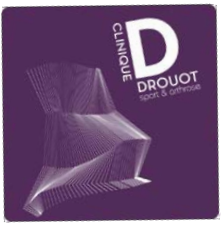


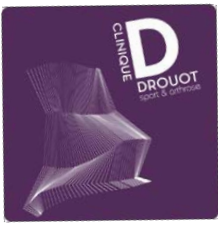


Réparation arthroscopique du sous-scapulaire : indications et techniques



Questions que l'on peut se poser

- Epidémiologie
- Anatomie
- Classification et Indications ?
- Techniques opératoires
 - In the Box ?
 - Out of the box ?
- Le conflit sous coracoïdiens existe-t-il et si oui que faire?
- Suites opératoires



Epidémiologie

- Discordance entre ce que l'on sait du ciel ouvert :

- 5% des lésions de la coiffe sv t traumatique +++

Gerber C, Krushell RJ. Isolated rupture of the tendon of the subscapularis muscle. Clinical features in 16 cases. J Bone Joint Surg [Br], 1991 ; 73 : 389-394.

- Et ce que l'on voit en A°:

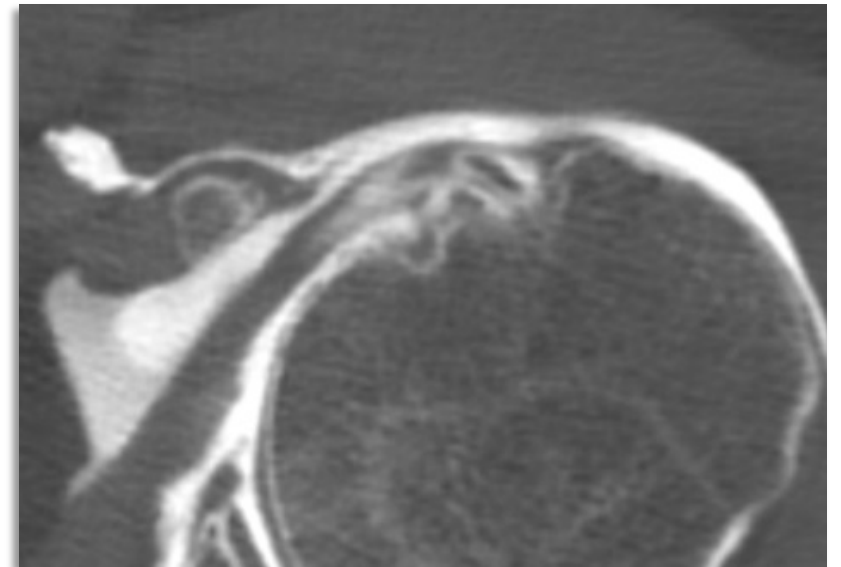
- Associées dans 35% des cas à d'autre lésion de la coiffe (Nove-Josserant OTSR 1994, Bennett Arth 2001, Arai Arth 2008)

- Dégénératives

- Multiples types de lésions (ex : sup 1/3)

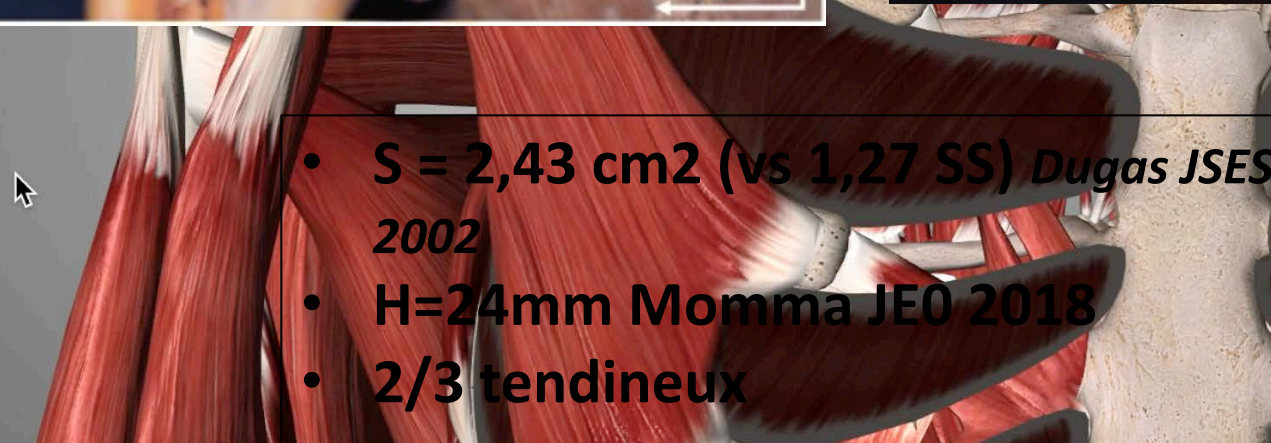
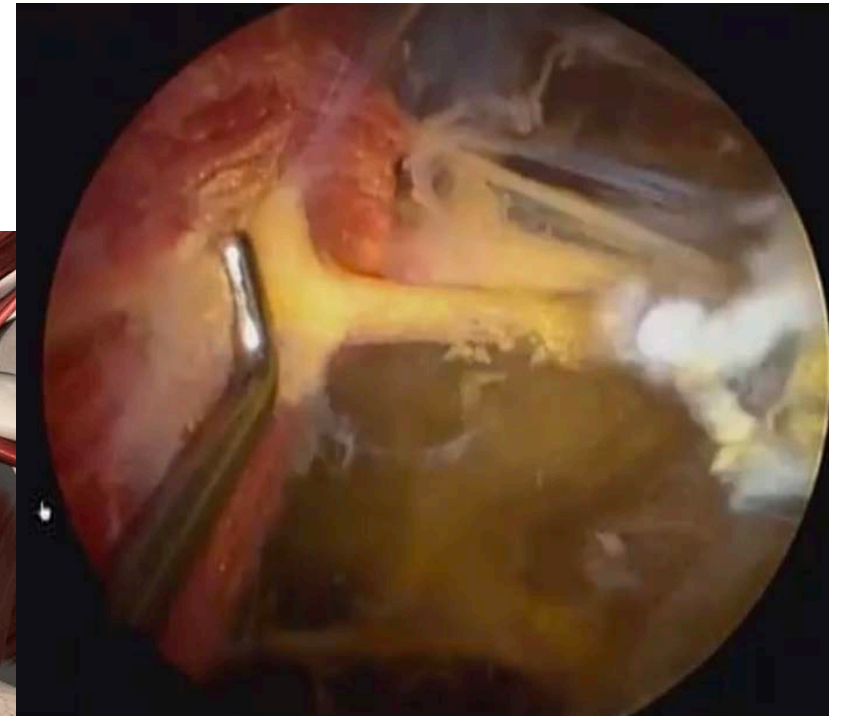
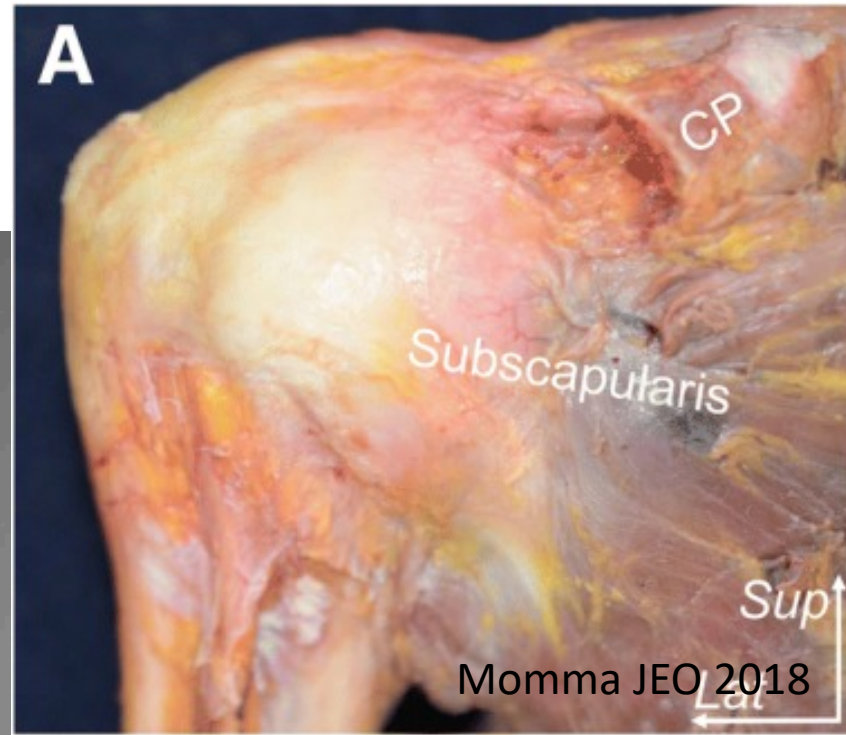
- Pas de diag clin spécifique dans 75% des cas

- Arthro-CT scan +++





Lafosse OTSR 2010

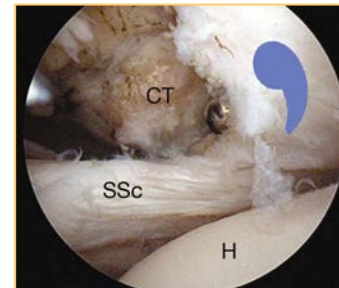
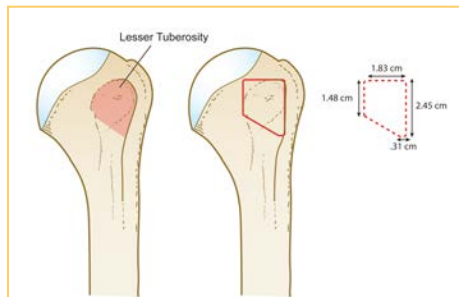


- **S = 2,43 cm² (vs 1,27 SS) Dugas JSES 2002**
- **H=24mm Momma JEO 2018**
- **2/3 tendineux**

Arthroscopie



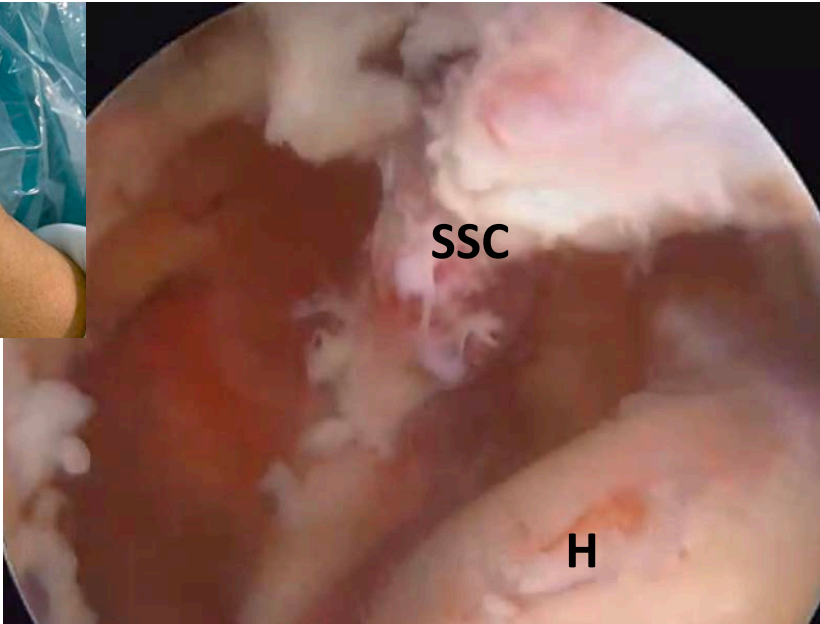
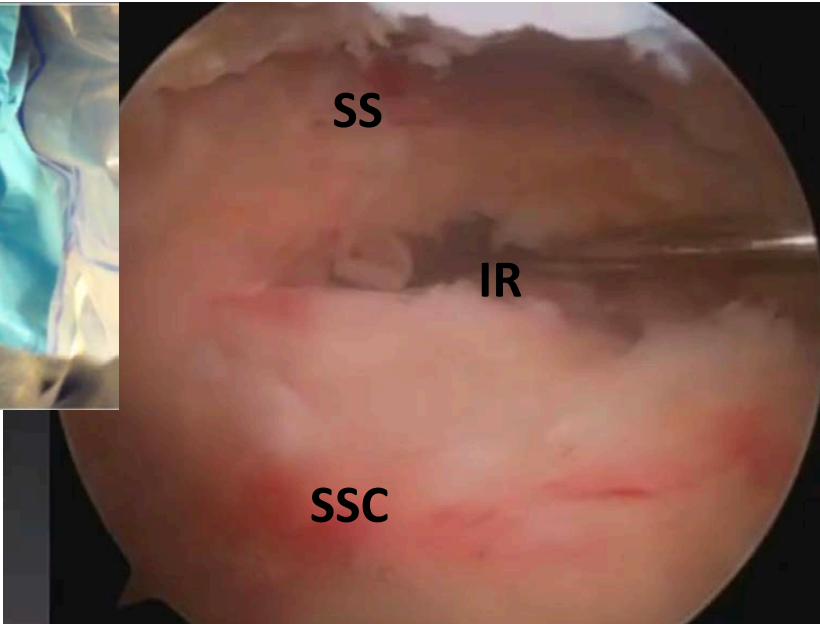
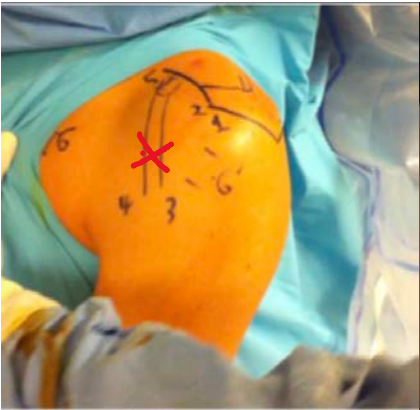
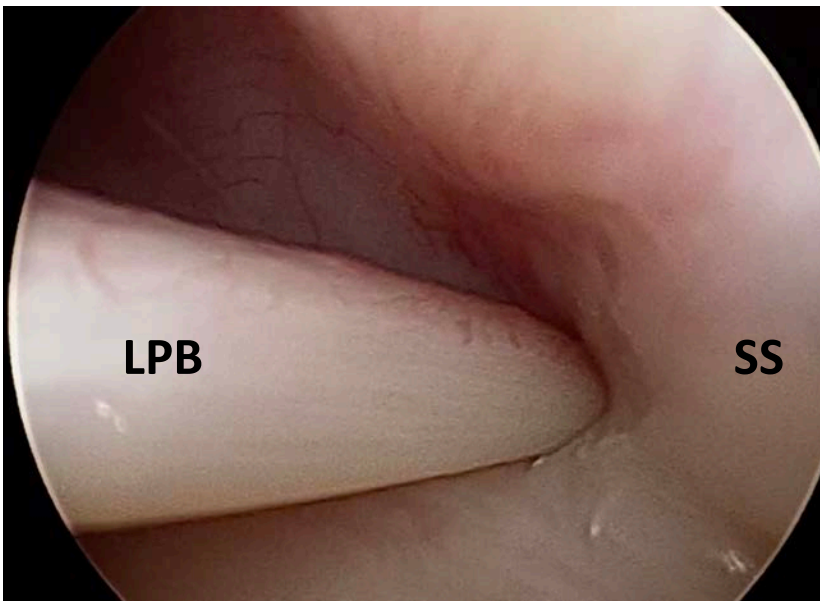
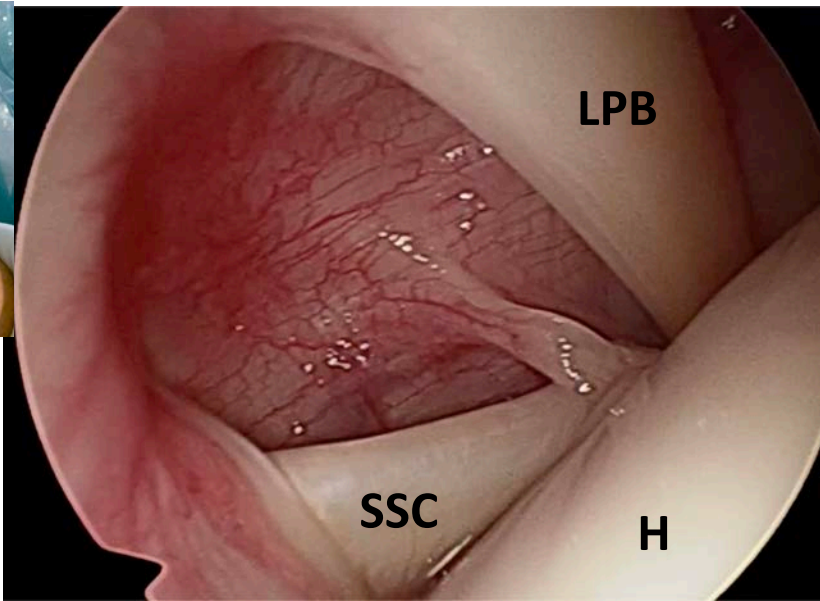
- S. Burkhart :
 - Premier a décrire des technique de reparation du SSC
 - Premier à publier des résultats 2002 (25 cases ; F/U 11 months)



Burkhart SS, Tehrany AM. Arthroscopic Subscapularis Tendon Repair : Technique and Preliminary Results. *The Journal of Arthroscopic and Related Surgery*, 2002 ; 18 (5): 454-463.

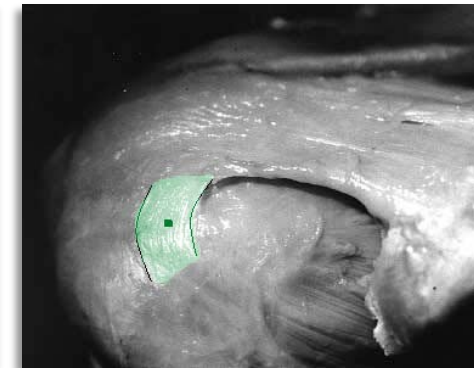
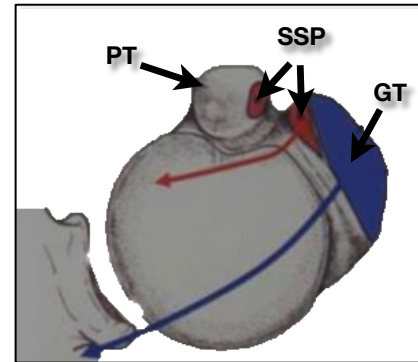
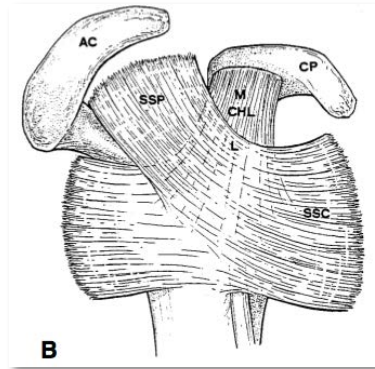
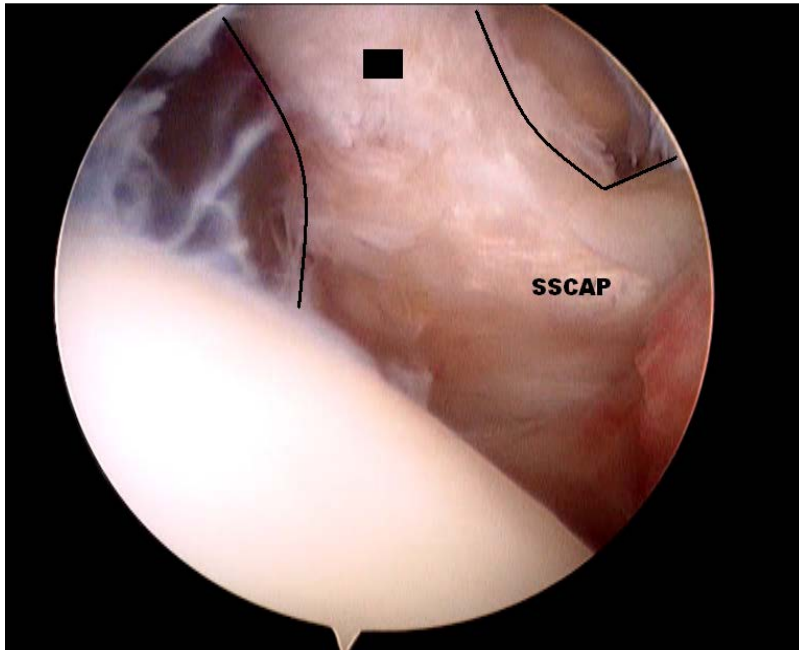
Burkhart SS, Lo IKY. Current Concept In Arthroscopic Rotator Cuff Repair. *Am J Sports Med*, 2003, 31: 308-324.

Anatomie arthroscopique



Anatomie arthroscopique : Comma Sign

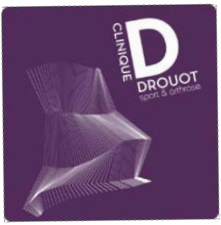
- S. Burkhart :
Comma sign



Boon JM, de Beer MA, Botha D, Martiz NG, Fouche AA. The anatomy of the subscapularis tendon insertion as applied to the rotator cuff repair. *J Shoulder Elbow Surg* 2004;13:165-169.

Lo IK, Burkhart SS. The comma sign: an arthroscopic guide to the torn subscapularis tendon. *Arthroscopy*. 2003;19:334-7.

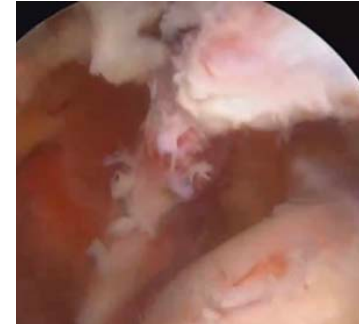
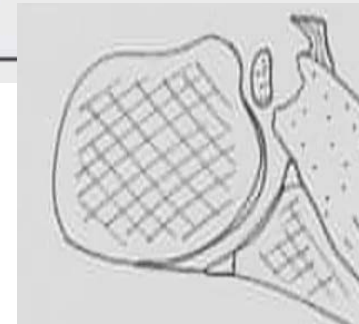
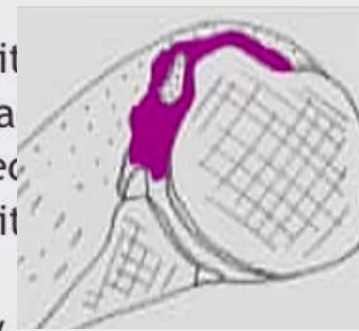
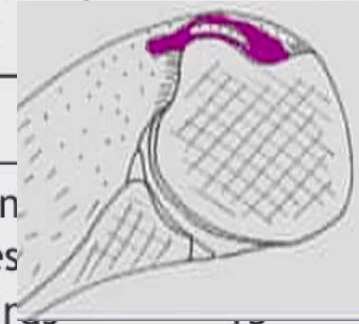
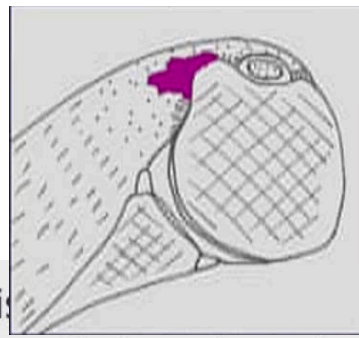
Lo IK, Burkhart SS. The comma sign: an arthroscopic guide to the torn subscapularis tendon. *Arthroscopy* 2003;19:334-7.



Classification

Table 1. Classification of subscapularis

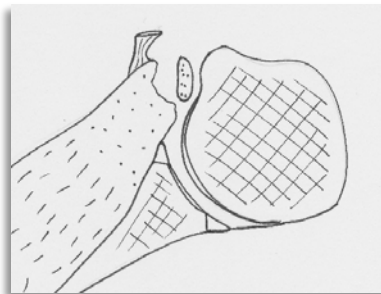
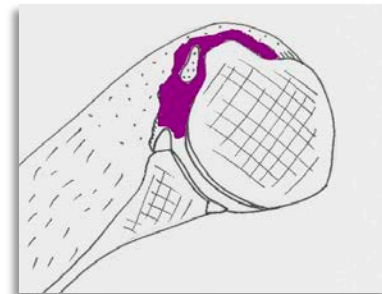
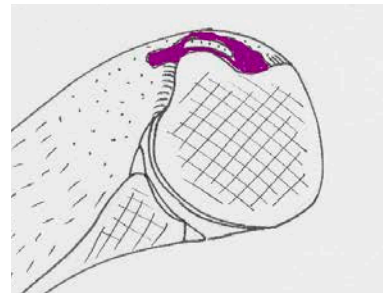
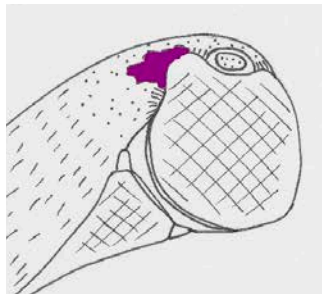
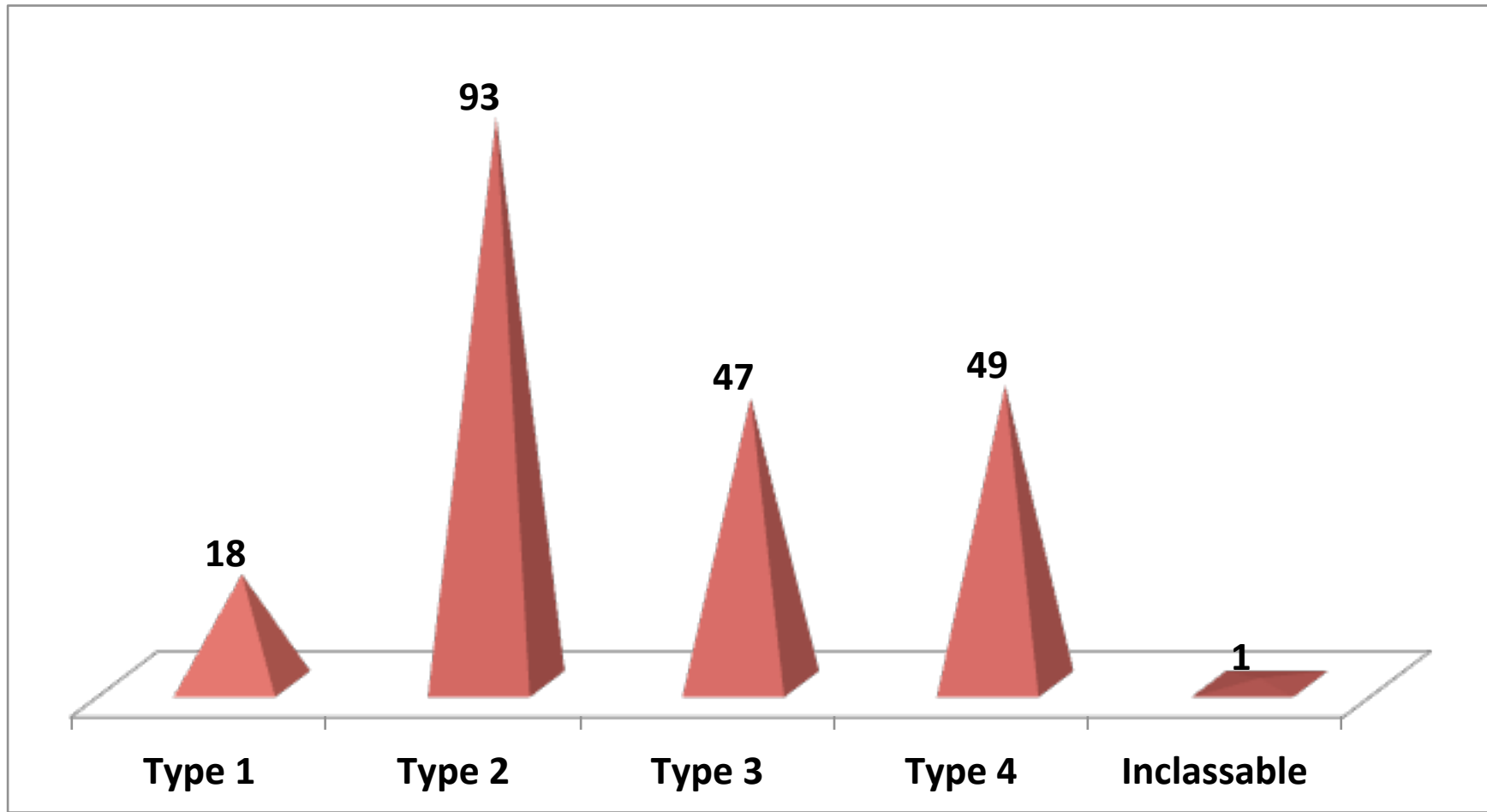
Stage 1	Partial, upper 1/3rd	55	27 %
Stage 2	Total, upper 1/3rd	32	15 %
Stage 3	Total, upper 2/3rd	25	13 %
Stage 4	Total, centered HH, FI≤3	34	16 %
Stage 5	Total, excentered HH & FI≥3	0	0 %
unclassified		62	29 %

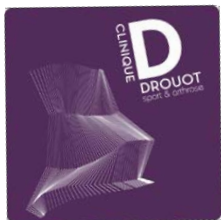


ative scan analysis and numbers present study.

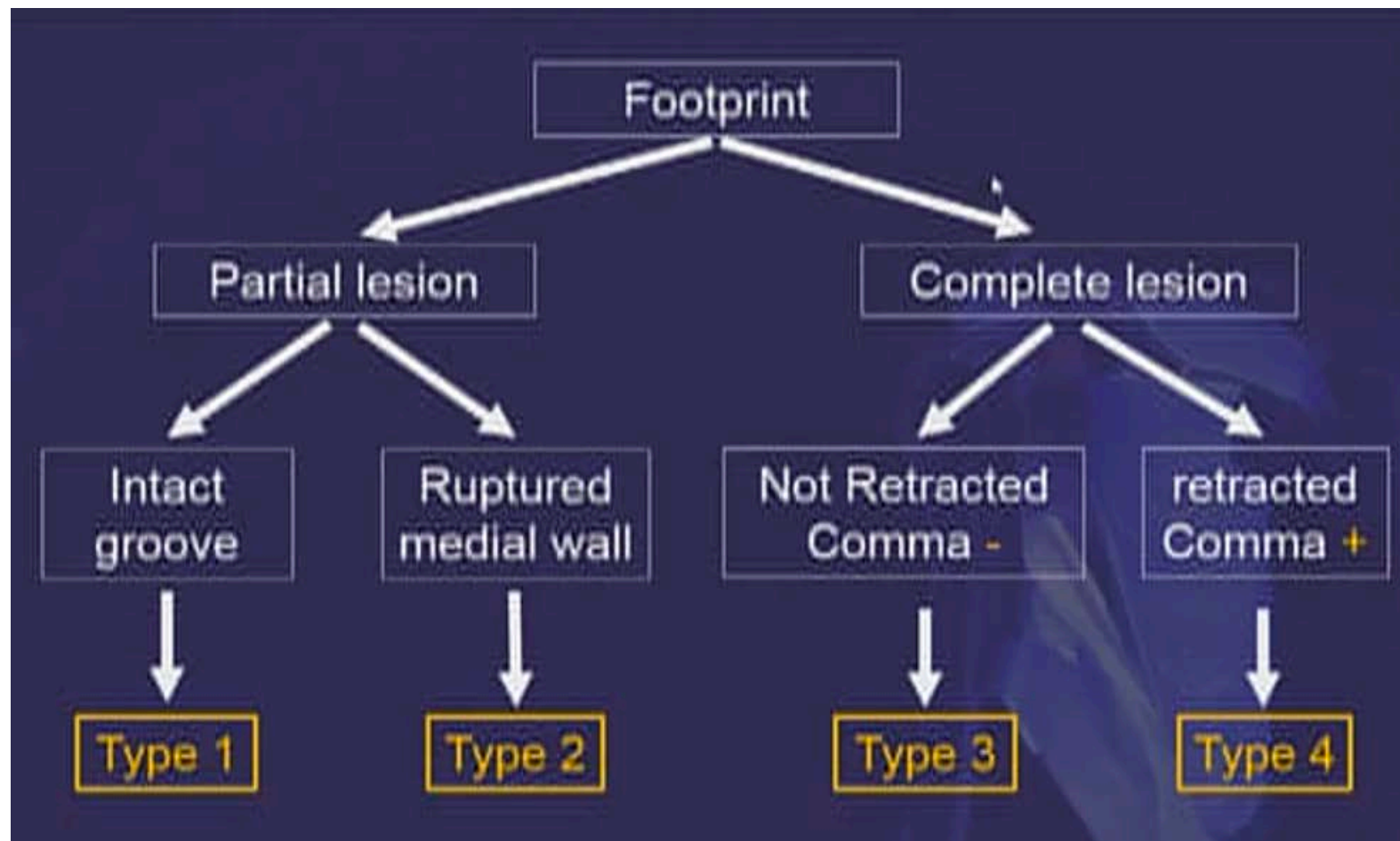
third lesion
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Classification

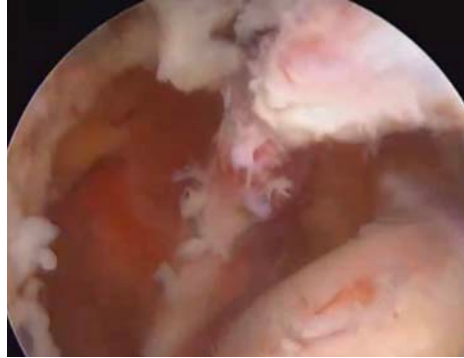


Indications

- Ruptures complètes (Types 3/4) : pas vraiment de discussion



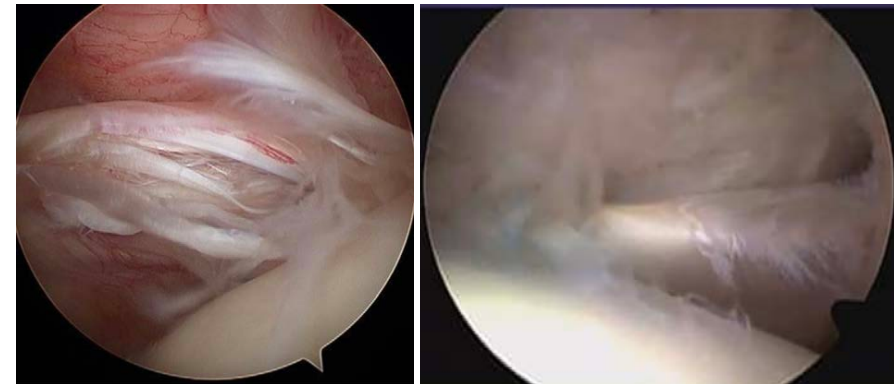
Réparation



- Rupture partielle (Type 1 ou 2)

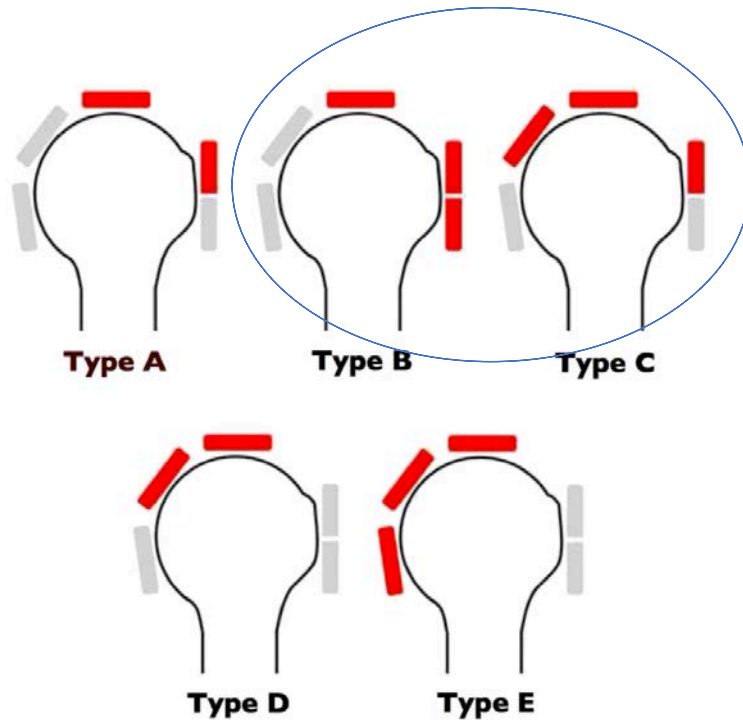
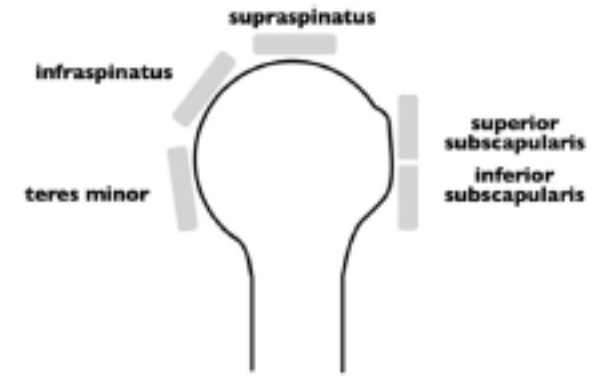


Debridement/ Réparation ?



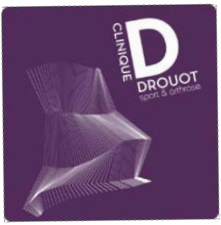
Et si on répare pas....

- Asymptomatic
- Risk +++ if concomitant cuff tear



Relationship between massive chronic rotator cuff tear pattern and loss of active shoulder range of motion

Philippe Collin, MD^{a,*}, Noboru Matsumura, MD^b, Alexandre Lädermann, MD^{c,d,e}, Patrick J. Denard, MD^f, Gilles Walch, MD^g



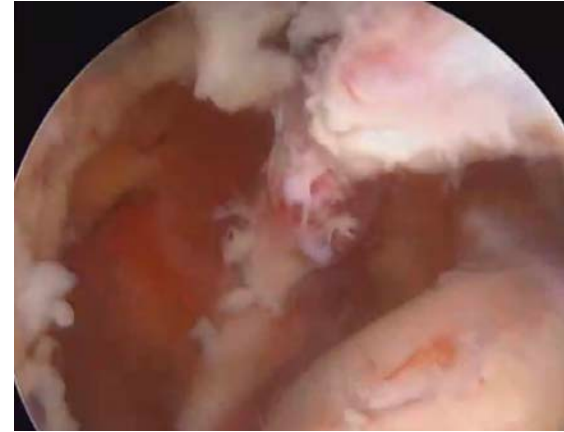
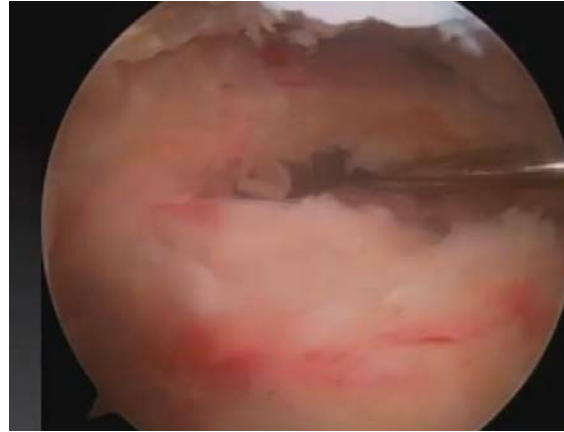
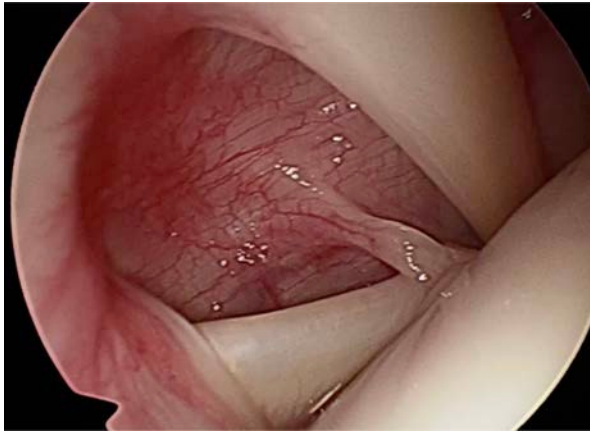
Technique Opératoire

- AG/ALR ou ALR pure
- Demi assis +++ ou DL
- Attention c'est long !!! et moins confortable
- La dissection est plus complexe et plus difficile



Technique Opératoire

- In the Box ou Out of the Box ?



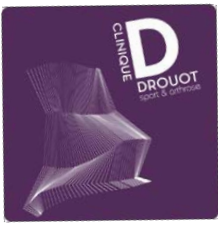
- Signe sentinel



Knee Surg Sports Traumatol Arthrosc. 2016 Dec;24(12):3745-3749. Epub 2014 Aug 31.

Sentinel sign: a sign of biceps tendon which indicates the presence of subscapularis tendon rupture.

Sahu D¹, Fullick R², Giannakos A², Lafosse L².



Technique Opératoire : Le choix In ou Out of the box

Table 1 Classification of subscapularis tears, by peroperative assessment and pre-operative scan analysis and numbers per type included in the present study.

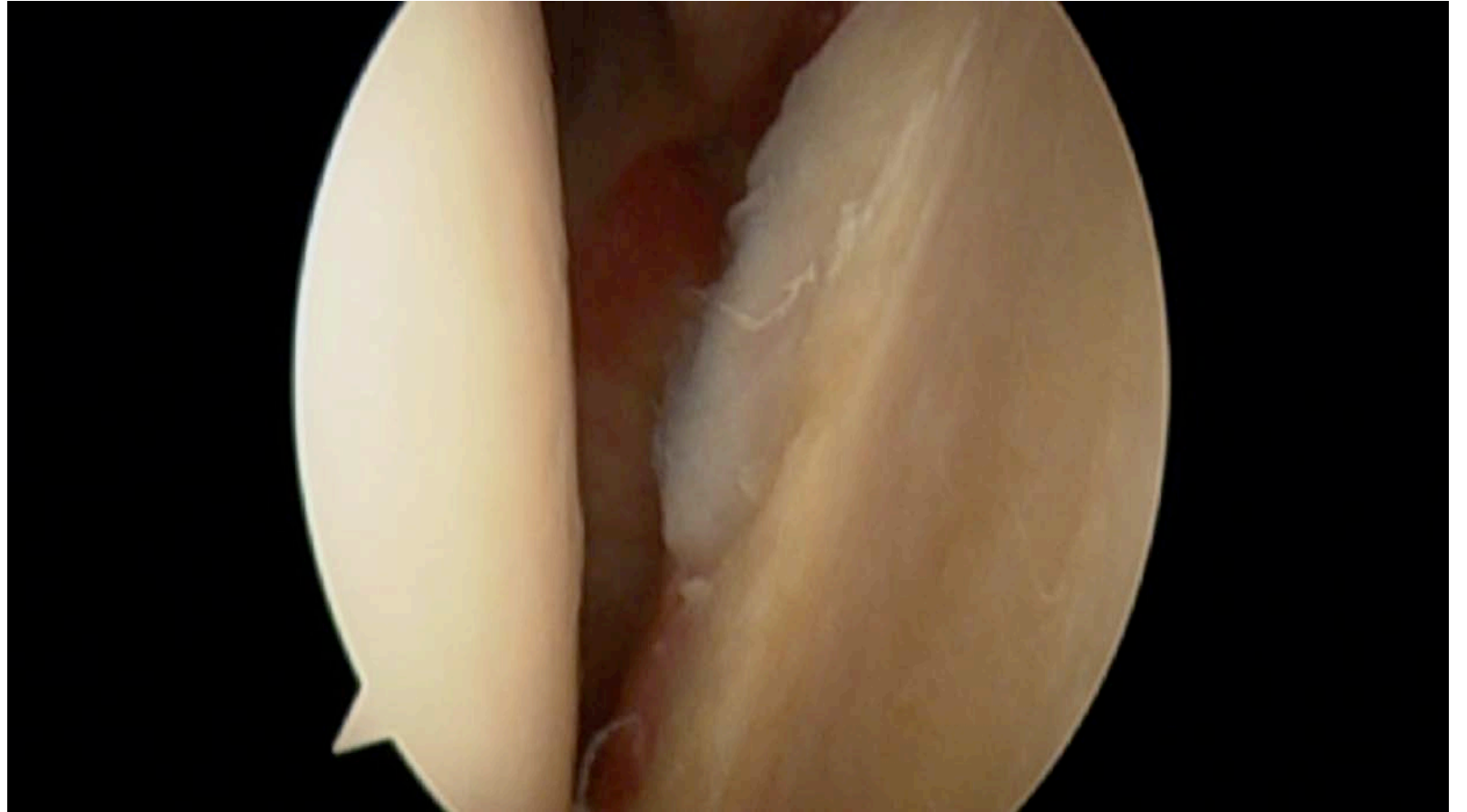
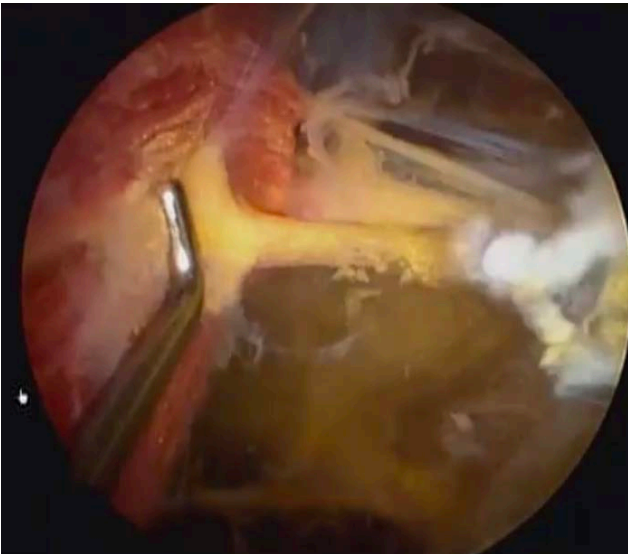
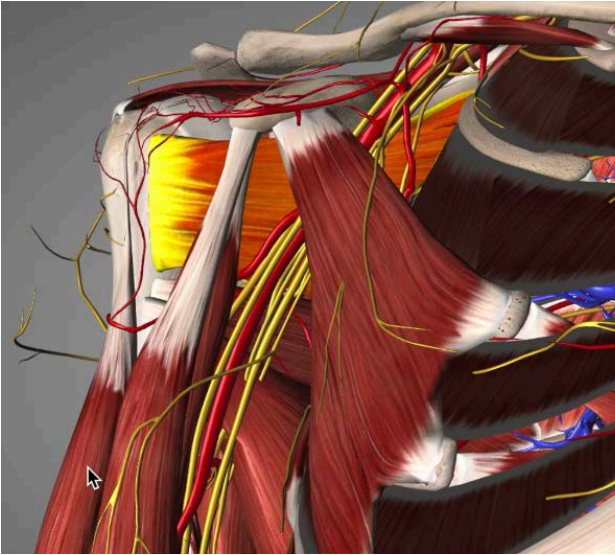
Type	Lesion	Number
I	Partial superior third lesion	0
II	Complete superior third lesion	0
III	Complete superior two-thirds lesion	15
IV	Complete tendon lesion with well-centered humeral head and fatty infiltration graded ≤ 3	5

IN

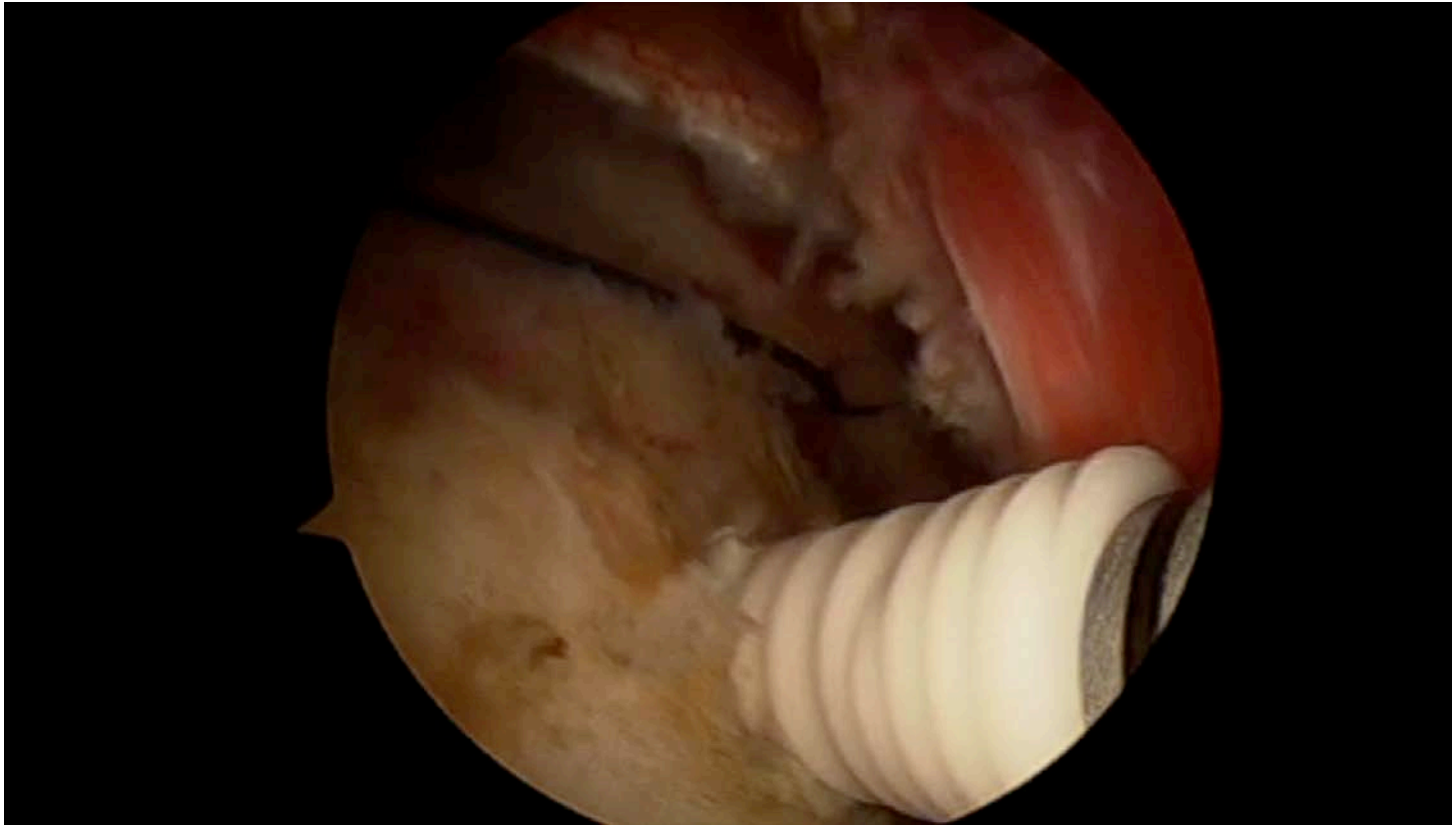
OUT



Technique Opératoire : La dissection



Technique Opératoire : SR ou DR ?



[Am J Sports Med.](#) 2019 May;47(6):1427-1433. doi: 10.1177/0363546519838281.

Arthroscopic Repair of the Isolated Subscapularis Full-Thickness Tear: Single- Versus Double-Row Suture-Bridge Technique.

[Yoon JS](#)¹, [Kim SJ](#)¹, [Choi YR](#)¹, [Kim SH](#)¹, [Chun YM](#)¹.

[J Shoulder Elbow Surg.](#) 2018 Apr;27(4):711-719. doi: 10.1016/j.jse.2017.08.009. Epub 2017 Oct 17.

Arthroscopic subscapularis repair using single-row mattress suture technique: clinical results and structural integrity.

[Jeong JY](#)¹, [Pan HL](#)², [Song SY](#)¹, [Lee SM](#)³, [Yoo JC](#)⁴.

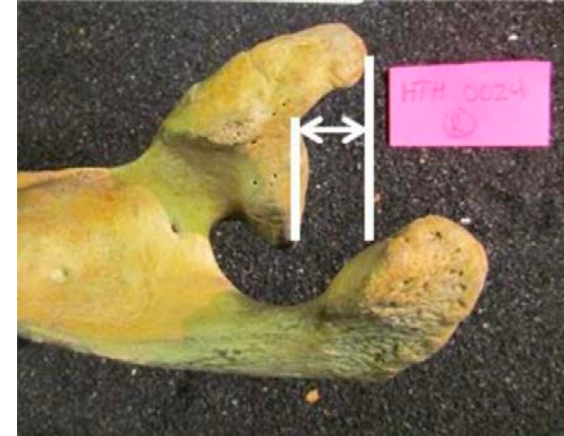


- Pas de différence clinique
- Re-Rupture 13% vs 12%



- Re-Rupture 8,8%

Conflit sous coracoïdien: Mythe ou Réalité?



Dugarte OJSM 2017

Coracoid morphology is not associated with subscapularis tears

Viktor C. Tollemar, MD^a, Jianhua Wang, MD^b, Jason L. Koh, MD^c, Michael J. Lee, MD^a, Lewis L. Shi, MD^{a,*}

JSES 2019

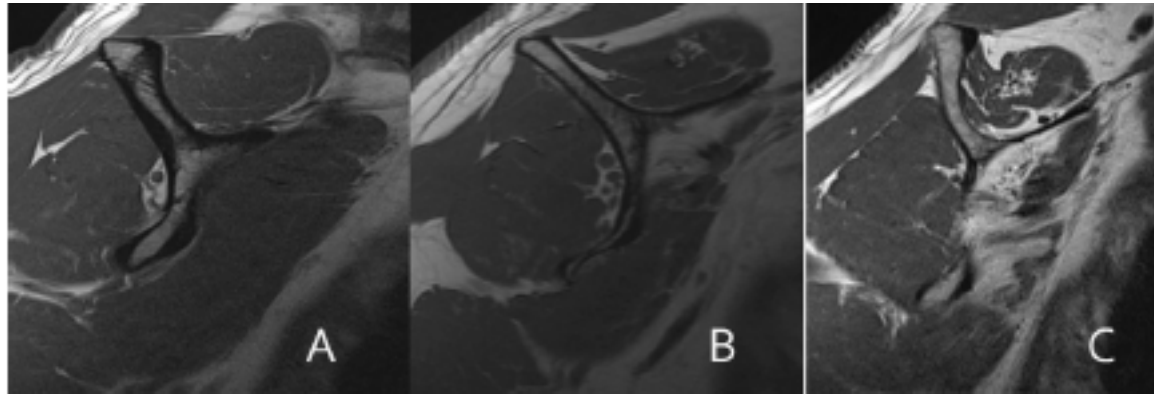


- Rien ne le sous-tend cliniquement
- Pas d'argument pour faire une coracoïdoplastie systématique

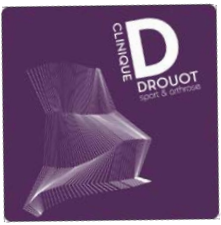
Resultats?

Ten-year clinical and anatomic follow-up after repair of anterosuperior rotator cuff tears: influence of the subscapularis

Laurent Nové-Josserand, MD^{a,*}, Philippe Collin, MD^b, Arnaud Godenèche, MD^a, Gilles Walch, MD^a, Nicolas Meyer, MD, PhD^c, Jean-Francois Kempf, MD, PhD^d, for The SOFCOT^e



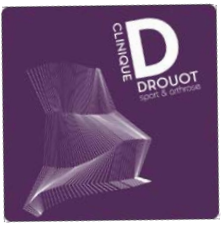
Conclusions: Repair of anterosuperior rotator cuff tears is satisfactory at 10 years, particularly if the subscapularis tear is not extensive. An extensive subscapularis tear is a negative prognosis factor. Postoperatively, fatty infiltration of the subscapularis muscle was frequently observed despite tendon healing.



Suites

- Immobilisation coude au corps 4 semaines
- Un peu de pendulaire en autoréducation
- Rééducation à partir de 4 semaines





Take Home Message

- La classification des lésions est arthroscopique
- Les lésions partielles du 1/3 sup peuvent être simplement débridées
- Techniquement plus difficile
 - Zone de W
 - Dissection : Proximité du plexus +++ (Out of the Box)
 - Positionnement des ancrés
- Ne pas hésiter à faire du OB ciel ouvert sur les Stade 4 rétracté

Merci