

# **SUTURE SOUS CONTROLE ARTHROSCOPIQUE DE RUPTURE AIGUE DU TENDON QUADRICEPS**

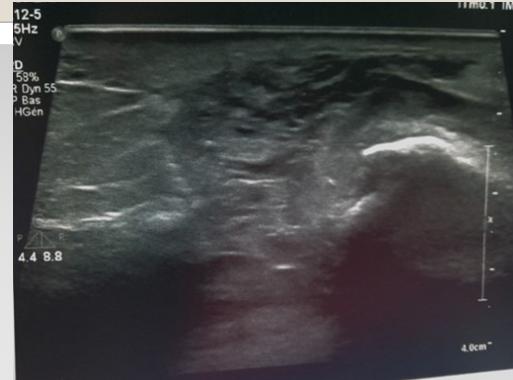
**NOTE TECHNIQUE**

***SEVERYNS M, RENARD G, LABRADA BLANCO O,  
ROUVILLAIN JL***

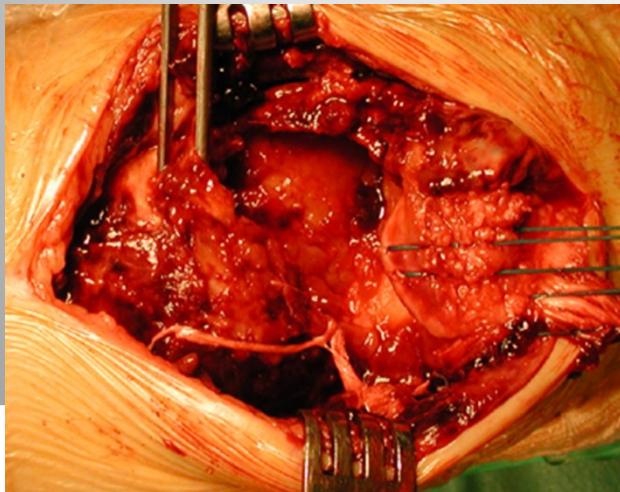




## ETAT DES LIEUX

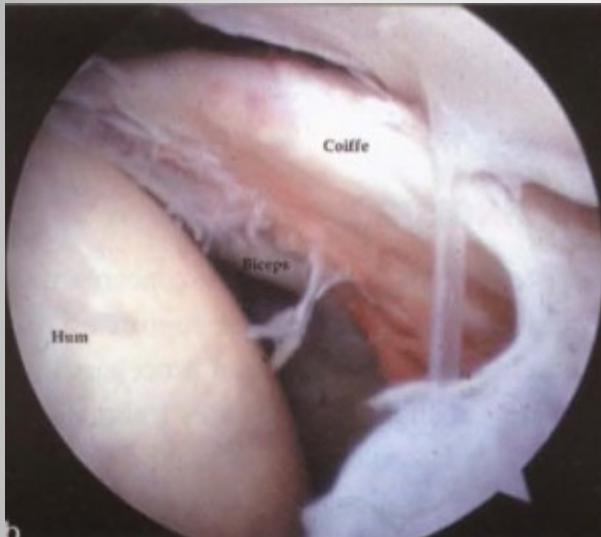


- Prise en charge chirurgicale impérative
- Ciel ouvert+++
- Tunnelisation trans-patellaire longitudinale (gold standard)
- Hémi-surjet passé (type Krackow): 60%

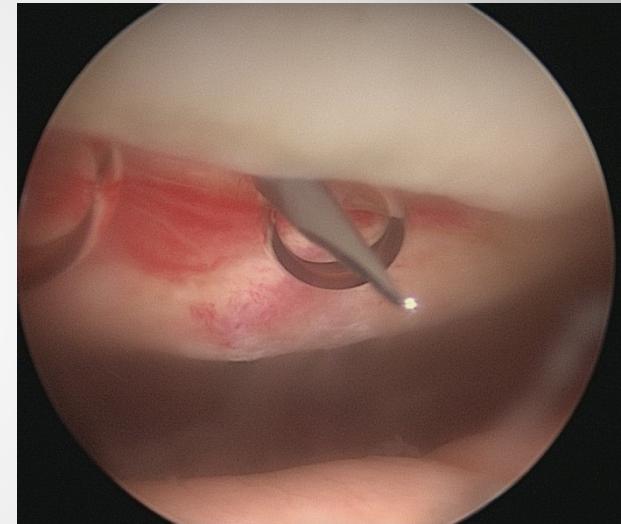


*Ibounig T, Simons TA. Etiology, Diagnosis and Treatment of Tendinous Knee Extensor Mechanism Injuries. Scand. J. Surg. 2016*

# Et pourquoi pas sous contrôle arthroscopique ???



Rupture tendon sus-épineux



Rupture tendon quadripectoral

**Analogie à la coiffe des rotateurs???!!!**

# LITTÉRATURE

Case Rep Orthop. 2015;2015:937581. doi: 10.1155/2015/937581. Epub 2015 Feb 28.

## Arthroscopic quadriceps tendon repair: two case reports.

Saito H<sup>1</sup>, Shimada Y<sup>1</sup>, Yamamura T<sup>2</sup>, Yamada S<sup>1</sup>, Sato T<sup>2</sup>, Nozaka K<sup>1</sup>, Kijima H<sup>1</sup>, Saito K<sup>1</sup>.

### Author information

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2 Sapporo Sports Clinic, Sapporo 060-0001, Japan.

### Abstract

Recently, although some studies of open repair of the tendon of the quadriceps femoris have been published, there have been no reports in the literature on primary arthroscopic repair. In our present study, we present two cases of quadriceps tendon injury arthroscopically repaired with excellent results. Case 1 involved a 68-year-old man who was injured while shifting his weight to prevent a fall. MRI showed complete rupture at the insertion of the patella of the quadriceps tendon. The rupture was arthroscopically repaired using both suture anchor and pull-out suture fixation methods via bone tunnels (hereafter, pull-out fixation). Two years after surgery, retearing was not observed on MRI and both Japan Orthopedic Association (JOA) Knee and Lysholm scores had recovered to 100. Case 2 involved a 50-year-old man who was also injured when shifting his weight to prevent a fall. MRI showed incomplete superficial rupture at the insertion of the patella of the quadriceps tendon. The rupture was arthroscopically repaired using pull-out fixation of six strand sutures. One year after surgery, MRI revealed a healed tendon and his JOA and Lysholm scores were 95 and 100, respectively. Thus, arthroscopic repair may be a useful surgical method for repairing quadriceps tendon injury.

PMID: 25815224    PMCID: [PMC4359866](#)    DOI: [10.1155/2015/937581](#)

# Suture anchors VS transosseous sutures

[Knee Surg Sports Traumatol Arthrosc](#). 2015 Apr;23(4):1039-45. doi: 10.1007/s00167-014-2854-3. Epub 2014 Jan 29.

**Suture anchor repair yields better biomechanical properties than transosseous sutures in ruptured quadriceps tendons.**

Petri M<sup>1</sup>, Dratzidis A, Brand S, Calliess T, Hurschler C, Krettek C, Jagodzinski M, Ettinger M.

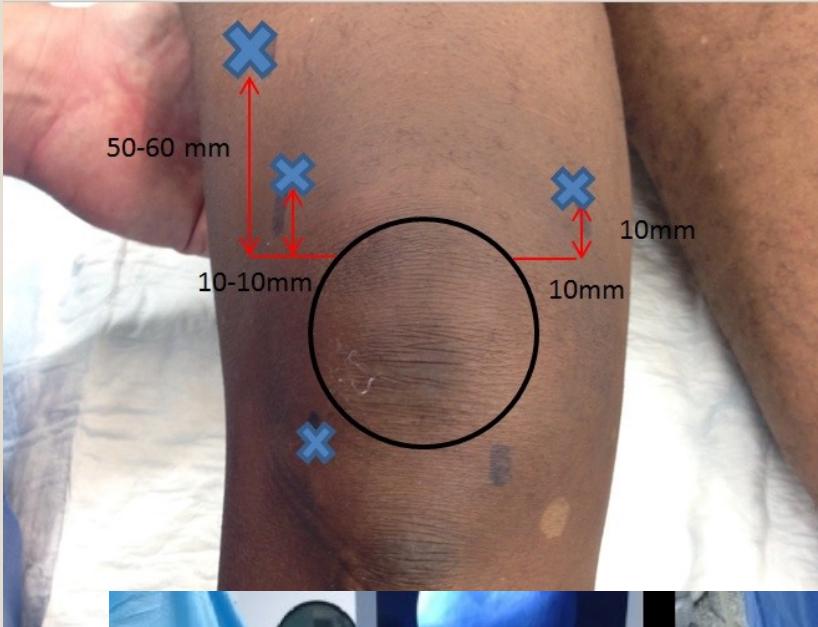
***Résistance plus importante à la re-rupture***

[Arthroscopy](#). 2016 Jun;32(6):1117-24. doi: 10.1016/j.arthro.2015.11.038. Epub 2016 Feb 17.

**Biomechanical Evaluation of Suture Anchor Versus Transosseous Tunnel Quadriceps Tendon Repair Techniques.**

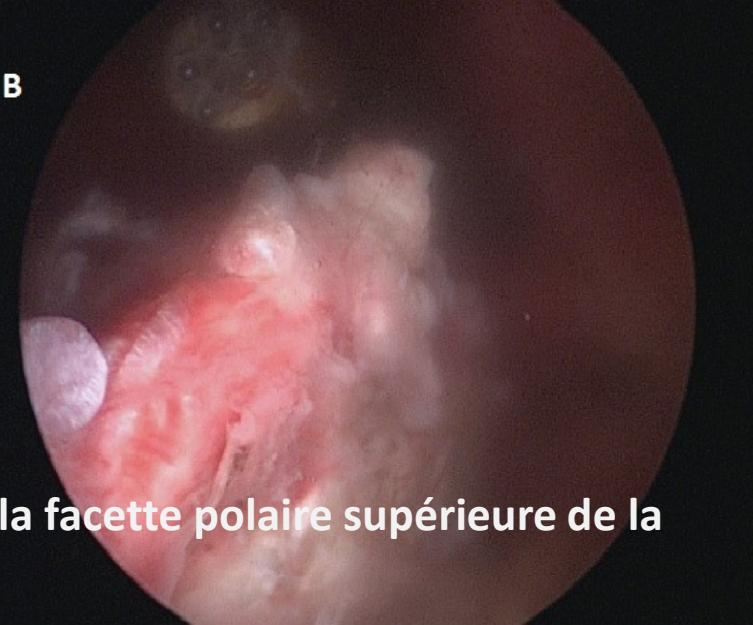
Sherman SL<sup>1</sup>, Copeland ME<sup>2</sup>, Milles JL<sup>3</sup>, Flood DA<sup>3</sup>, Pfeiffer FM<sup>4</sup>.

***Diminution de l'écartement des fibres lors de la flexion (« gapping »)***

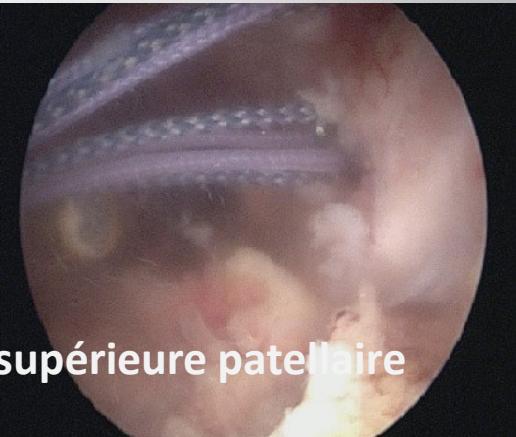
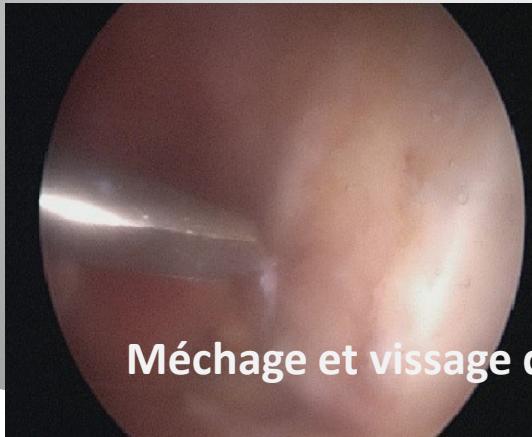


## Voies d'abord arthroscopiques



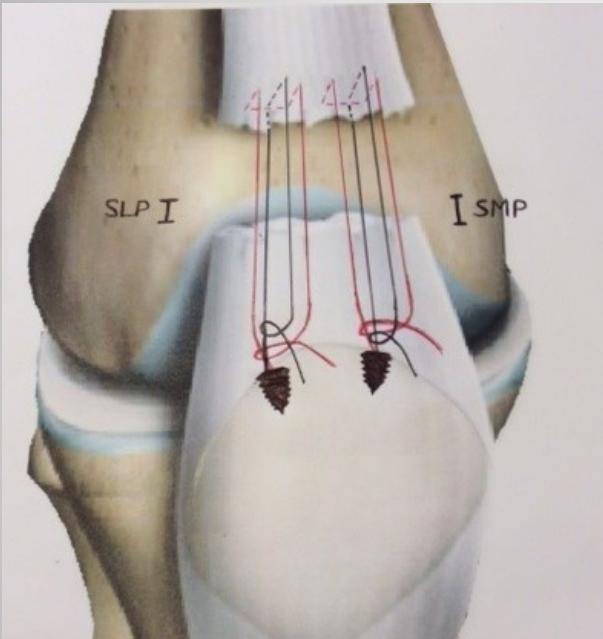


**Images arthroscopiques du débridement de la facette polaire supérieure de la patella (A) et du tendon quadricipital (B)**



**Méchage et vissage d'une ancre sur la facette polaire supérieure patellaire**

# « DUST » knot



## Tendon-to-bone contact area

DUST 122 mm<sup>2</sup>

MasonAllen 48 mm<sup>2</sup> ( $p=0.008$ )

Simple suture (51 mm<sup>2</sup>,  $p=0.01$ )

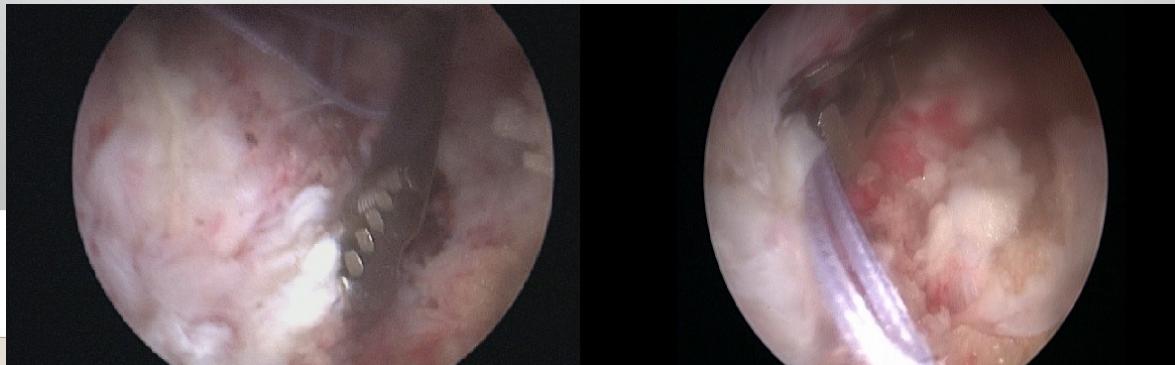
## Suture pull-out strength

DUST 191N

Simple suture (97N,  $p=0.028$ )

Mason-Allen suture (127N,  $p=0.22$ )

D Lieu, S Tan, D Bell, B Walsh, A Rubin. Biomechanical Comparison Of A Novel Suture Configuration As An Alternative Single-Row Repair Technique For Rotator Cuff Repair. The Internet Journal of Orthopedic Surgery. 2012



# SERIE PRELIMINAIRE

- N=4
- Age moyen: 56.75 ans
- Recul moyen:  $9.25 \pm 3.2$  mois
- Flexion passive:  $91.25^\circ$  (Min 45, Max 120)
- Force musculaire: 5/5 (en attente tests isométriques)
- Score IKDC subjectif: 85.8/100 (Min 78.94, Max 94.73)
- Reprise activité sportive: 50%

## M3 post-opératoire



# TIPS AND TRICKS

- Libération du champ d'action arthroscopique
  - Position neutre
  - Pas de contre appui (travail en extension)
  - Position du Garrot pneumatique+++
- Manœuvres externes (patella)
- Débridement du moignon quadricipital++

