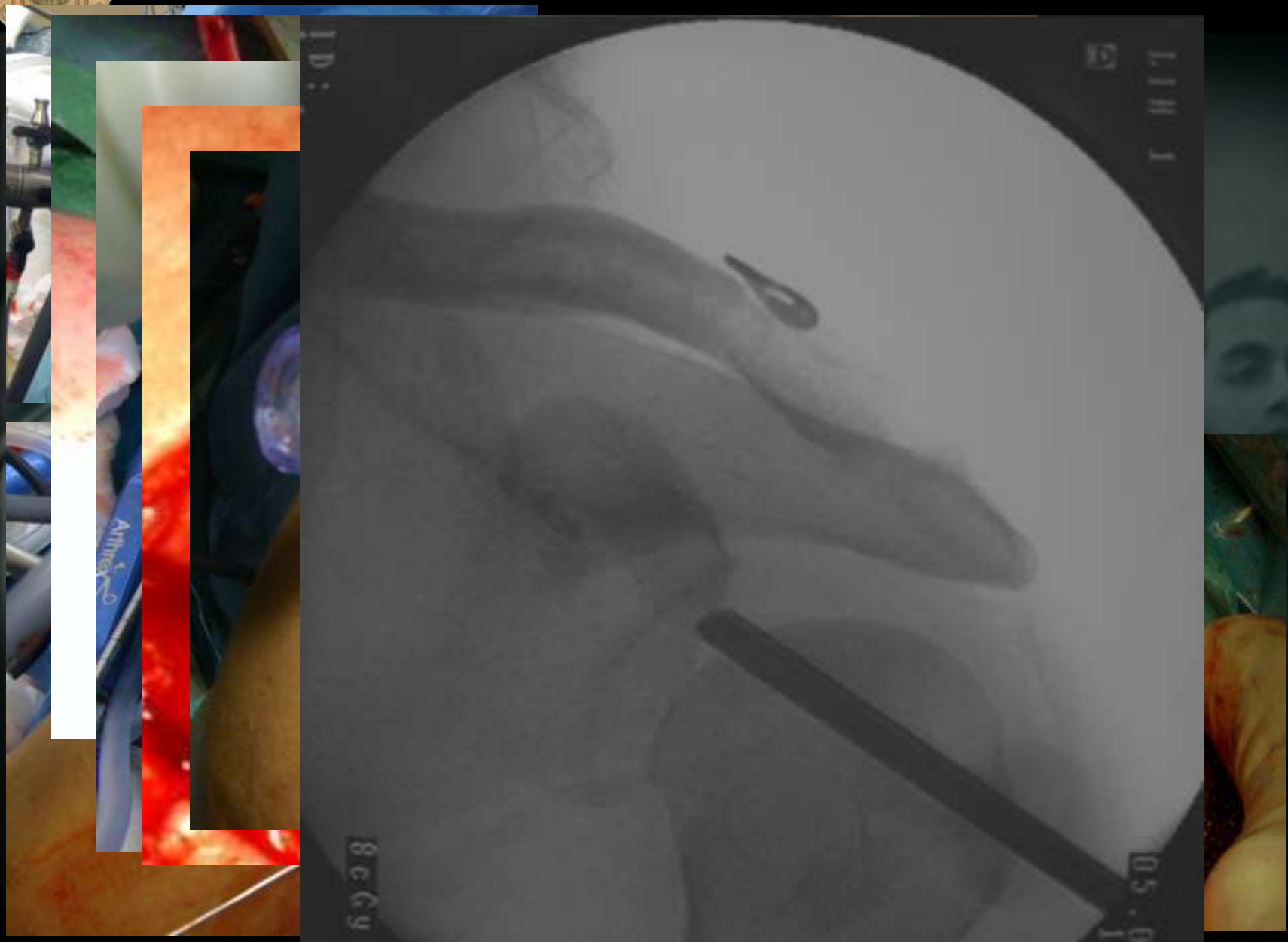

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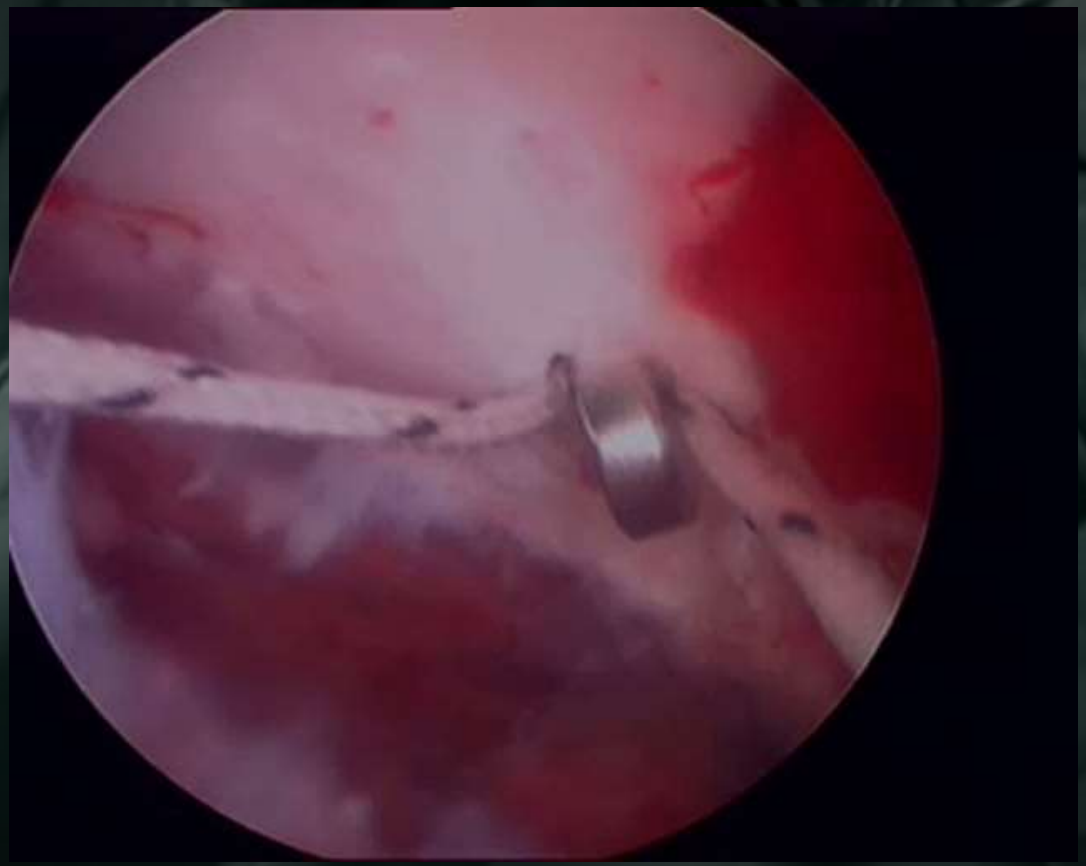
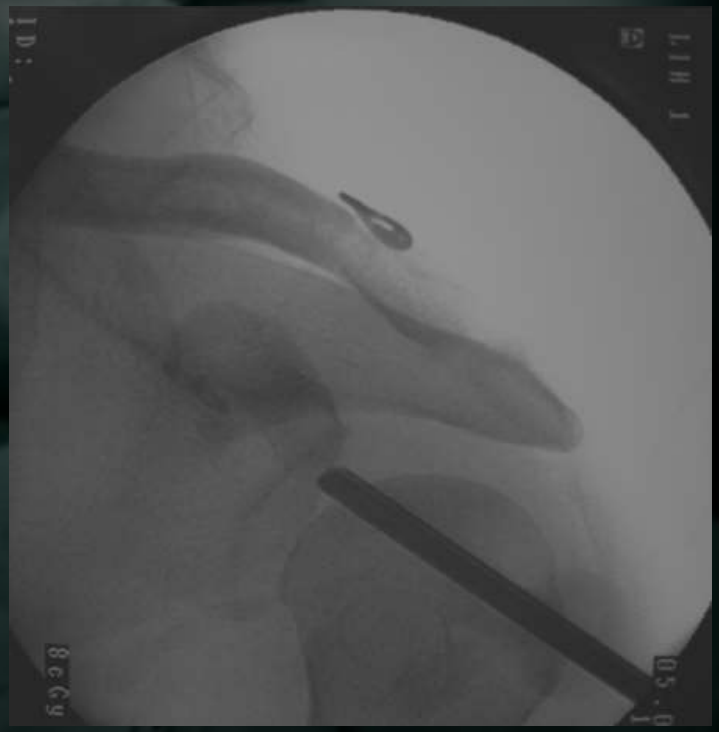




IMPIANTO

- Nov. 2007 → sett. 2009 7 ricostruzioni artroscopiche
- Sesso: 7M
- Lato : 6 Sx – 1 Dx
- Età media: 40 aa (range 33-49 aa)
- Tipologia : 2 tipo III - 1tipo IV – 2 tipo V – 2 recidive di Tight Rope
- Indicazione : sintomatologia - gravità – età –att.lavorativa /sport
- Riparazione A-C: single graft rope + allograft (epa duplicato)

- valutazione pre- e post- operatoria :

1. Radiografie Standard
2. Clinica
3. Constant score
4. Indice di Soddisfazione Sogg. 1-10

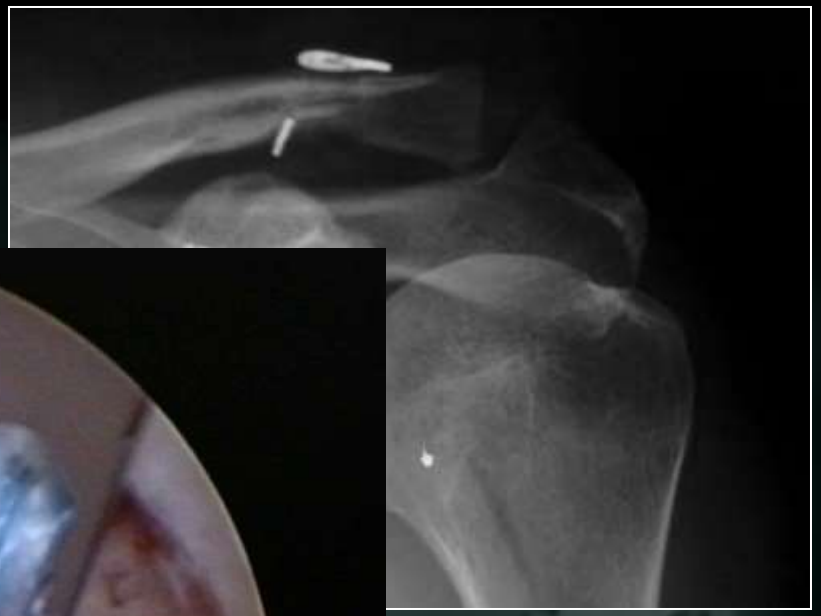
- Il Follow-Up medio 11,2 mesi (range 22-4)

- trattamento post-operatorio:

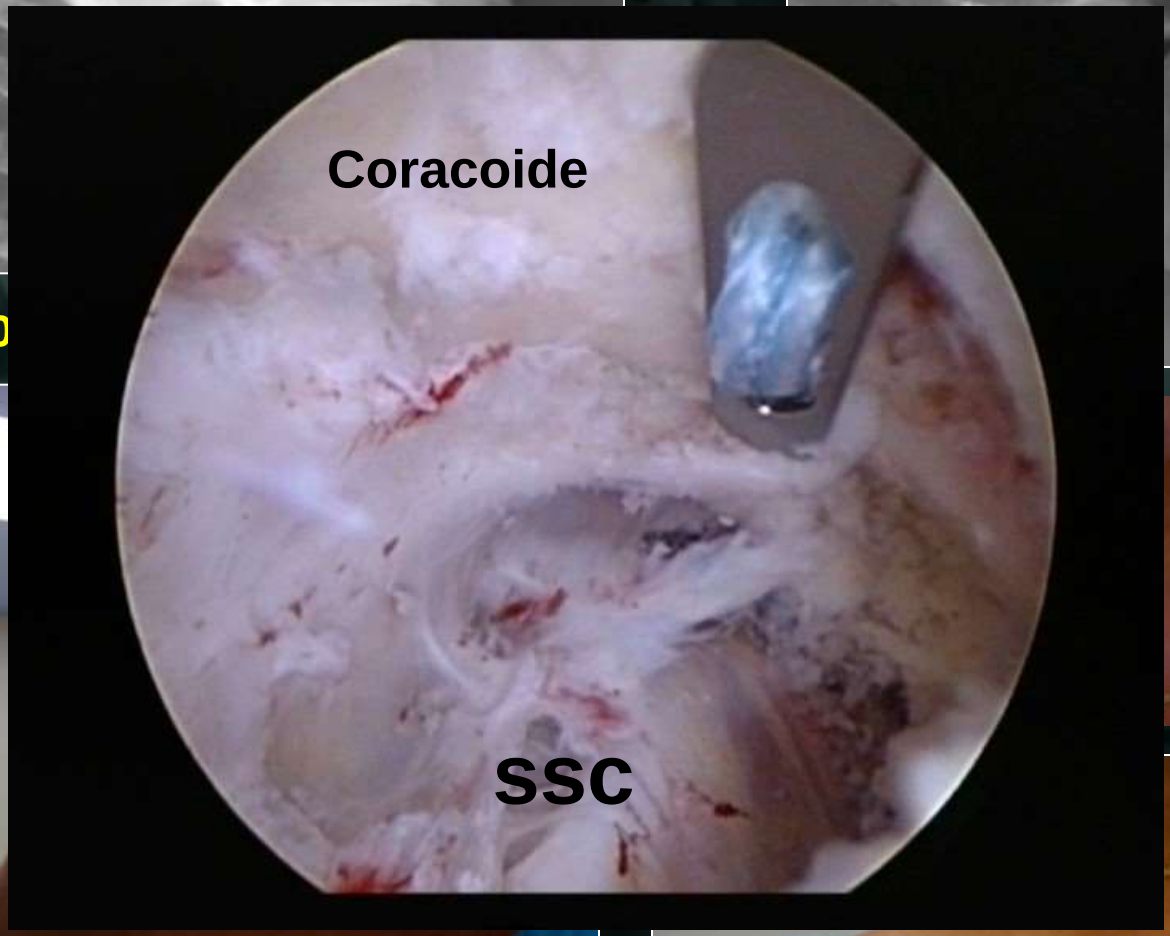
1. 0 – 4 settimane: Sling standard
2. 3 – 8 settimane: kinesi attiva e passiva
3. 8-12 settimane: rinforzo graduale con elastici e pesi
4. > 12 settimane: potenziamento, propriocettivi, recupero gesto atletico, studio dell'arco del movimento per deguamento del range articolare

Risultati

PAZIENTE		CONSTANT PRE-OP.	CONSTANT POST-OP	Incremento	Lesione	Soddisfazione	
CM	48 aa	58	69	+11	Tipo V	6	Sling 3 sett FKT aggressiva NO MUMFORD
MS	35 aa	35	88	+33	Recidiva	9	
SF	49 aa	59	86	+27	Recidiva	9	
DiMA	44 aa	72	89	+17	Tipo IV	7	Estetica sint.scarsa
LL	36 aa	73	91	+18	Tipo III	9	Estetica sint.scarsa
FP	33 aa	52	76	+24	Tipo III	9	
RF	35 aa	48	86	+38	Tipo V	9	
Media		56,7	83,5	24			

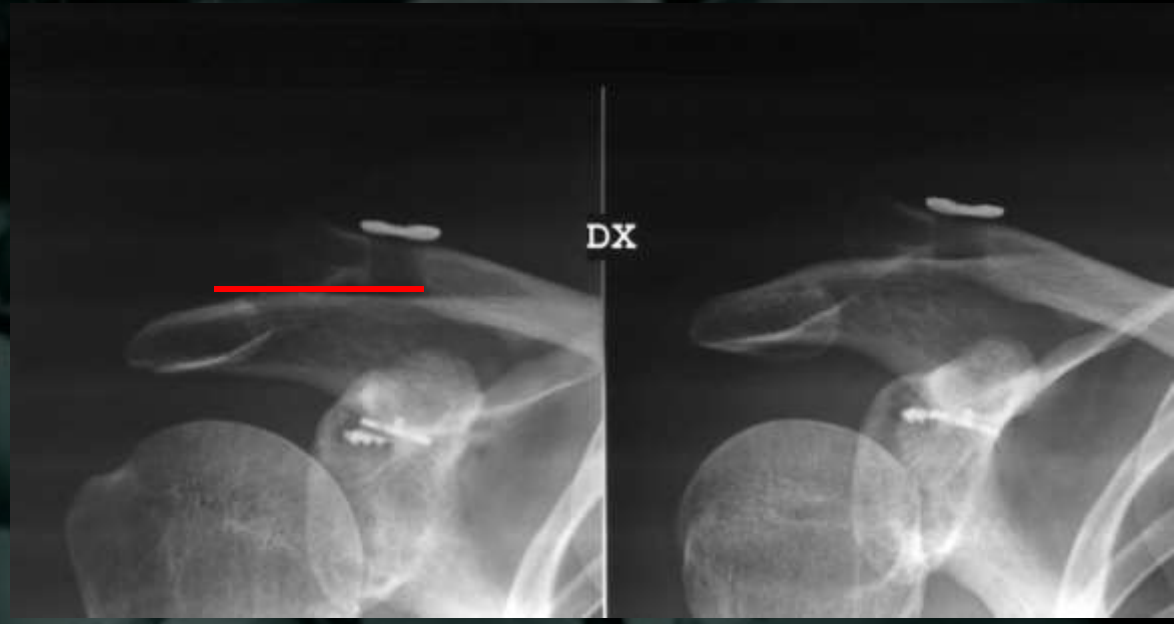


Febbraio 20



Settembre 2009

Gennaio 2009



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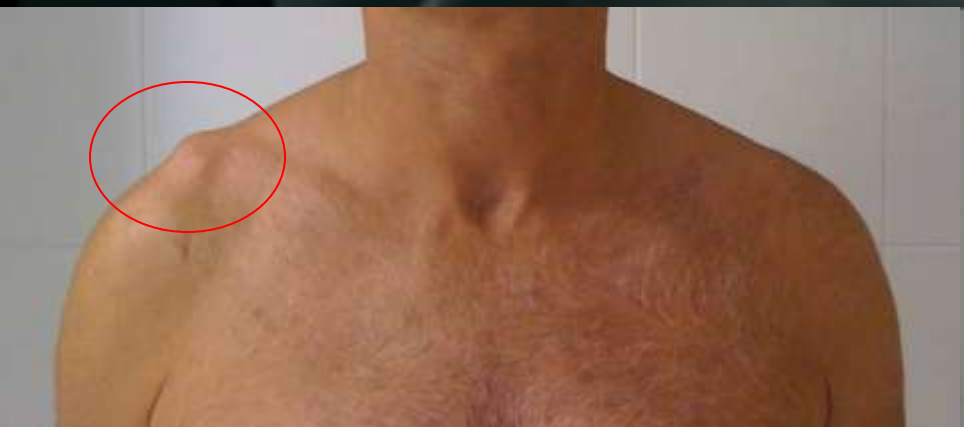
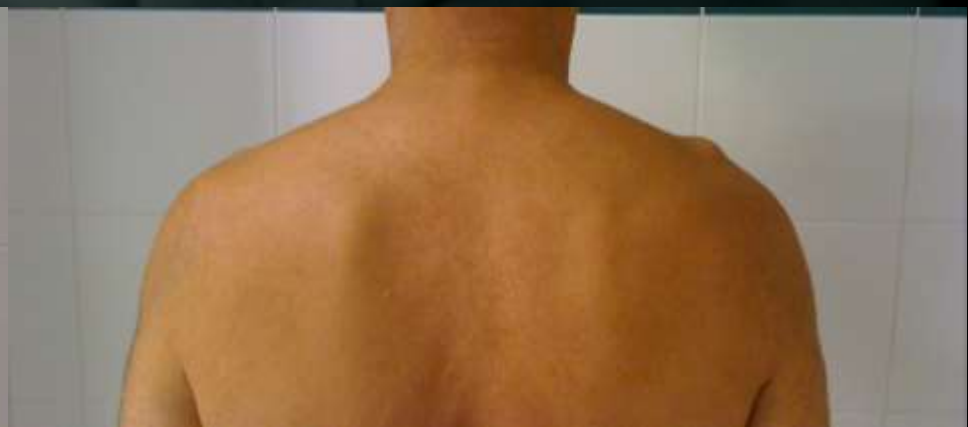
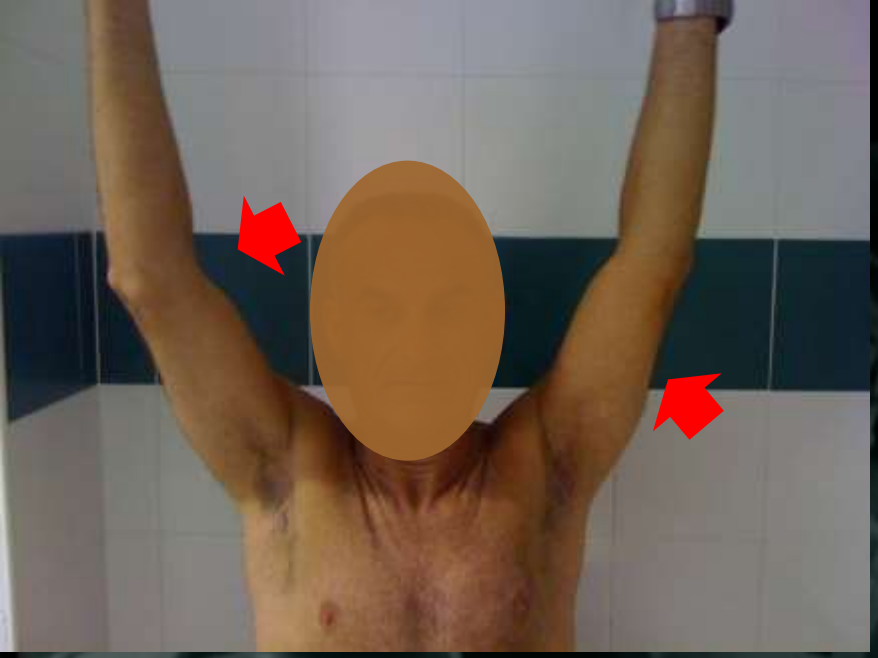
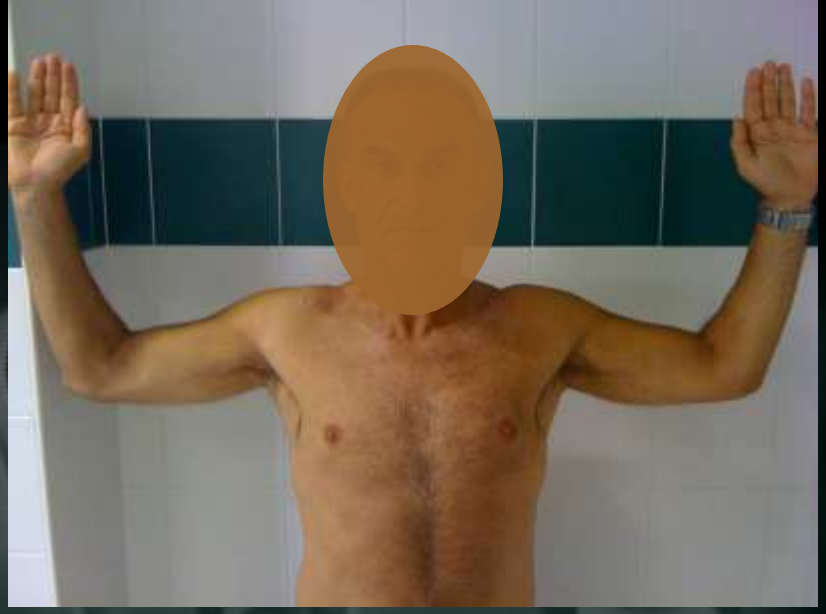
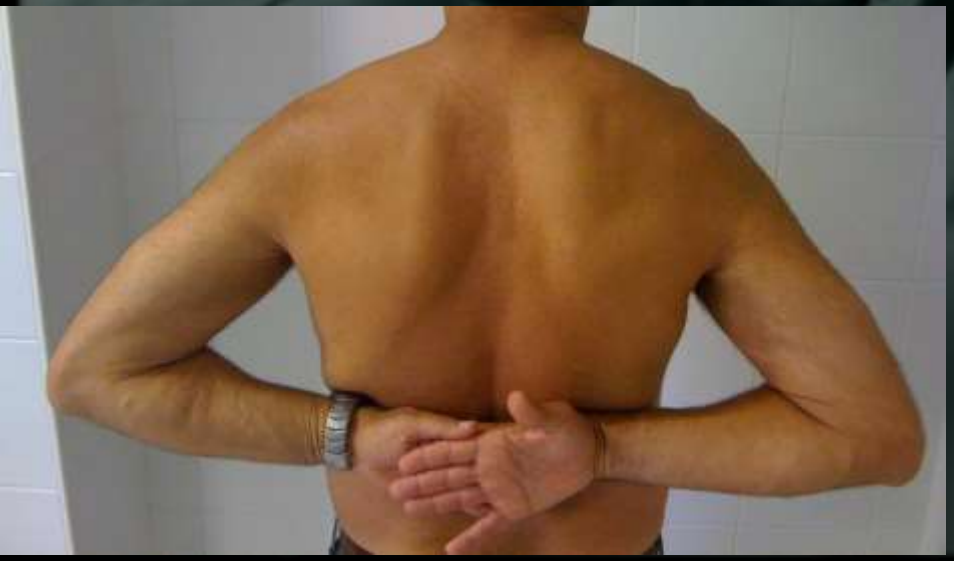
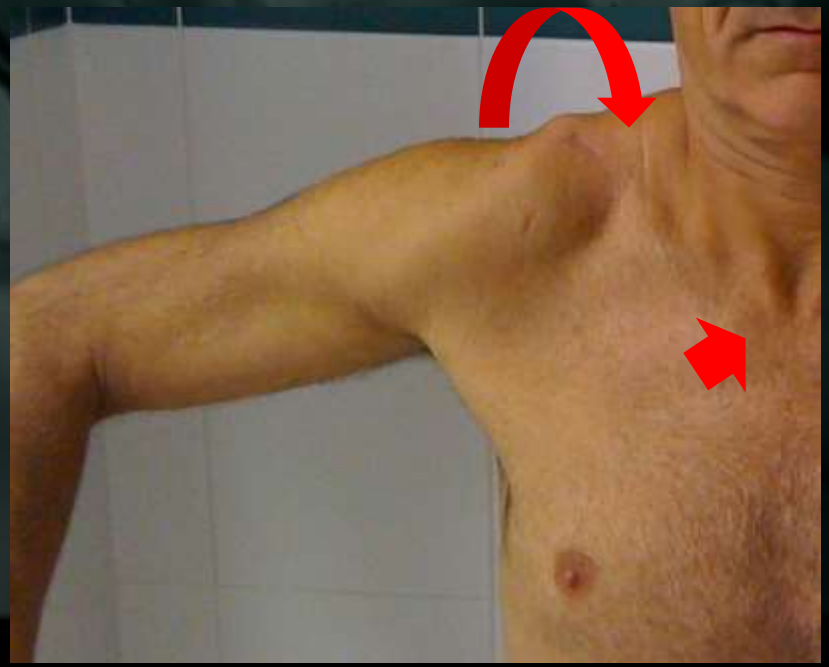


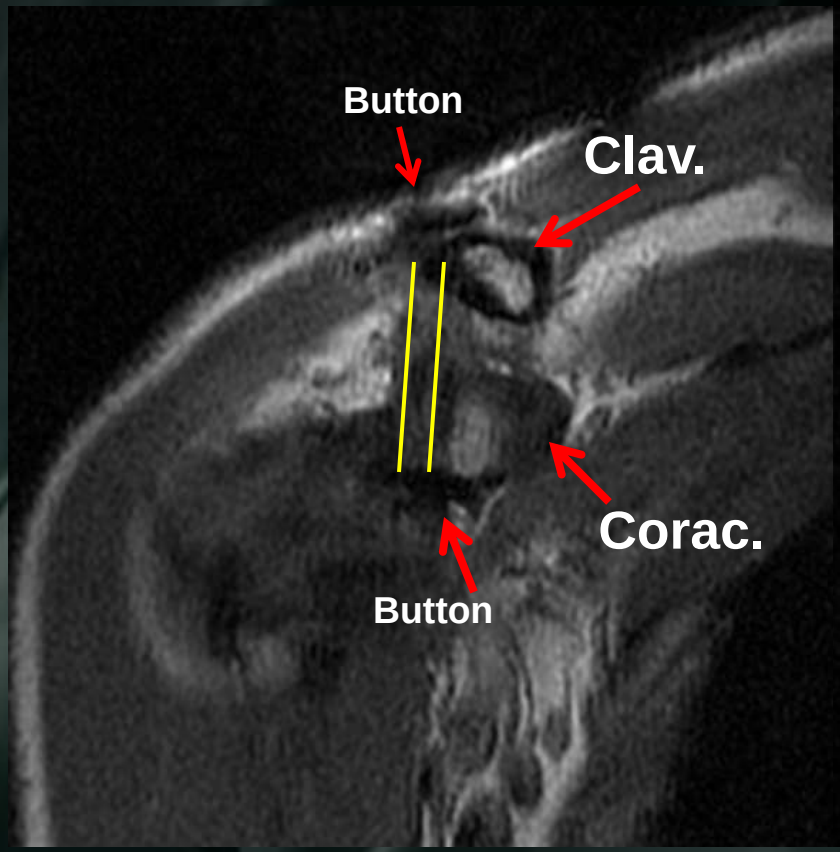


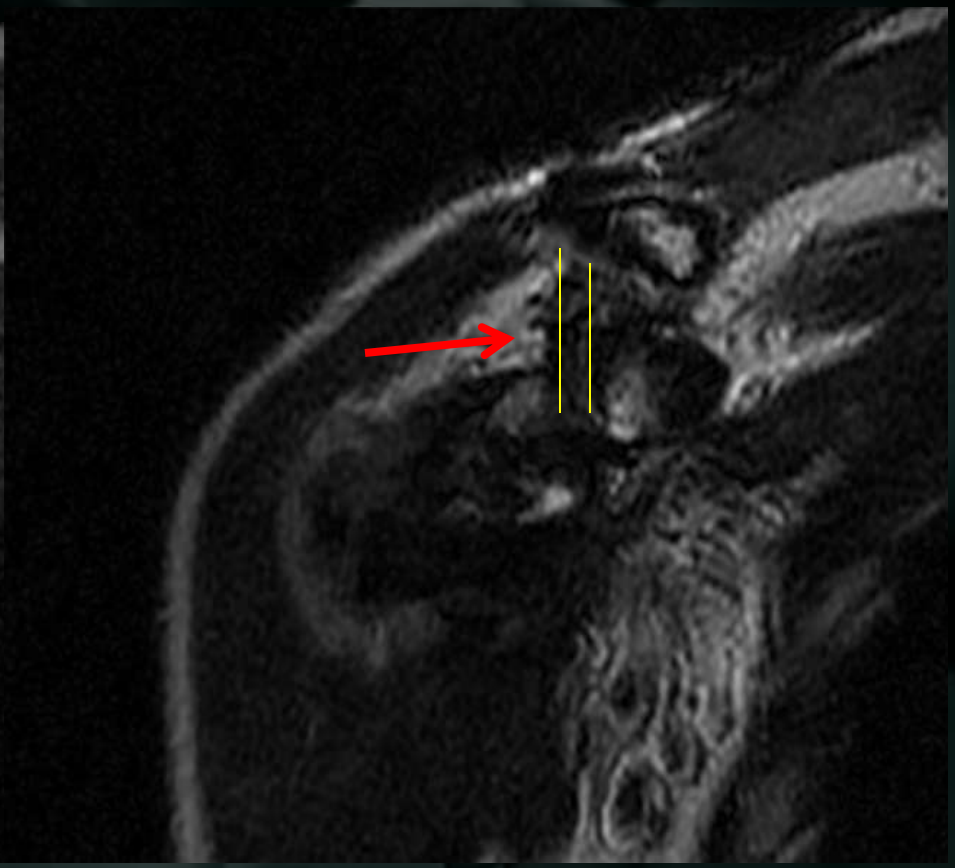


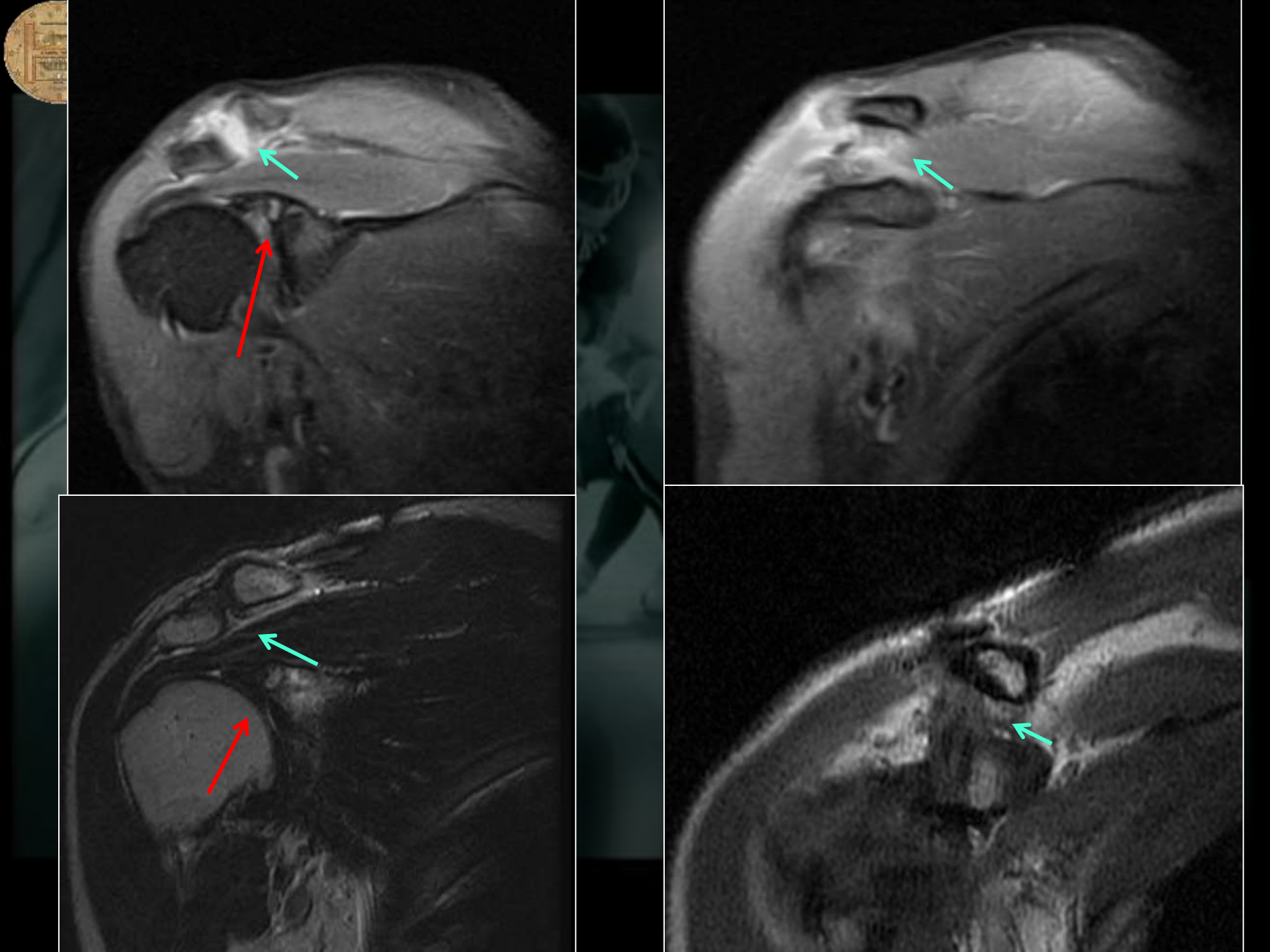







Button
Clav.
Corac.
Button





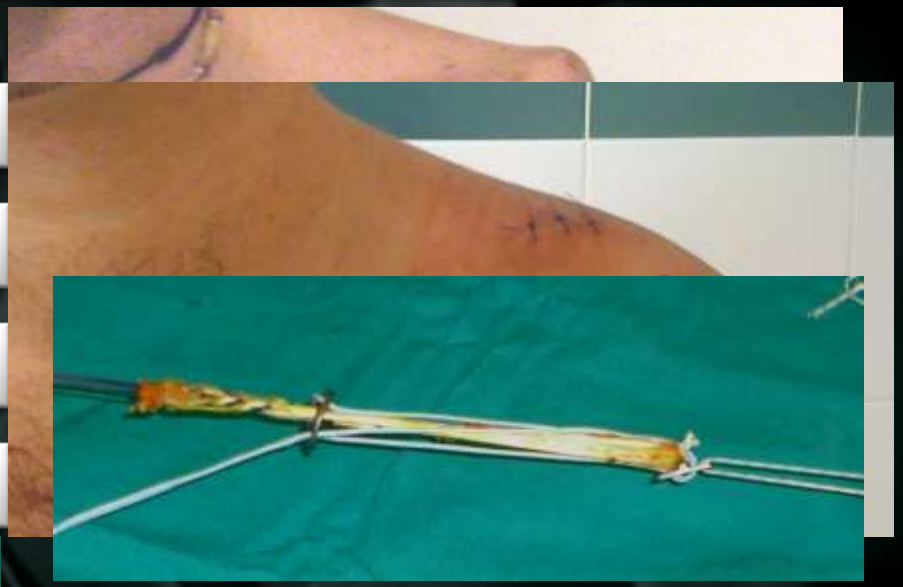
Considerazioni

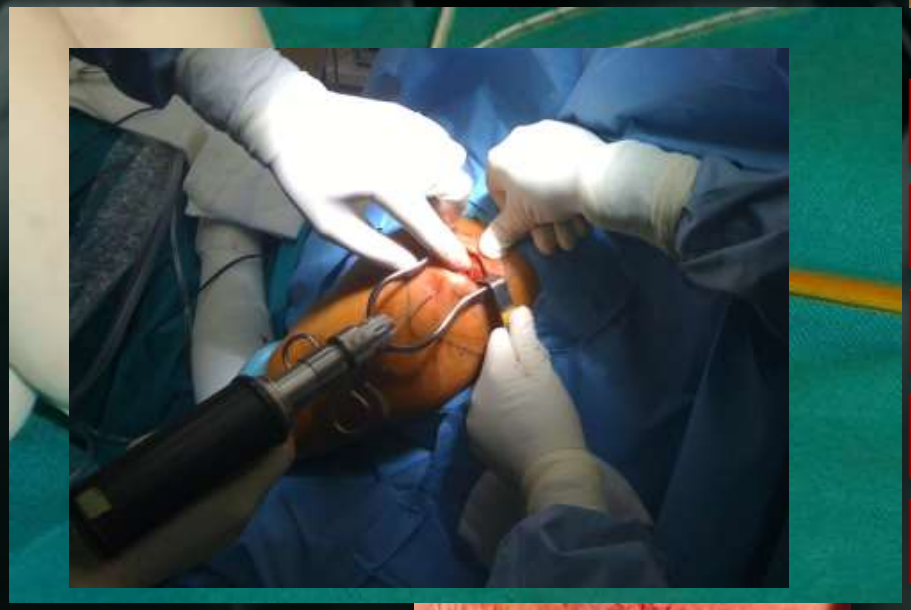
Curva di Apprendimento rapida

Anatomia e minimo trauma chirurgico

Riparazione biologica (allograft)

Resistenza Meccanica





Rispetto di elementi tecnici

Immobilizzazone prolungata (4sett)

Tempi di recupero lunghi (Mob A-c Lenta)

FKT non aggressiva (allograft)

Sterno claveare rigida ! ?

ATTENZIONE – pz sintomatici – no estetica

GRAZIE

XIX CONGRESSO NAZIONALE S.I.A.
SOCIETÀ ITALIANA DI ARTROSCOPIA

TRENT'ANNI
DI ARTROSCOPIA
IN ITALIA

Società Italiana
di Artroscopia

Presidente Onorario
Lamberto Perugia

Presidenti
Francesco Allegra
Andrea Ferretti

Roma, 1-3 ottobre 2009
Rome Marriott Park Hotel

LA RIPARAZIONE DELLA LUSSAZIONE ACROMION – CLAVEARE CRONICA CON ALLOGRAFT ESPERIENZA PRELIMINARE.

M. SPOLITI,

S. CHIOSSI , F.R. ROSSETTI

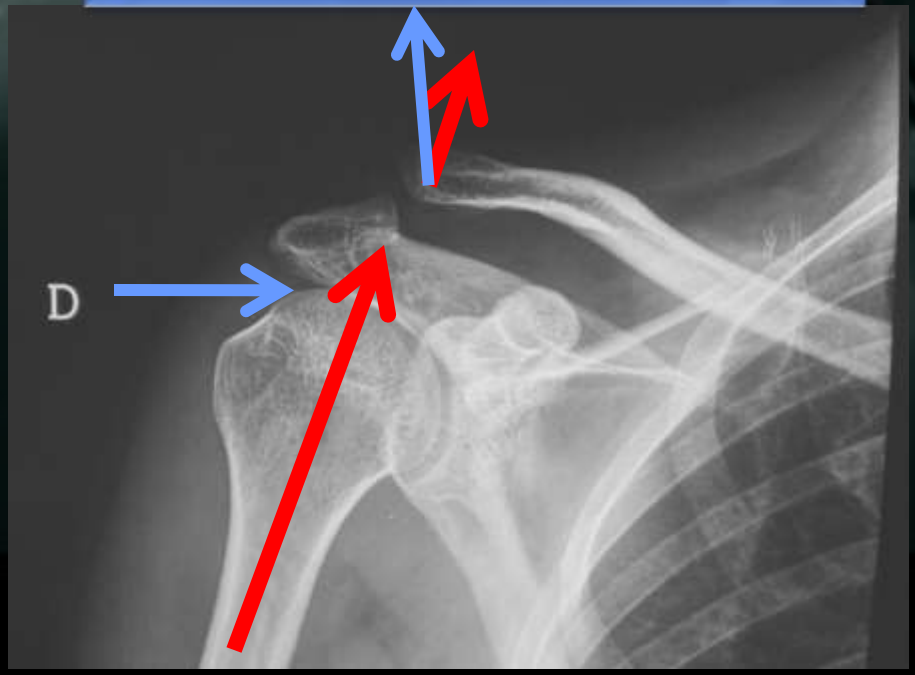
SERVIZIO "ONE DAY SURGERY"
DIVISIONE DI CHIRURGIA ORTOPEDICA

Primario: Prof. S. Rossetti

Azienda ospedaliera San.Camillo-Forlanini ROMA

Meccanismo di lesione

TRAUMA DIRETTO IN ADDUZIONE



TRAUMA INDIRETTO
CADUTA SUL GOMITO

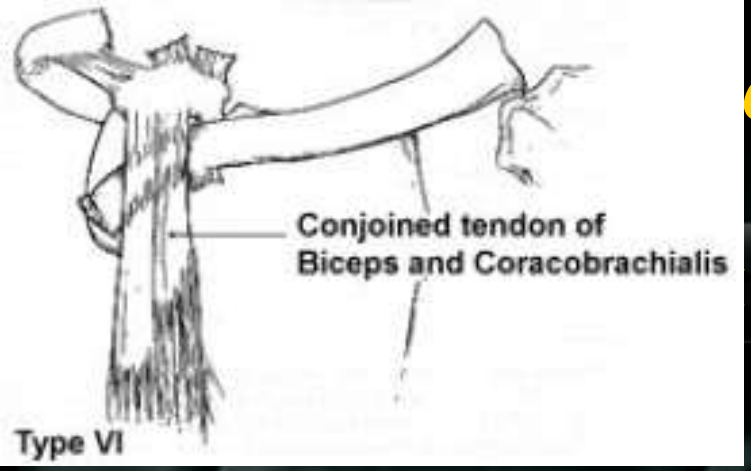
Meccanismo di lesione

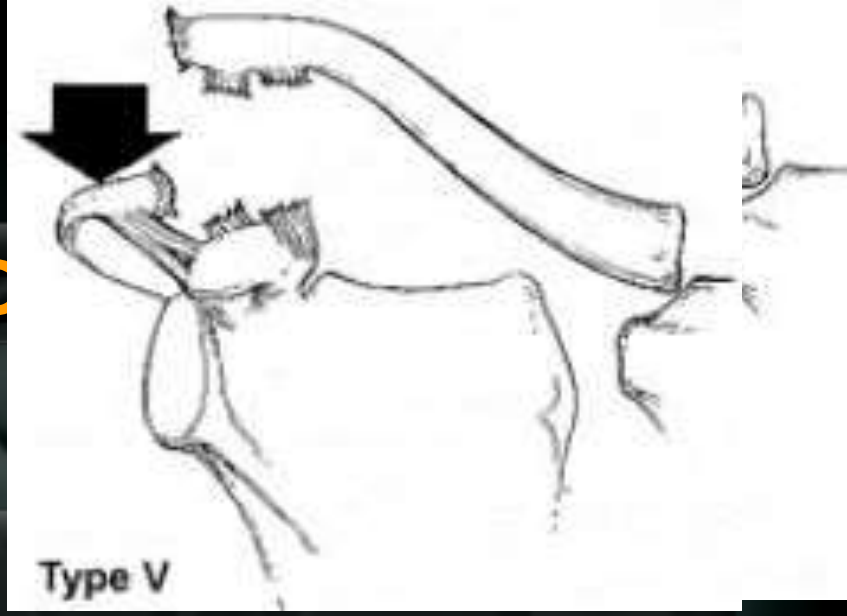
TRAUMA INDIRETTO
CADUTA SUL GOMITO

Tisher T. et Al AJSM 2008

e A-C

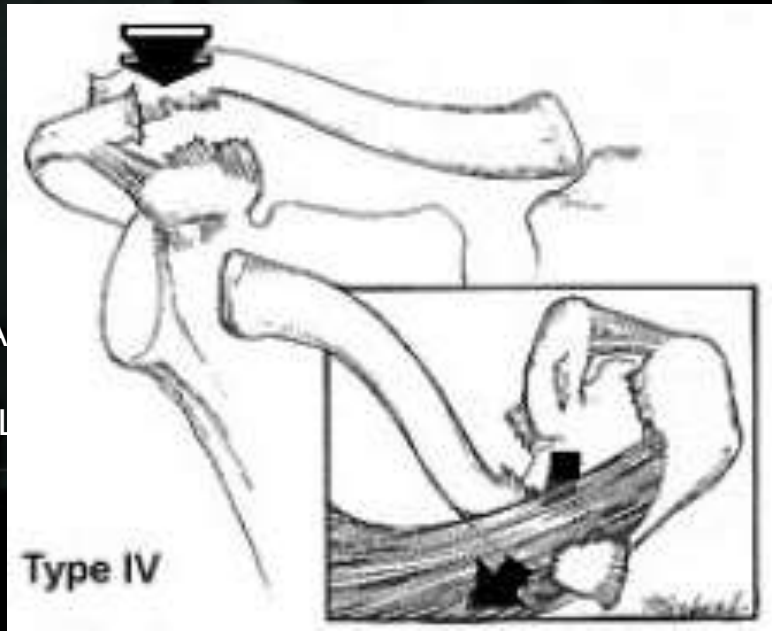
HIRURGIC





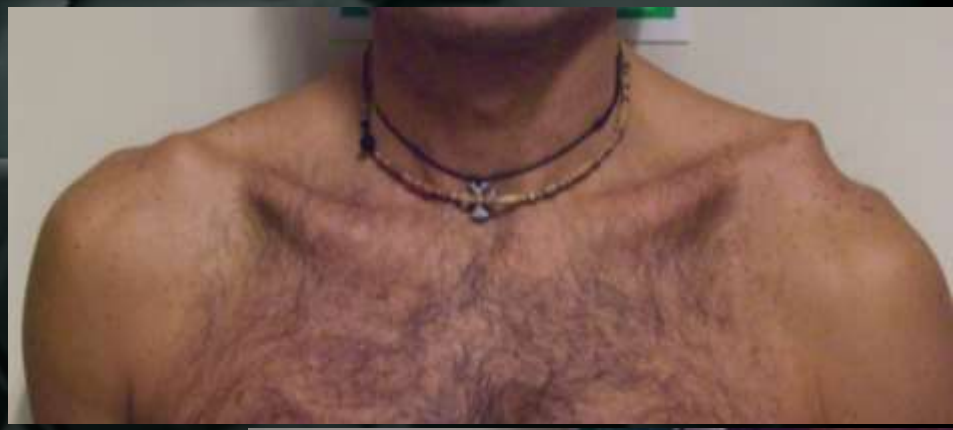
TIPO DI LUSSAZIONE

- **I** DISTRAZIONE CAPSULARE A-C — NO
- **II** ROTTURA CAPSULARE E DISTR. L.C.C. — NO
- **III** ROTTURA CAPSULARE E L.C.C.
- **IV** TIPOIII + AVULSIONE L.CC CON CLAVICOLA POSTERIORIZZATA ANCHE IN TRAPEZIO
- **V** TIPO III +CON ESAGERATO SPOSTAMENTO VERTICALE DA100 A 300% RISPETTO AL LATO SA
- **VI** TIPO III +SPOSTAMENTO INFERIORE DELLA CL



Lussazione A-C

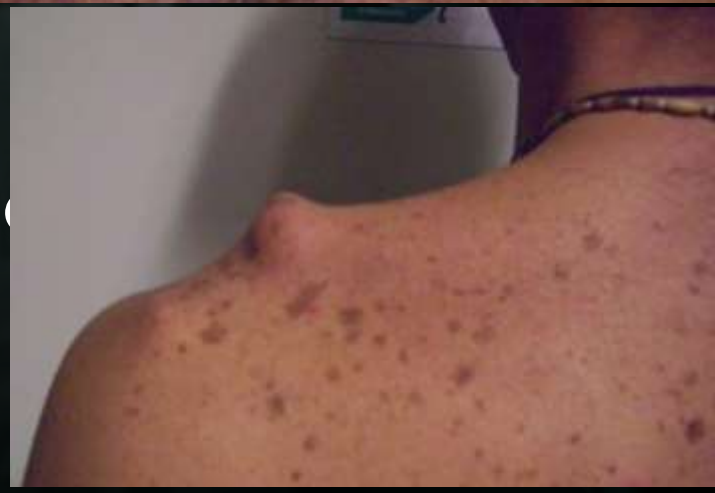
INDICAZIONE CHIRURGICA



TIPO 4 5 6

Walz L AJSM 2008

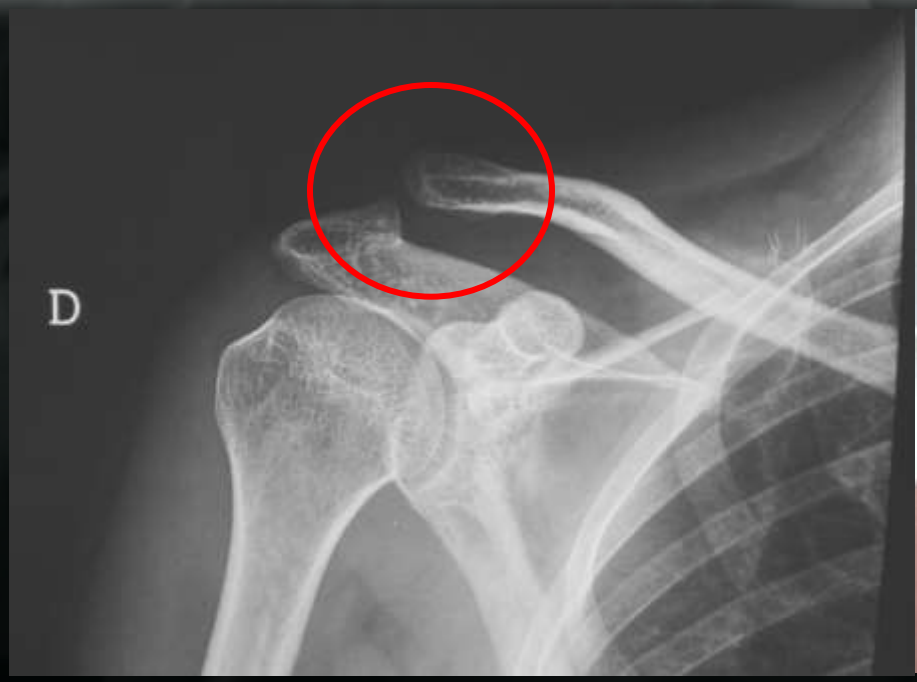
TIPO 3 lavoratori manuali ,

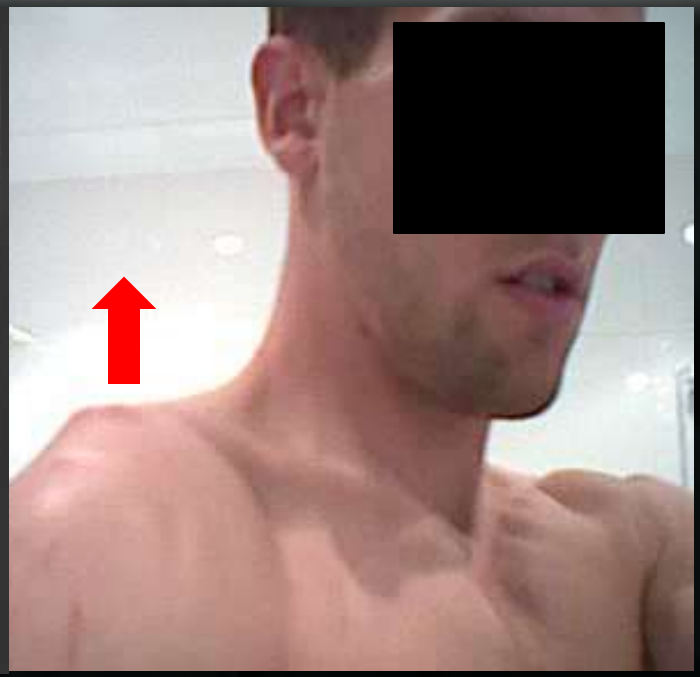


Choi AJSM 2008

Lussazione A-C acuta

Dolore - deformità - riduzione di forza





RIDUZIONE STABILE !

Lussazione A-C

RIDUZIONE

Prevenire l'instabilità

Permettere la guarigione dei leg.C.clavicolari

Recuperare la normale anatomia e funzione

WALZ L AJSM 2008

Lussazione A-C

LA RIDUZIONE E' STABILE

QUANDO SOPPORTA
LE TENSIONI E I CARICHI CHE
AGISCONO SUL COMPLESSO ARTICOLARE
CLAVI –CORACO- ACROMIALE

Lussazione A-C

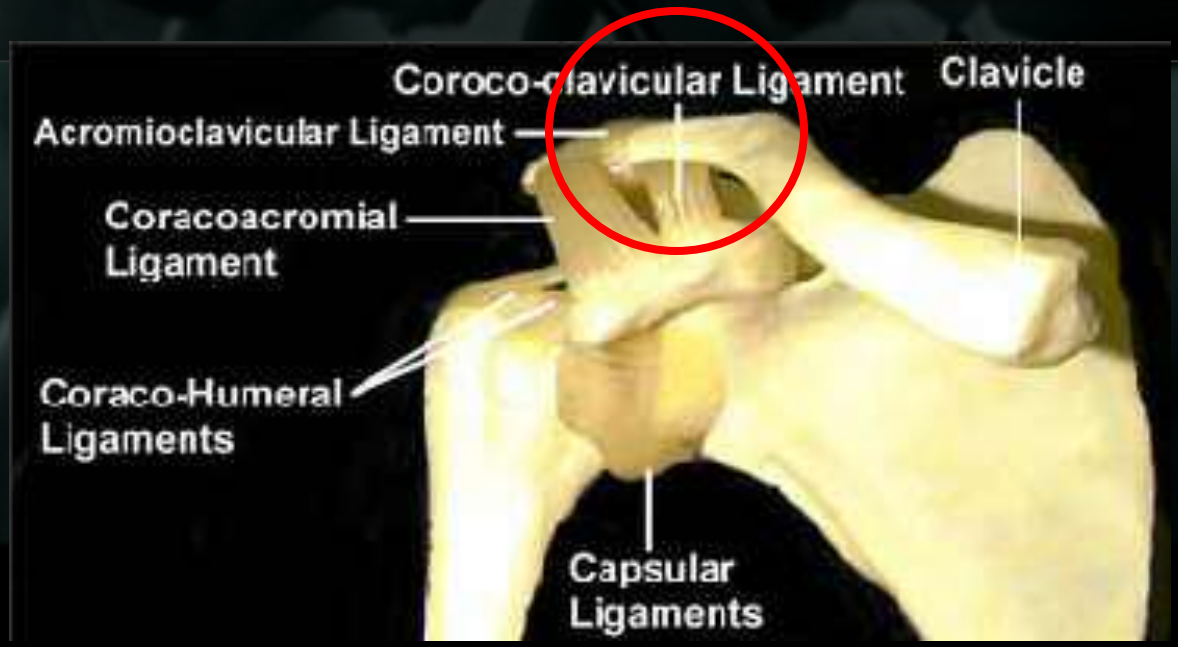
RESISTENZA DEI LEG. CORACO-CLAVICOLARI

598 N

RESISTENZA COMPLESSO ART. A-Co-Cl

815 N

WALZ L AJSM 2008

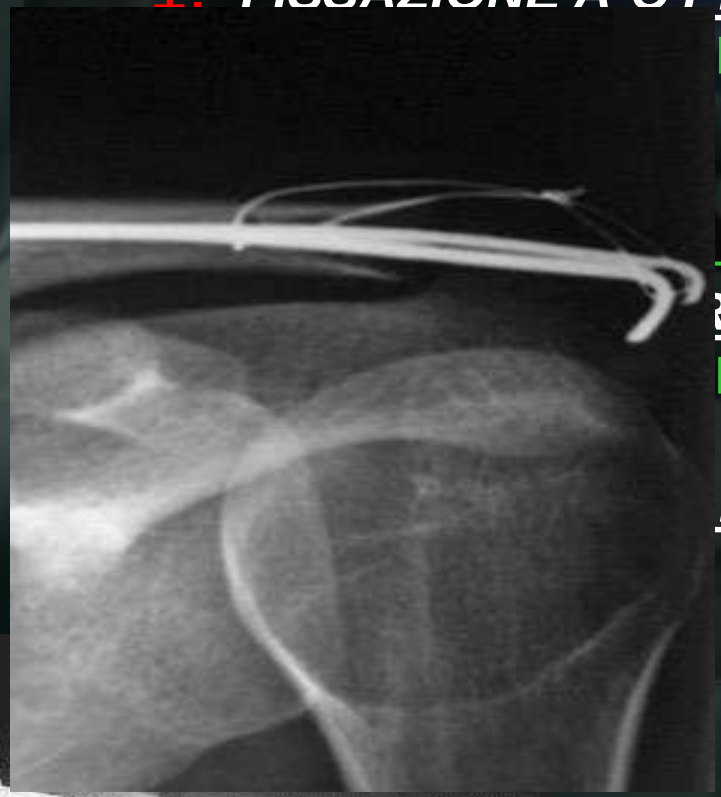


Lussazione A-C

4 PRINCIPALI TECNICHE CHIRURGICHE

1. ***FISSAZIONE A-C PRIMARIA CON :***

E - PLACCHE – PLACCHE A UNCINO



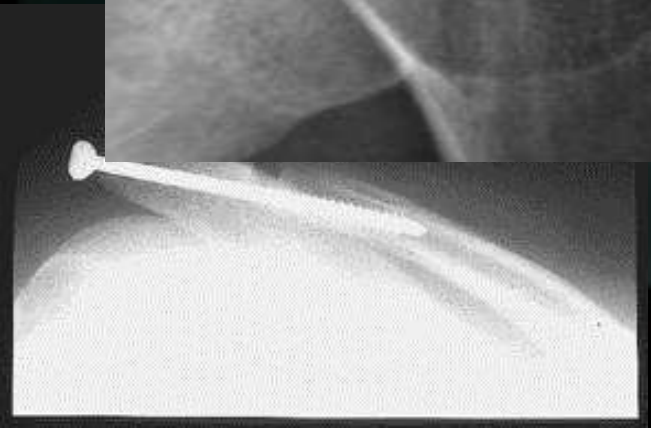
LEGAME

R. LAT. C

ENTI –TR

CLAVICO

MUSCOL



Lussazione A-C

RESISTENZA DEI LEG. CORACO-CLAVICOLARI

598 N

RESISTENZA COMPLESSO ART. A-Co-Cl

815 N

Trasf. Leg Co - Ac. Pro clavicola

483 N

WALZ AJSM 2008

Lussazione A-C

Salzmann GM ActaOrt.Bel. 2008
Mazzocca et Al AJSM 2007

- *Inferiore resistenza meccanica*
- *Inferiore stabilità*
- *Rigidità*
- *Mancato rispetto anatomia della a-c*
- *Alterata risposta alle diverse condizioni di carico funzionale.*

Recidive , mobilizzazioni, dolore, disfunzione, artrosi e deformità

Non esiste una tecnica ideale

Yeow W. L. AnnAcc Med 2008
Lyon FA Rokwood CA JBJS Am 1990

Lussazione A-C acuta

FISSAZIONE ARTROSCOPICA CON TIGHT ROPE

FIBER WIRE + BUTTON

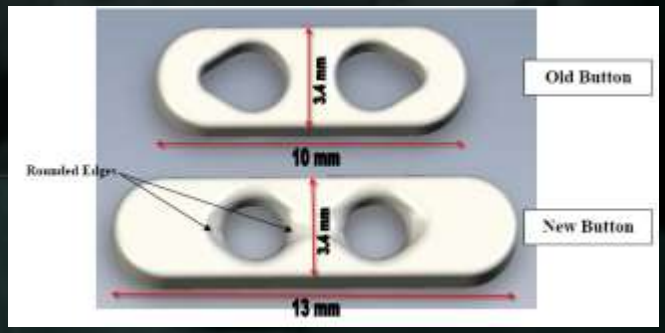
TIGHT ROPE

RESISTENZA DEI LEG. CORACO-CLAVICOLARI

598 N

RESISTENZA COMPLESSO ART. A-Co-Cl

815 N



SISTEMA ENDOBUTTON

1086 N

TIGHT ROPE

RESISTENZA DEI LEG. CORACO-CLAVICOLARI

598 N

RESISTENZA COMPLESSO ART. A-Co-Cl

815 N

1 STRAND -FIBER WIRE n 5

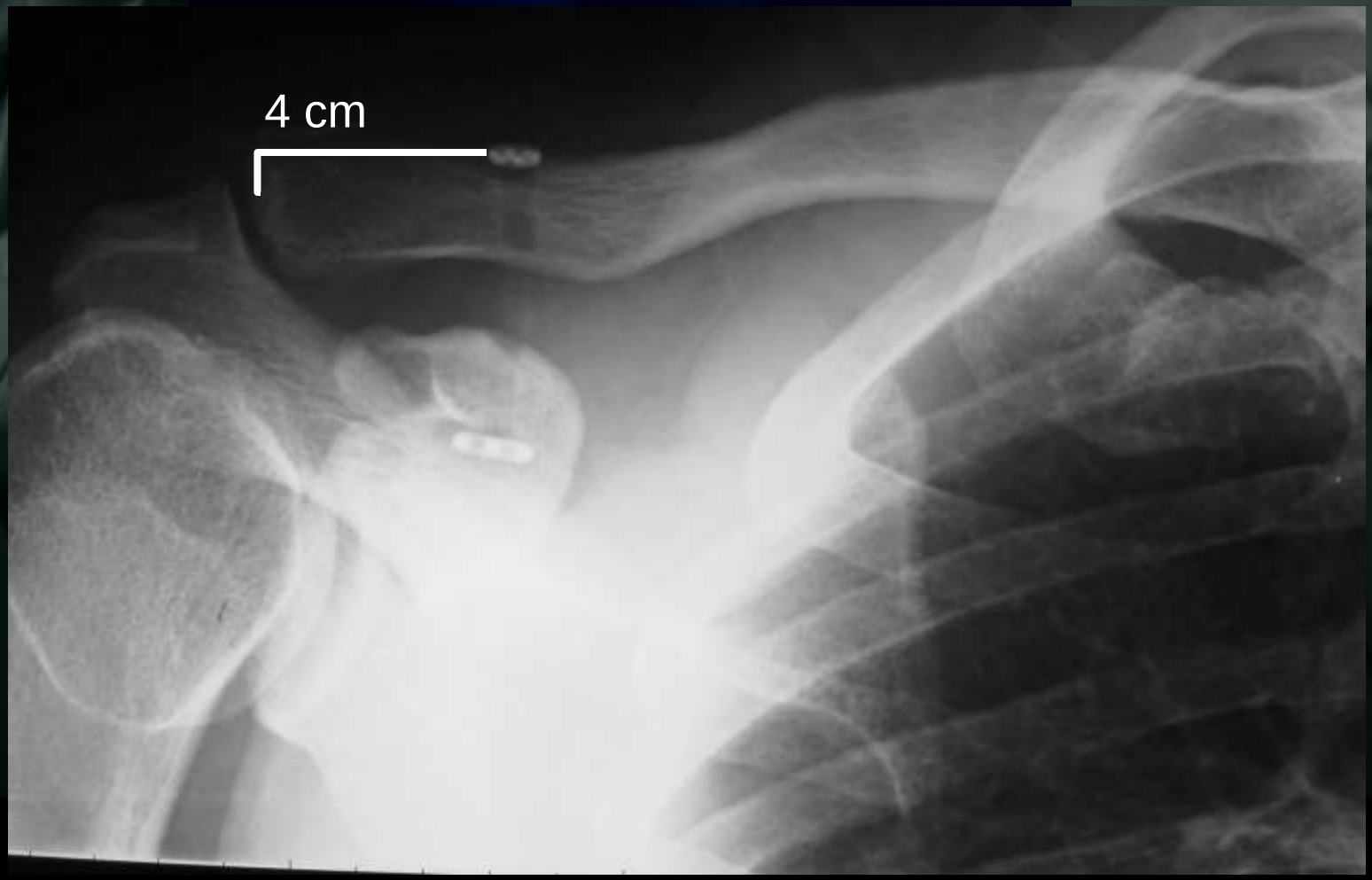
485 N

TIGHT ROPE

3 PRINCIPI

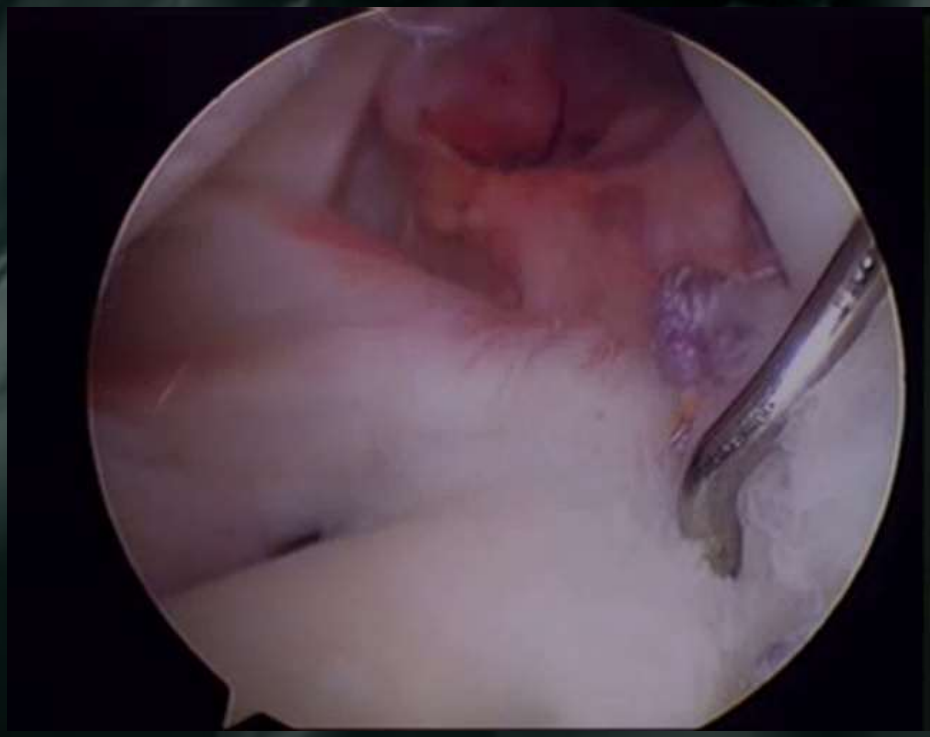
TIGHT ROPE

TECNICA

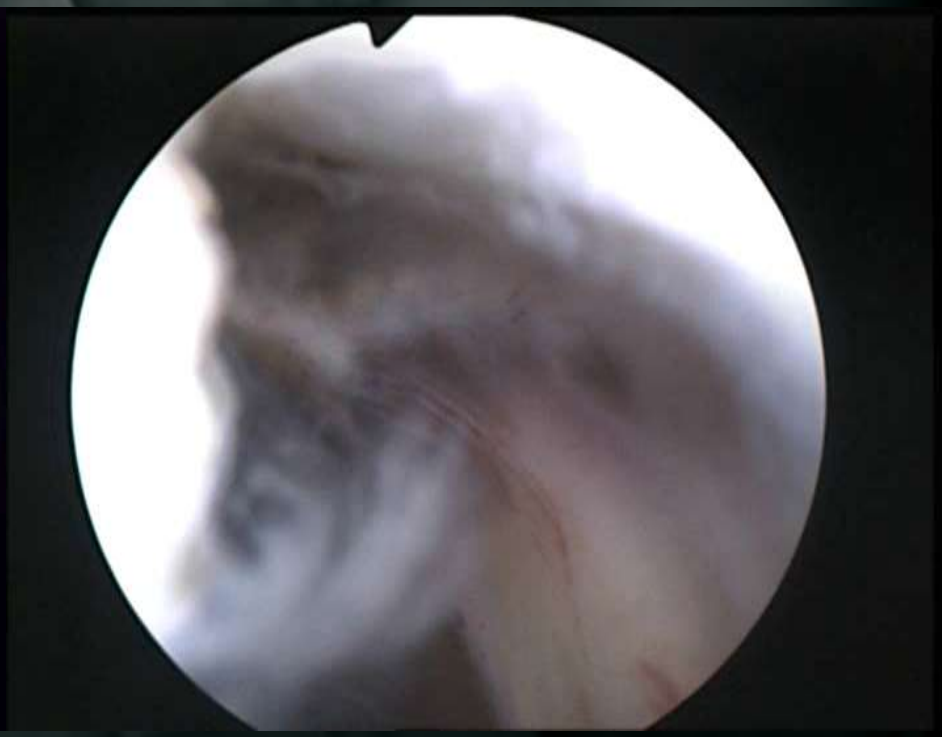


TIGHT ROPE

TECNICA



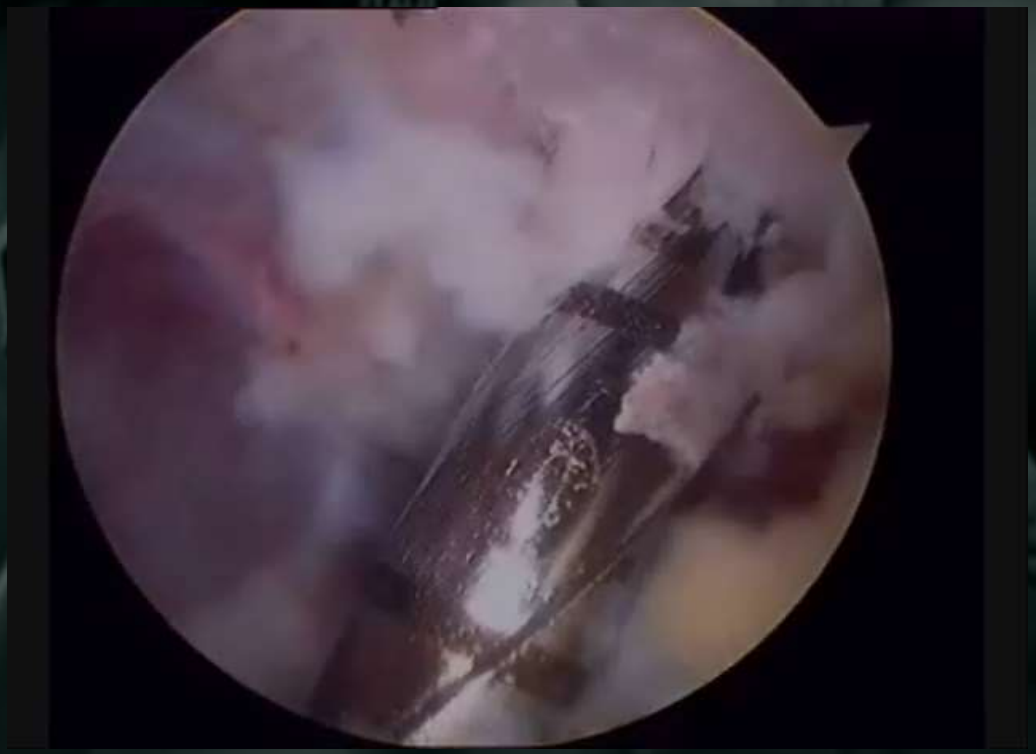
esposizione dell'arco della Coracoide



Puntamento , passaggio del filo guida e fresa

TIGHT ROPE

TECNICA



Passaggio del Tight Rope

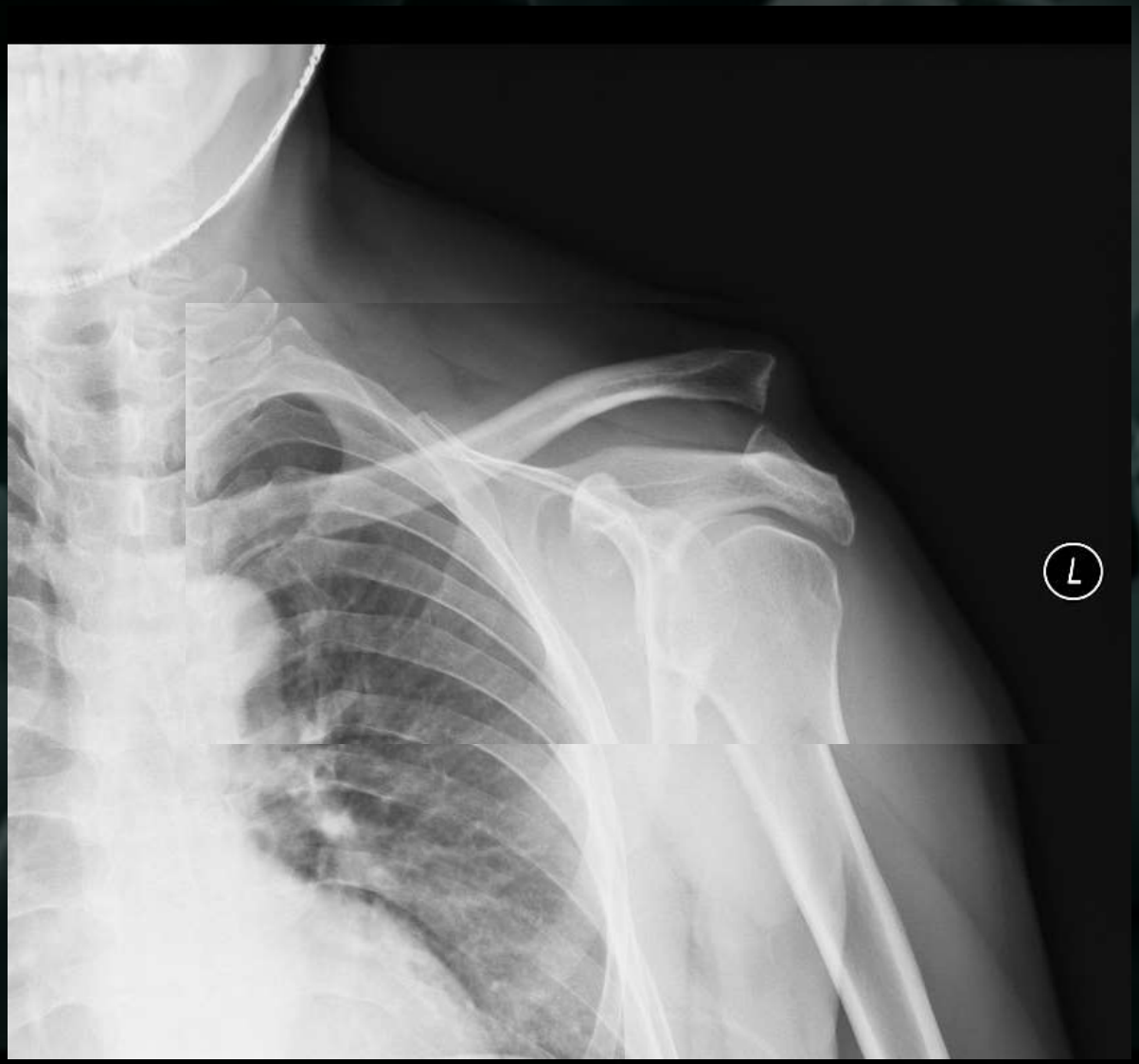
- Sett. 2007→ nov.2008 17 riparazioni artroscopiche acute
- Sesso: 15 M - 2 F
- Lato : 5 casi dx e 12 casi sin
- Età media: 33 aa (range 23-39 aa)
- Tipologia : 9 tipo III - 3 tipo IV - 5 tipo V.
- Indicazione : gravità –età–att.lavorativa /sport
- Riparazione A-C: single Tight Rope+les.associate.

- valutazione pre- e post- operatoria :
    1. Radiografie Standard
    2. Clinica
    3. Indice Soddisfazione da 1 a 10

- Il Follow-Up medio 4 mesi

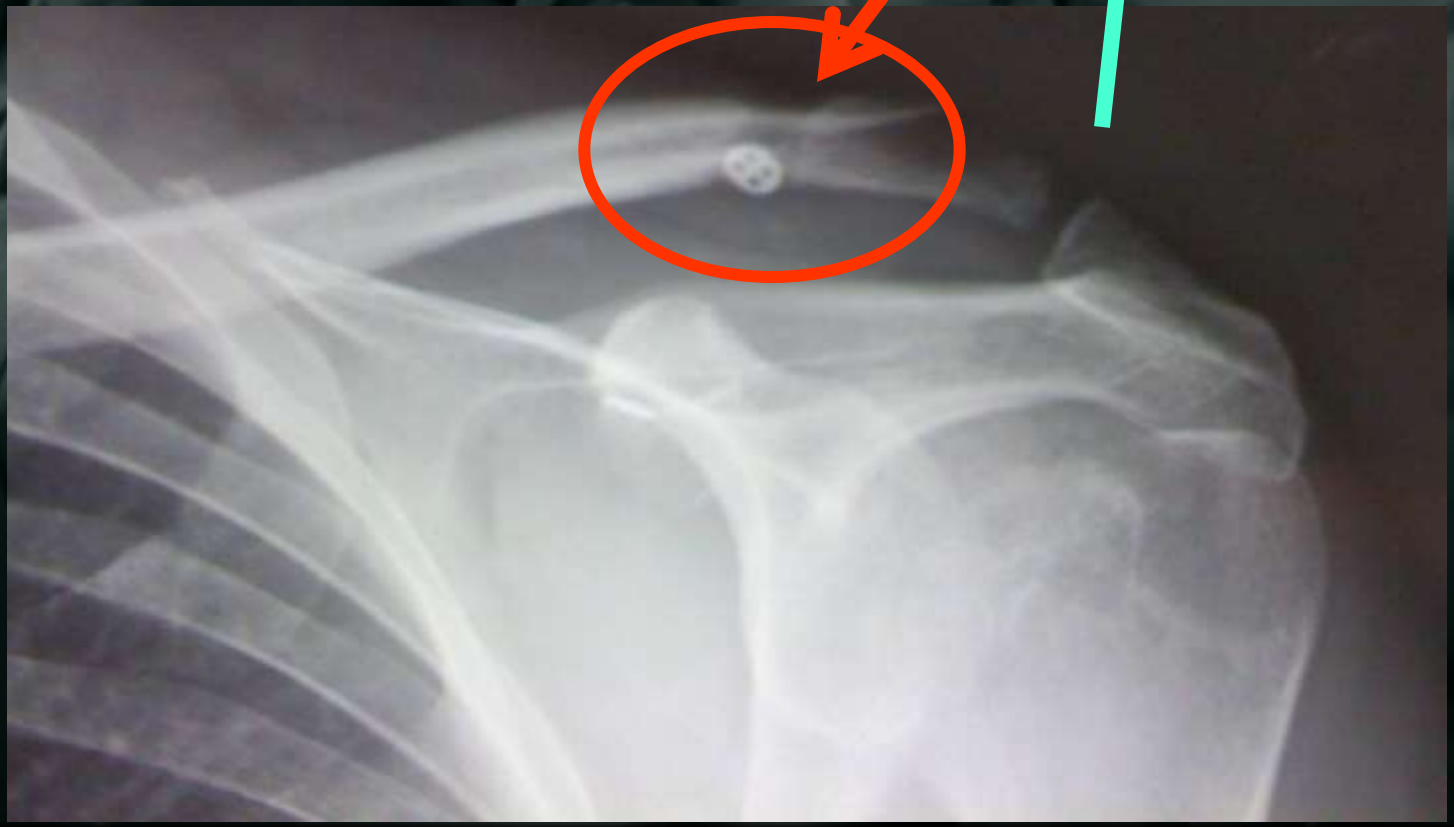
- trattamento post-operatorio:
    1. 0 – 3 settimane: Sling standard
    2. 3 – 6 settimane: kinesi attiva e passiva rinforzo solo isometrico
    3. 6-12 settimane: rinforzo graduale con elastici e pesi
    4. > 12 settimane: potenziamento, propriocettivi, recupero gesto atletico, studio dell'arco del movimento per deguamento del range articolare

DIC 2007

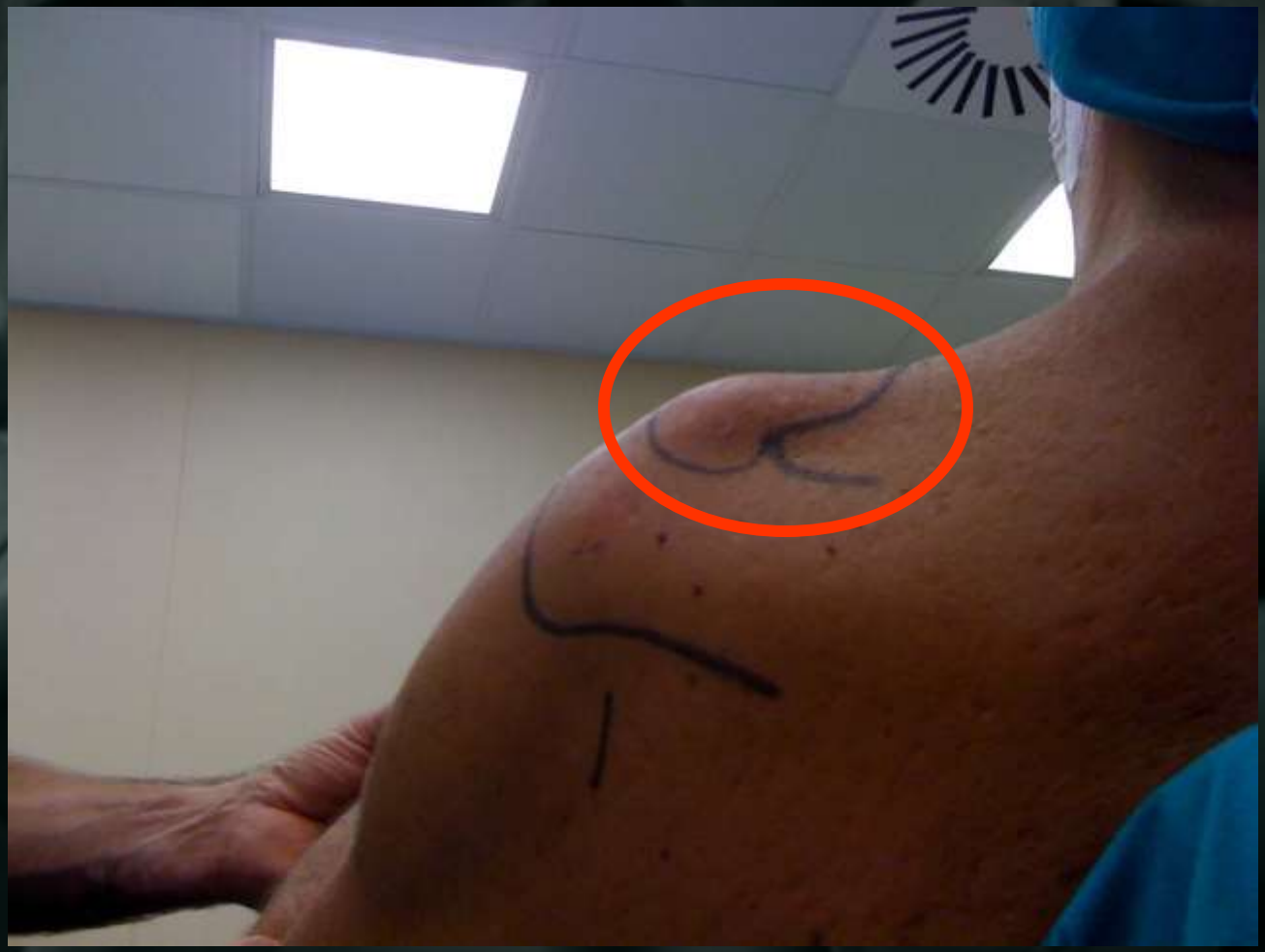


DIC 2007

GENNAIO 2008



Febbraio 2009



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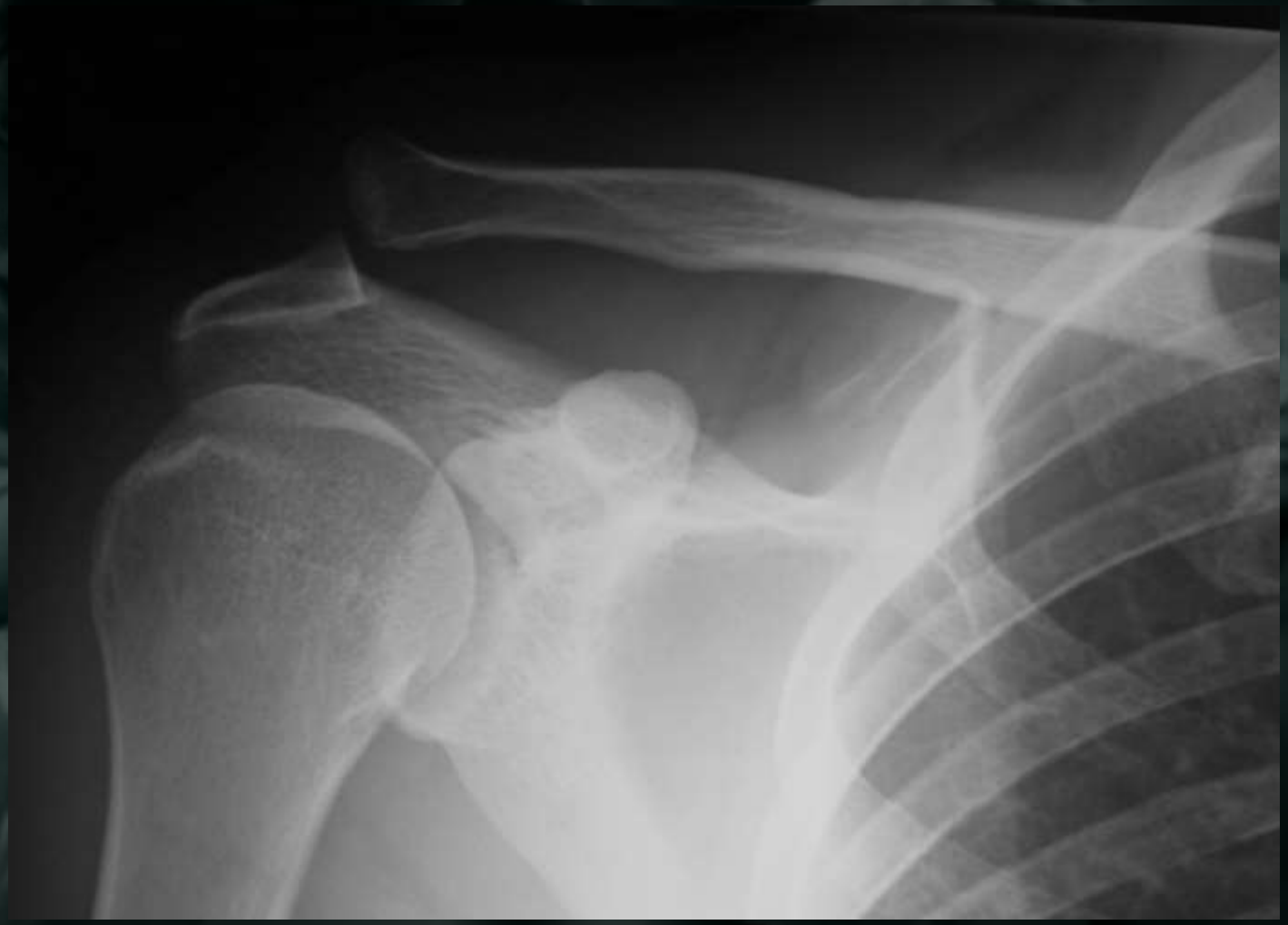

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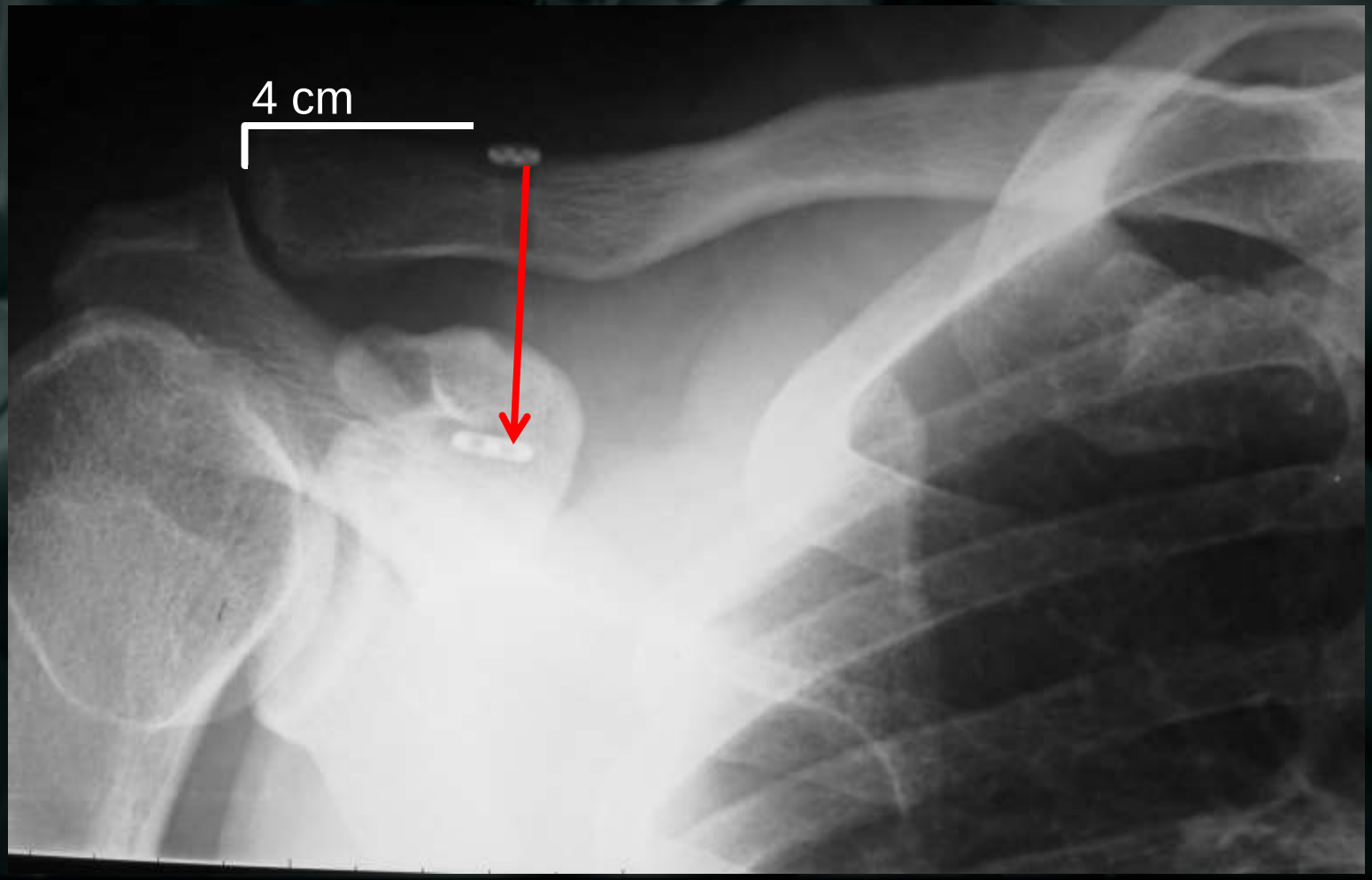
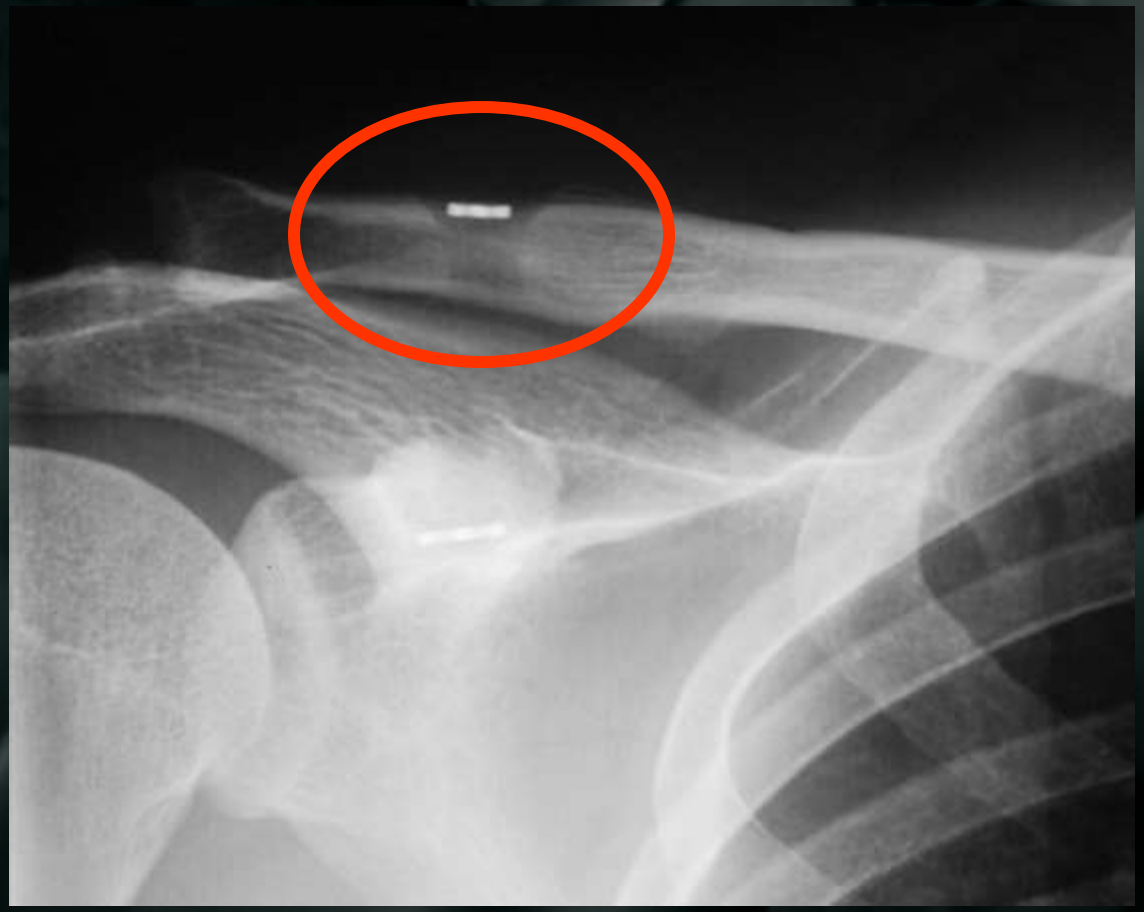
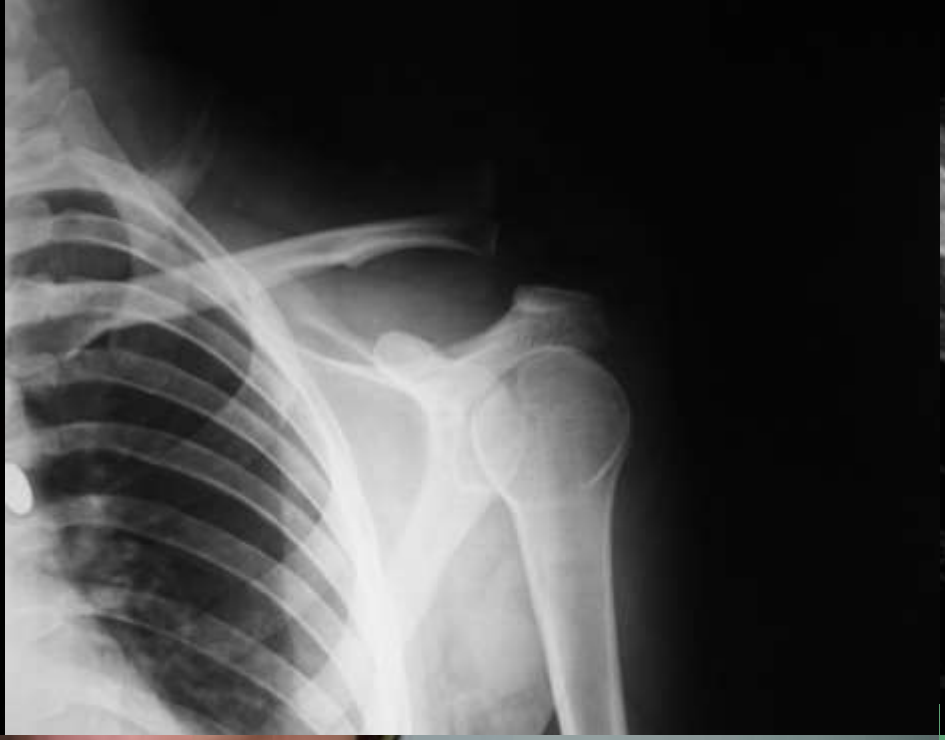
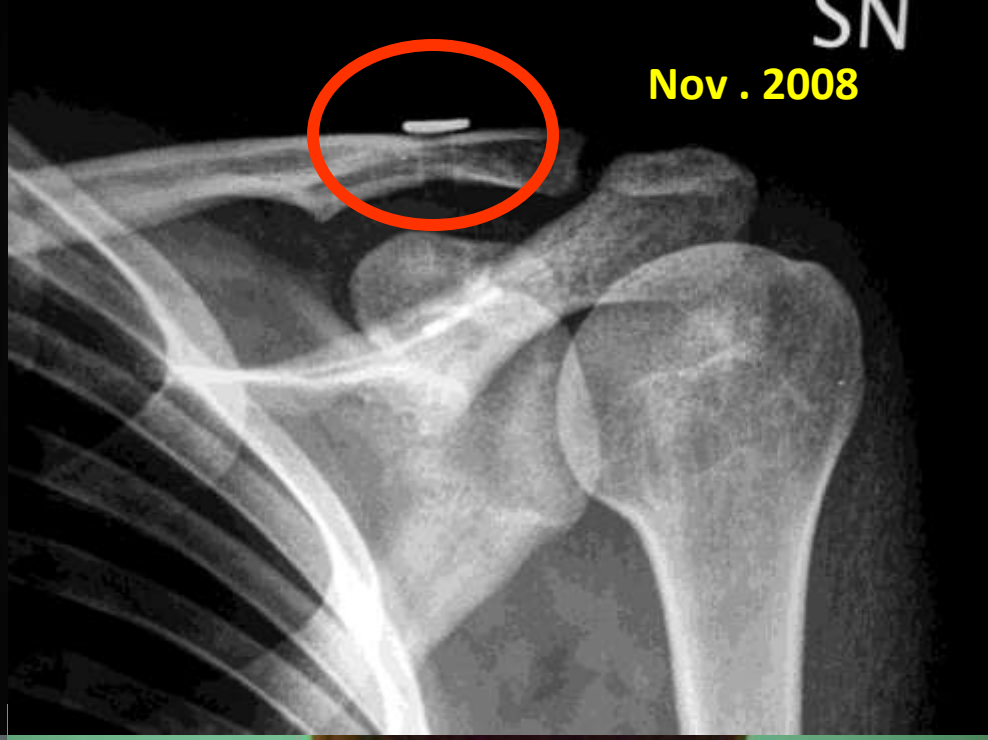


Marzo 2008



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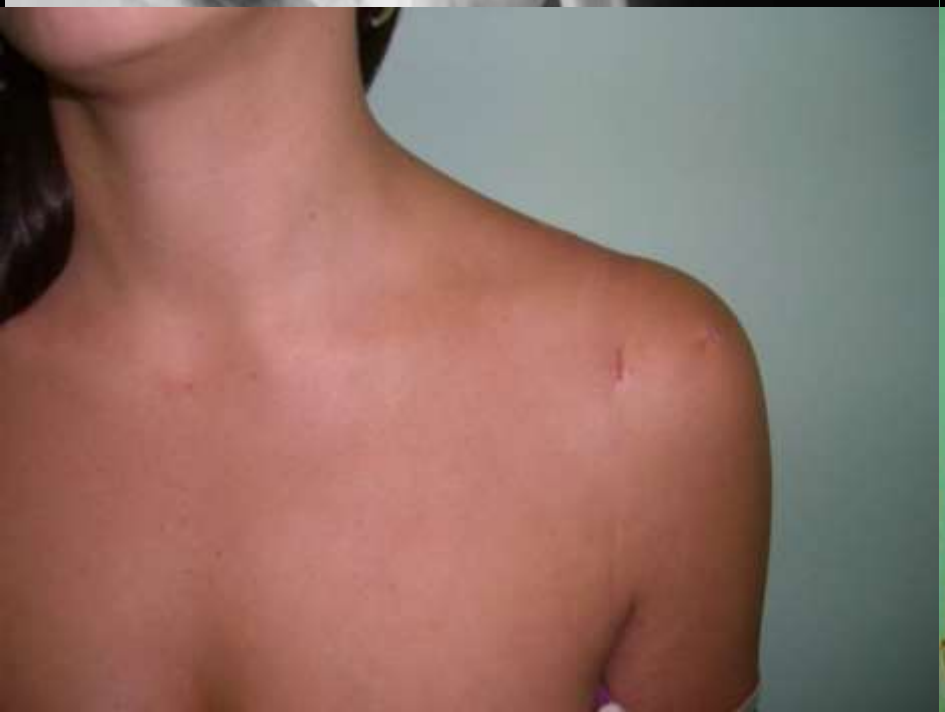
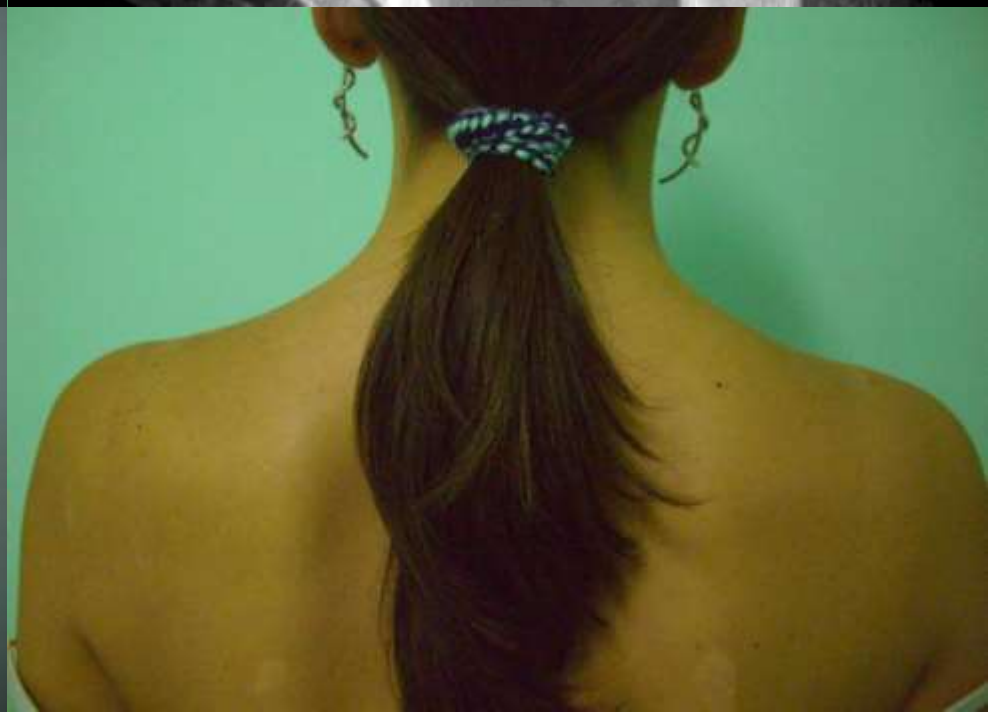
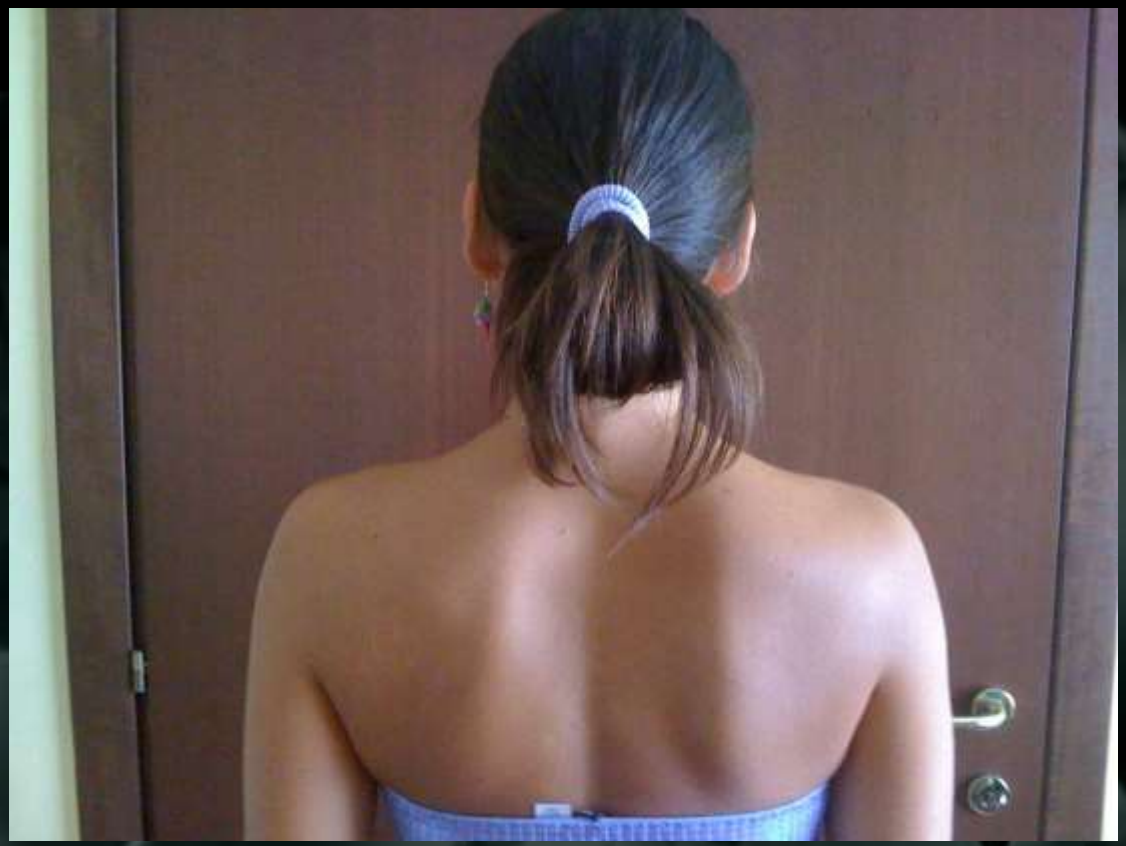
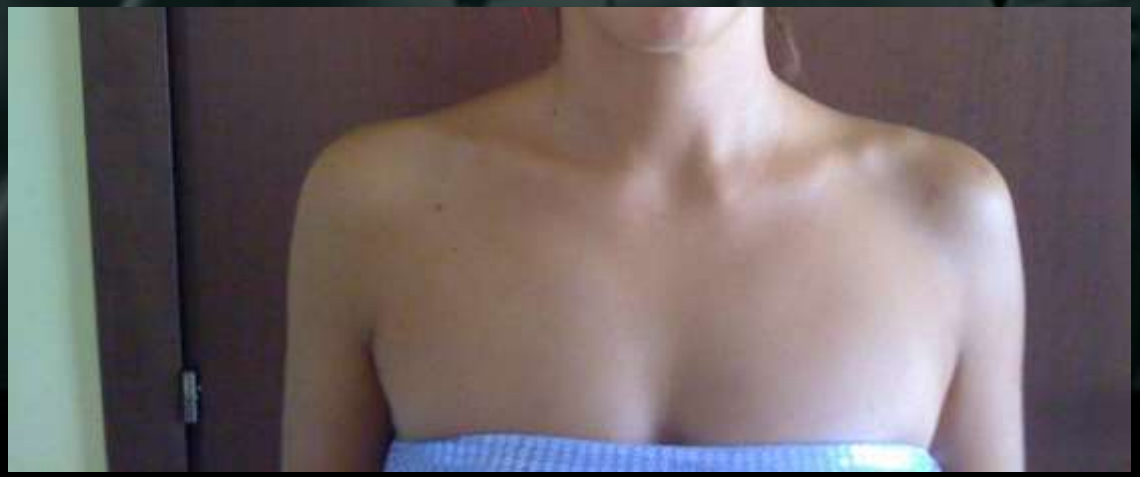
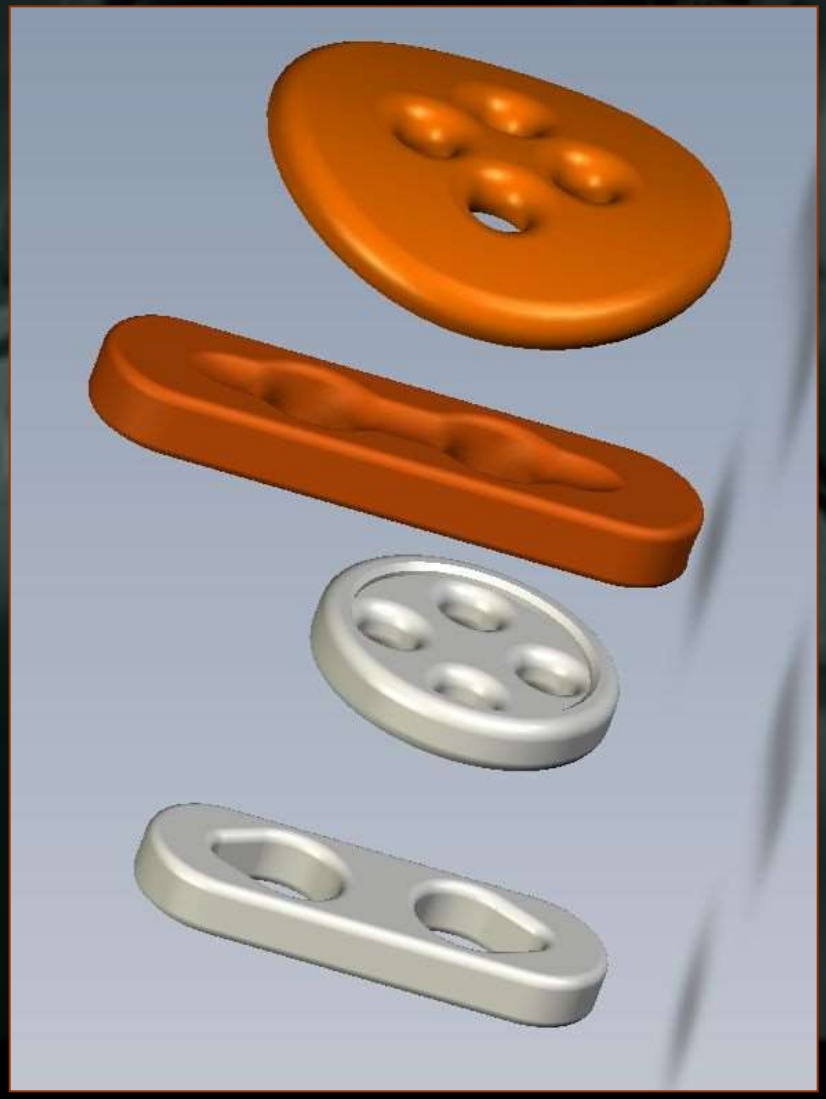
Nov . 2008







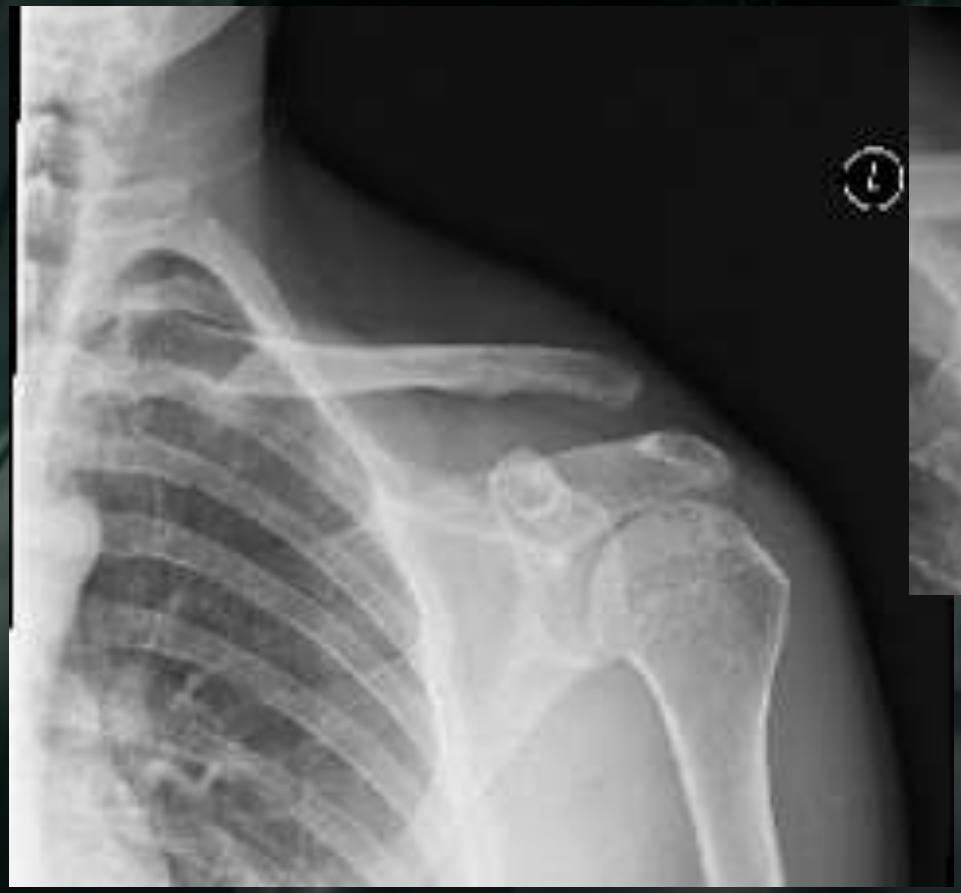


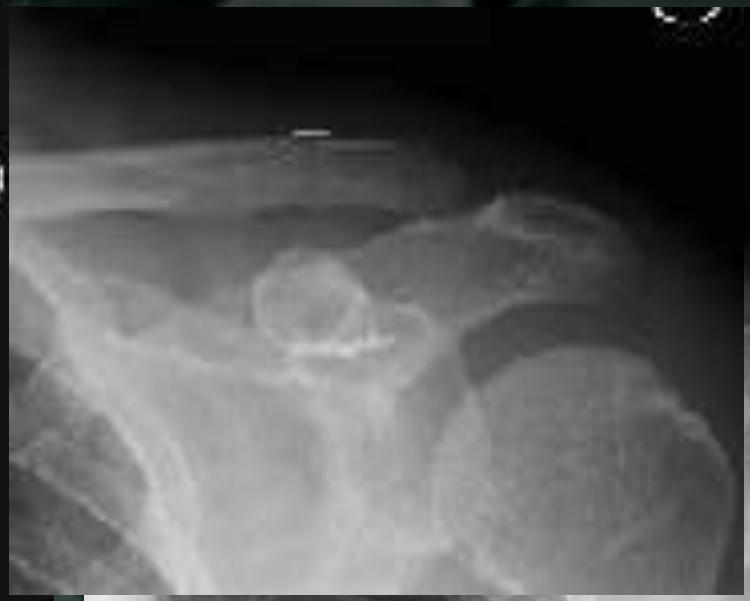


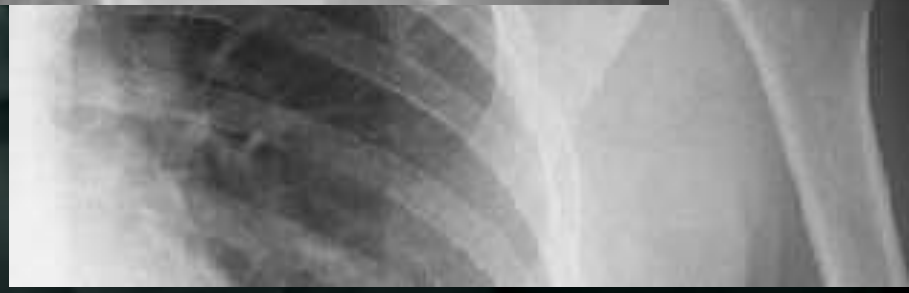
NEW VERSION

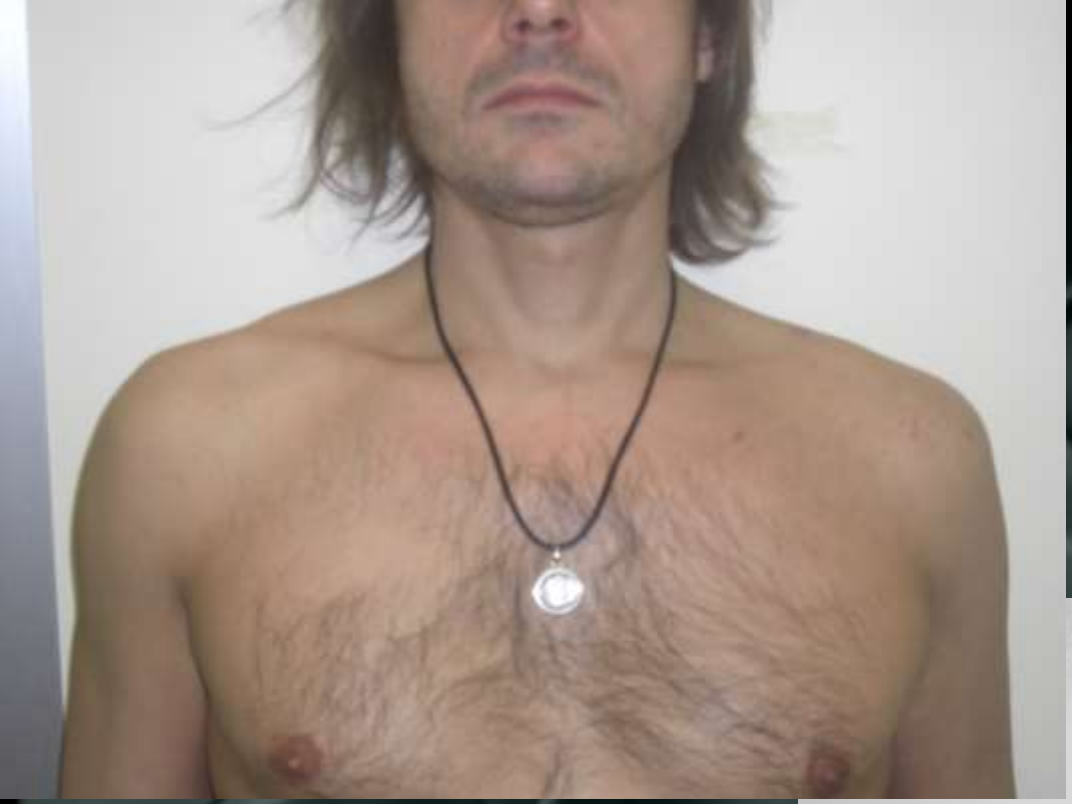
OLD VERSION

Sett.2008

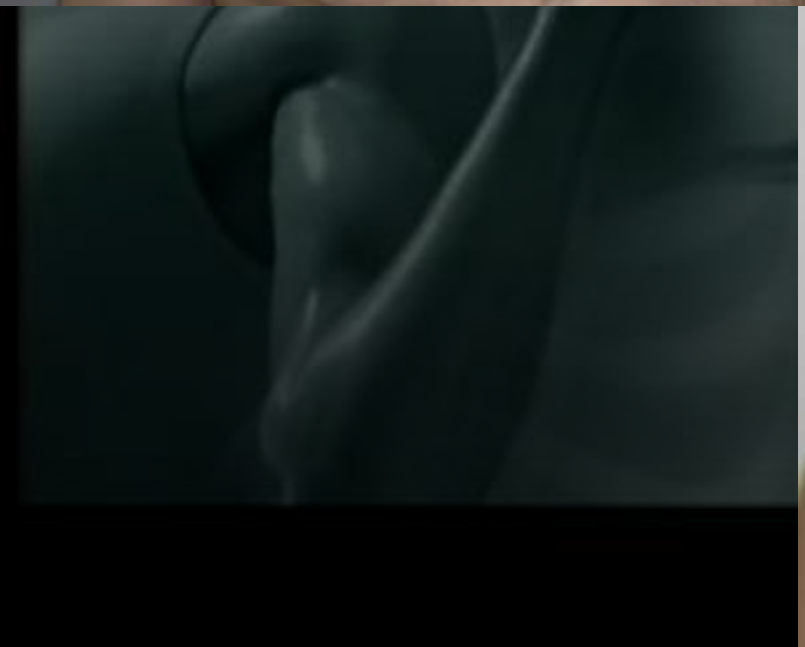


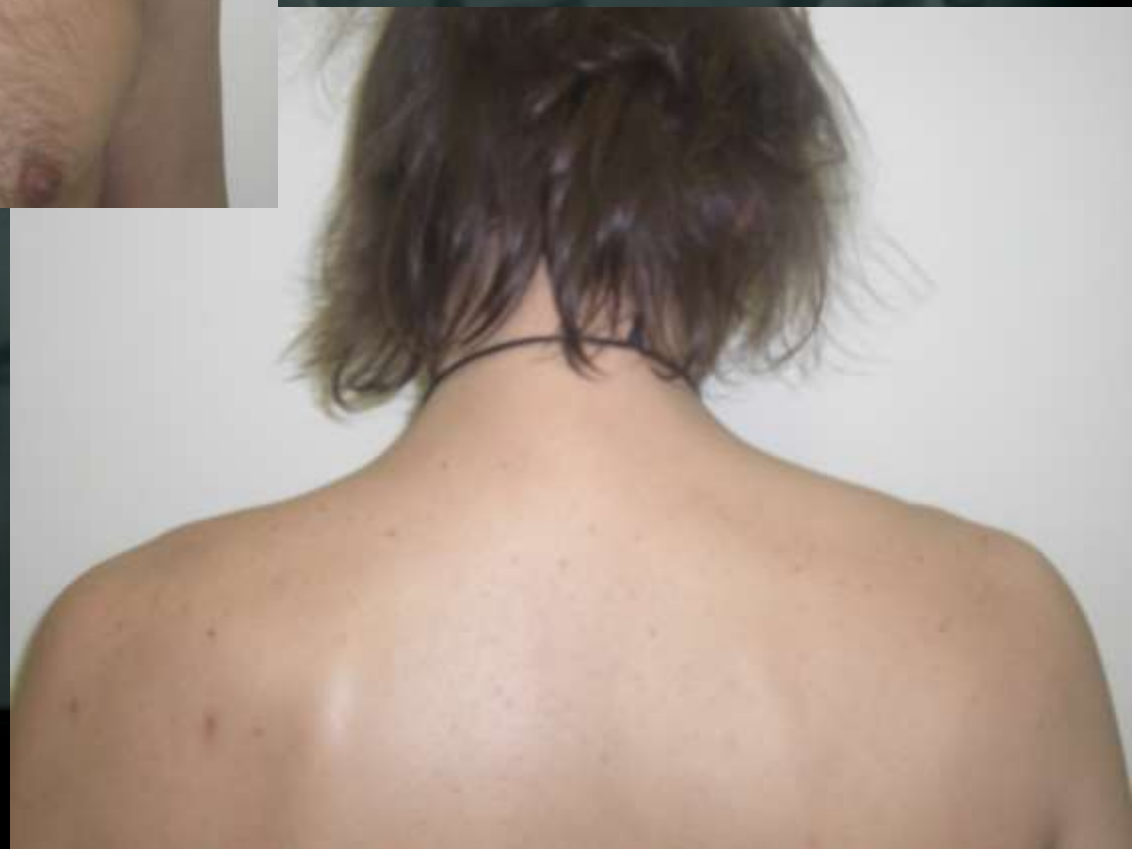






Dic . 2008





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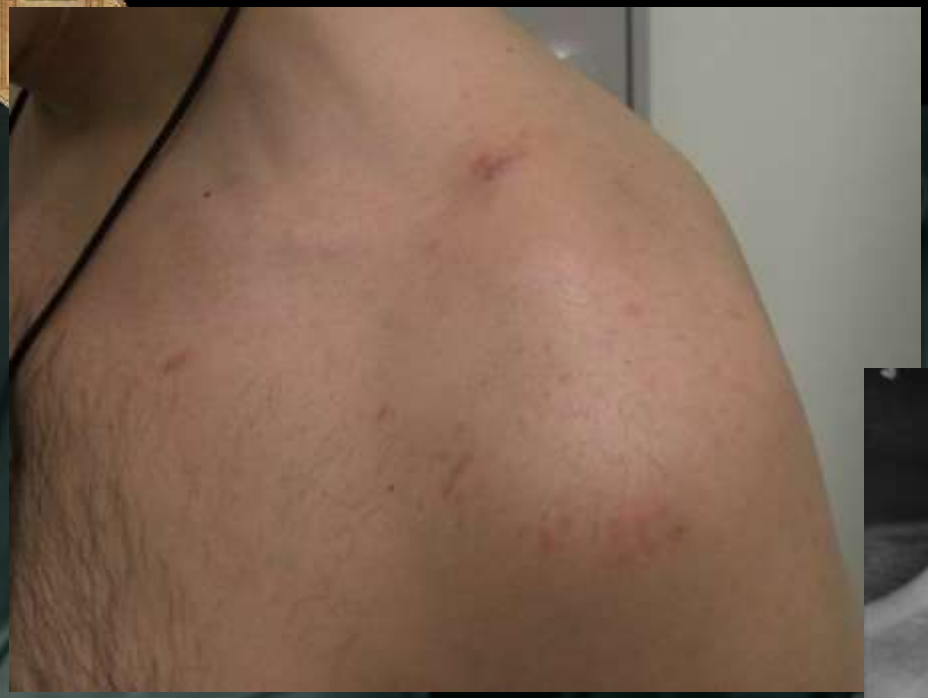

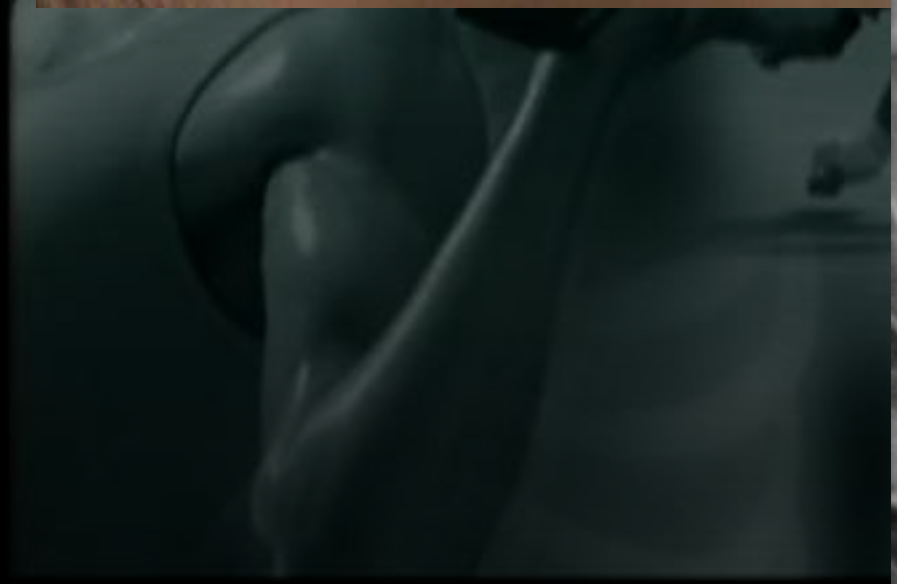

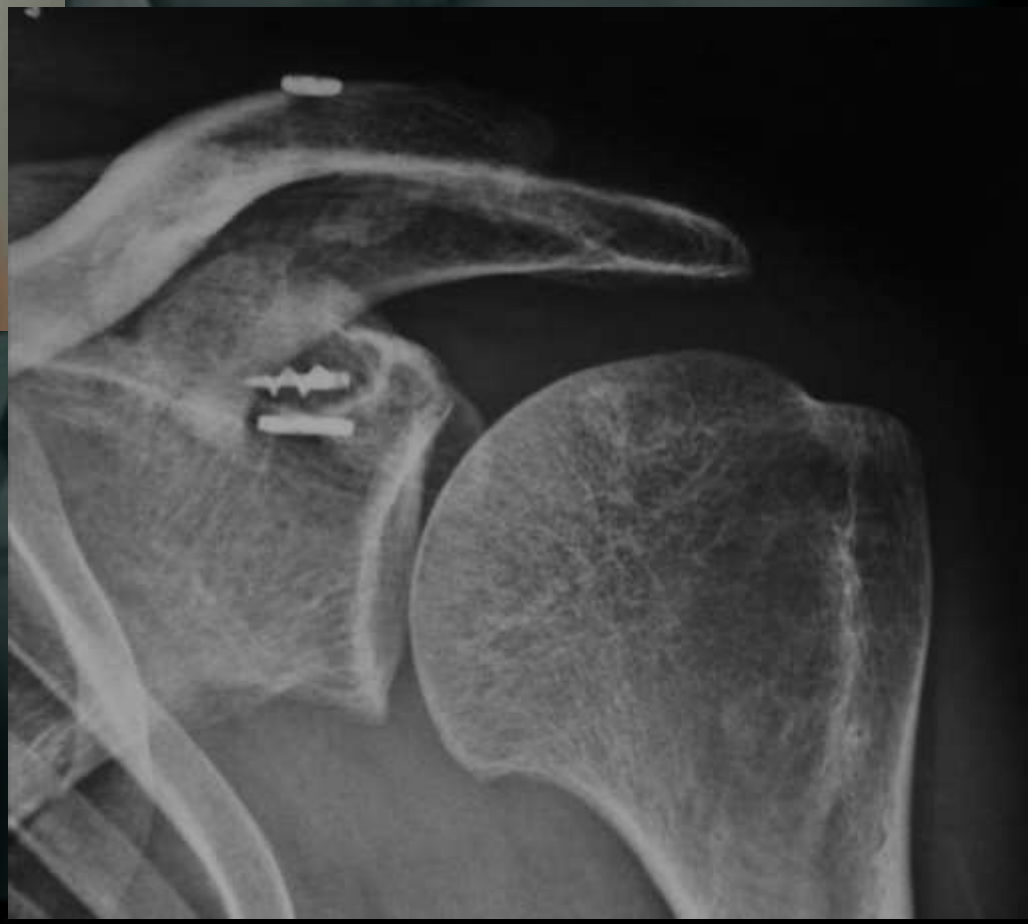

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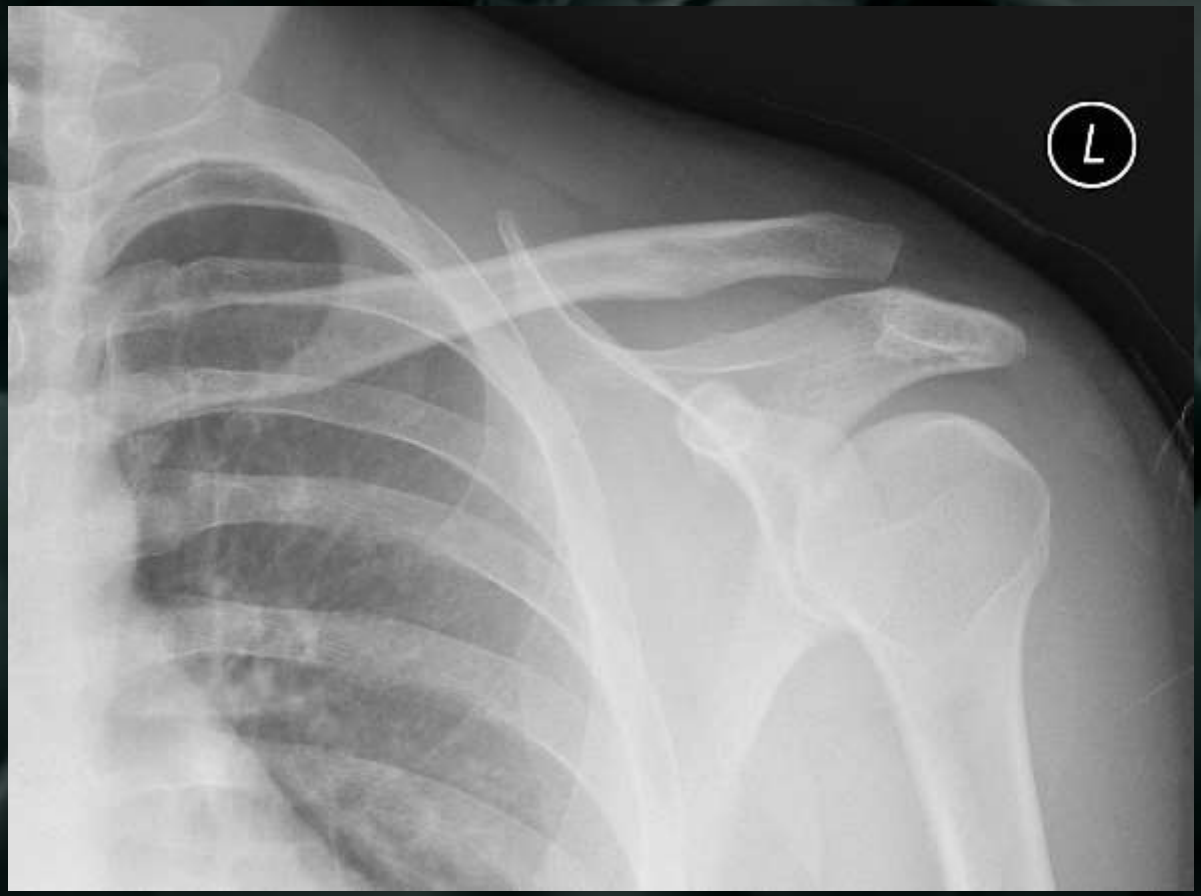

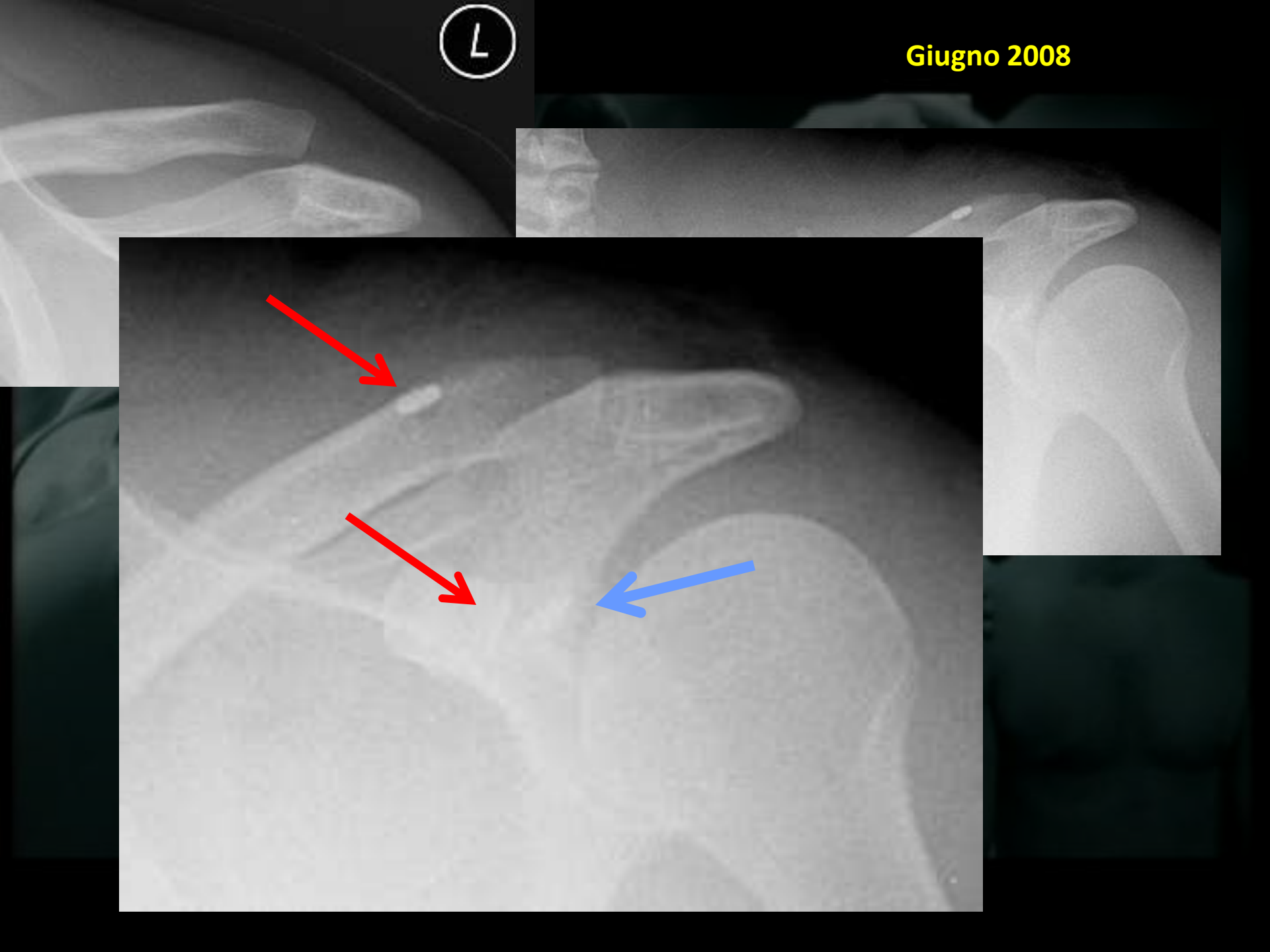
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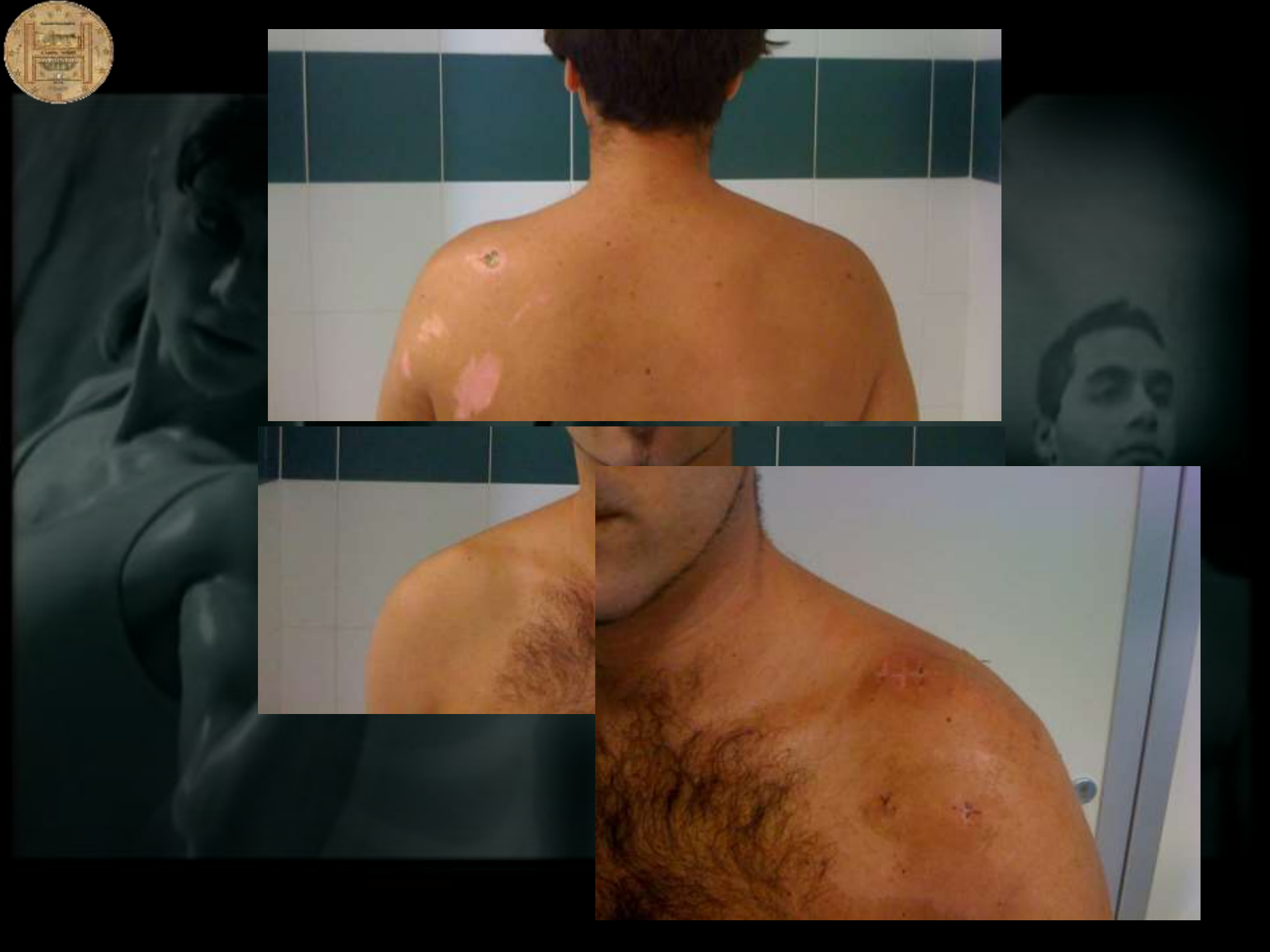

RISULTATI su 17 casi

LESIONI ASSOCIATE

- 1 Lesione SLAP tipo 1
- 6 lesioni SLAP tipo 2
- 2 lesioni di cuffia (1 parziale articolare posteriore, 1 piccola crescent a tutto spessore)
- 1 rottura del terzo sup del sottoscapolare.

Indice di soddisfazione medio 8 punti

2 recidive

Il recupero funzionale è risultato più lento nei pazienti con trattamento combinato rispetto a quelli senza lesioni associate.

CONCLUSIONI

- CURVA D'APPRENDIMENTO BREVE
- TECNICA MININVASIVA ARTROSCOPICA
- RISPETTO DELL'ANATOMIA
- STABILITÀ
- ELASTICITÀ
- RIPARAZIONE ENTRO LE 2 SETTIMANE
- IMMOBILITÀ PER TRE SETTIMANE
- MONITORAGGIO RDX
- TRATTAMENTO DEL CRONICO CON TRAPIANTO AUTOLOGO – OMOLOGO IN ARTROSCOPIA

CONCLUSIONI

- *NO RIMOZIONE DELLE SINTESI*
- *TRATTAMENTO EVENTUALI LESIONI ASSOCIATE*

18,5% les. Associate (14, 3 % SLAP- 3,4% Cuffia)

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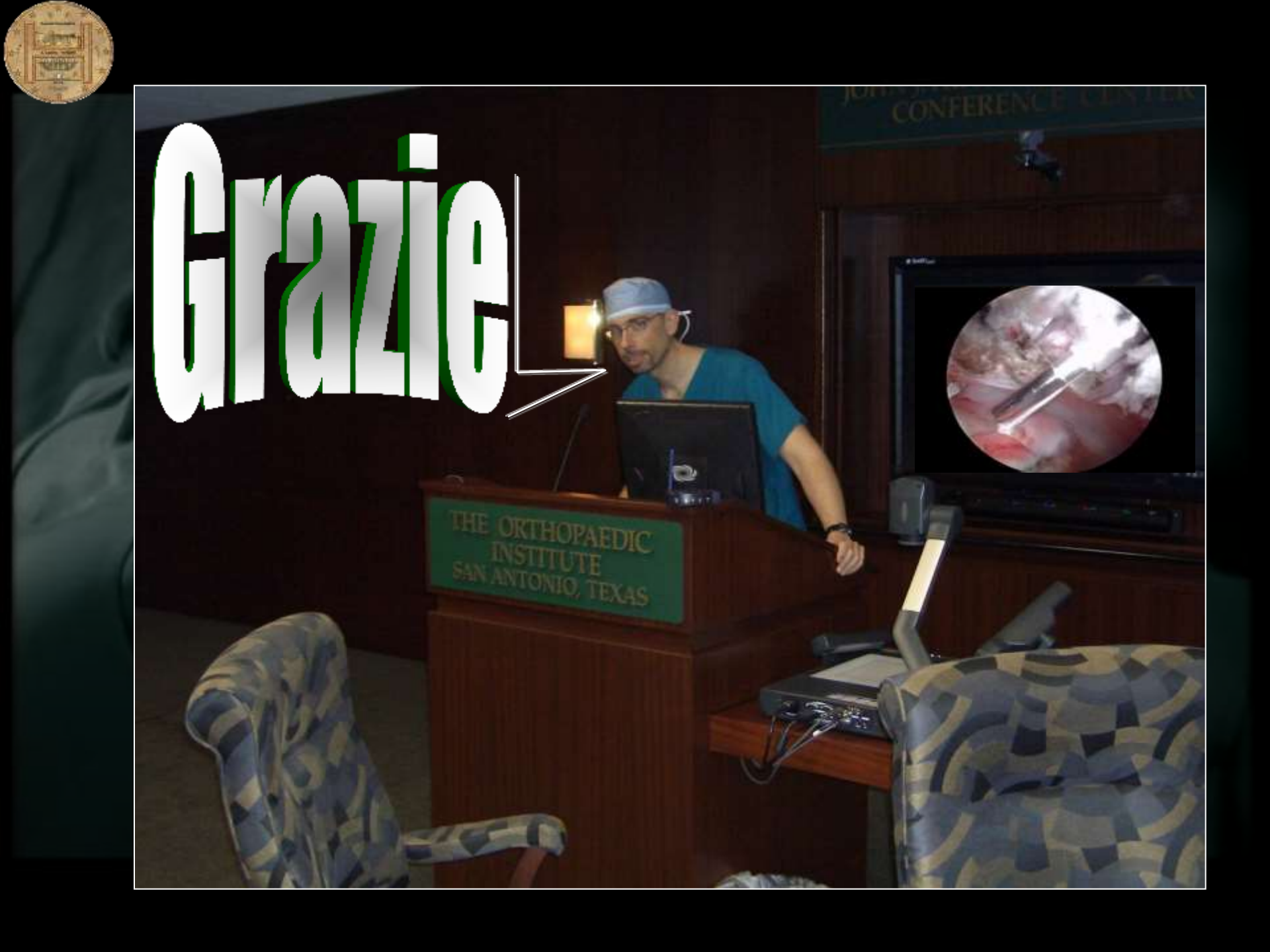
Grazie
THE ORTHOPAEDIC
INSTITUTE
SAN ANTONIO, TEXAS

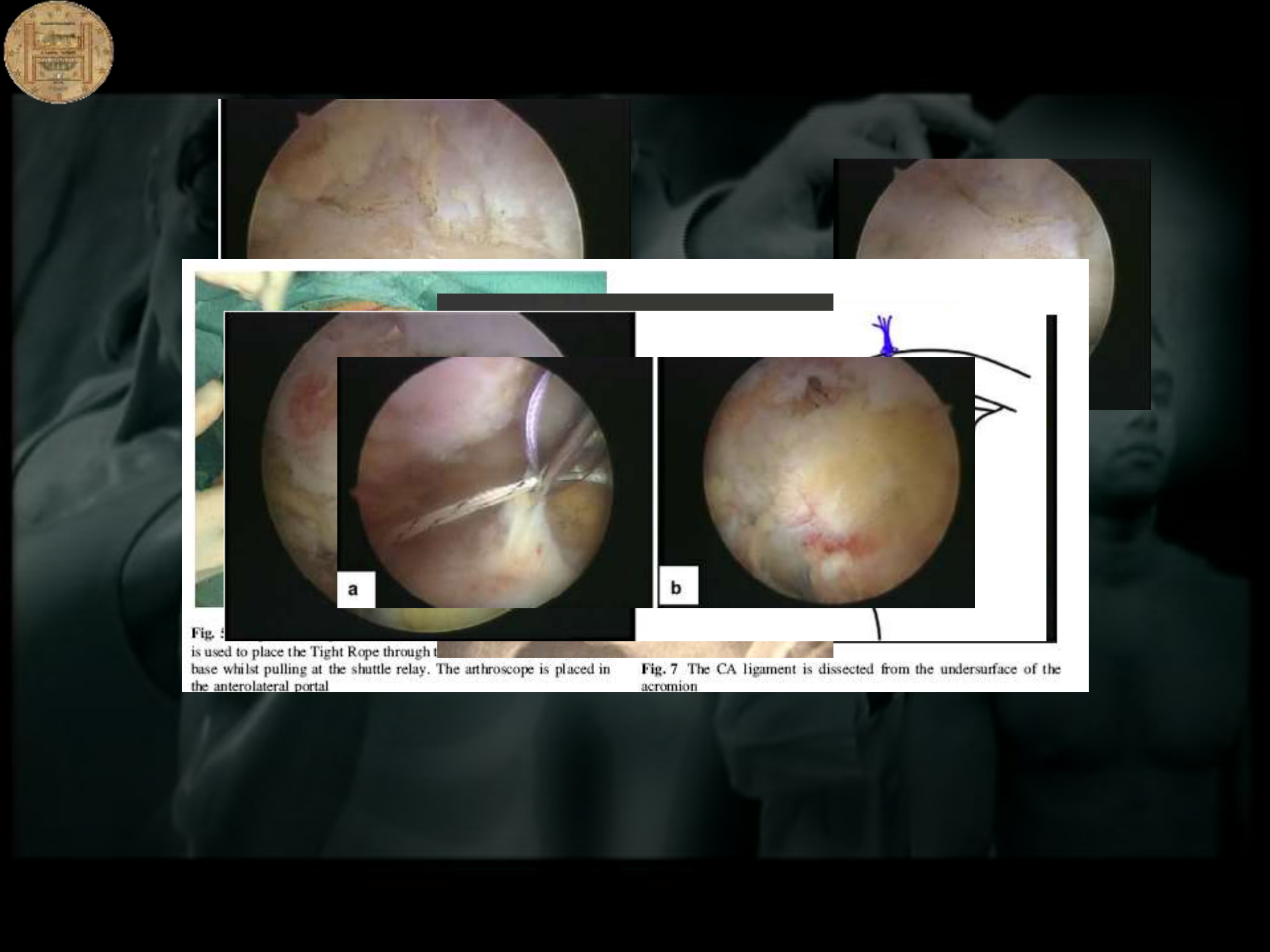

Fig. 5 is used to place the Tight Rope through t base whilst pulling at the shuttle relay. The arthroscope is placed in the anterolateral portal

Fig. 7 The CA ligament is dissected from the undersurface of the acromion