



The « all in one » MAC FL

Drs Nicolas GRAVELEAU & Dr Christian LUTZ



Centre du genou sportif- Bordeaux-Mérignac

Institut de Chirurgie Orthopédique et Sportive - Strasbourg

THANKS TO THE MENTOR & THE DISCIPLE



Pr Jean-Henri JAEGER

MAC FL
=
Combined ACL rec.
+
Lateral tenodesis



Dr Christian LUTZ

THE MACINTOSH W. FACIALATA = ACL REC. + ALR

Arthroscopic

Reduced mini-invasive lateral scar

Mechanically enhanced graft of FL

"Adding the iliotibial band *tenodesis* to an existing standardized intraarticular reconstruction significantly *decreased* the *force in the ACL* composite graft by an average of 43%"

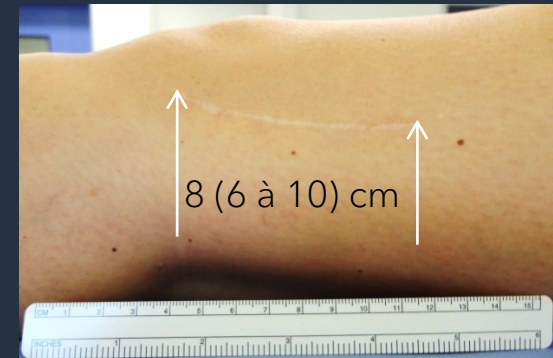


ARTHROSCOPY TECHNIQUES

Companion to Arthroscopy:
The Journal of Arthroscopic and Related Surgery

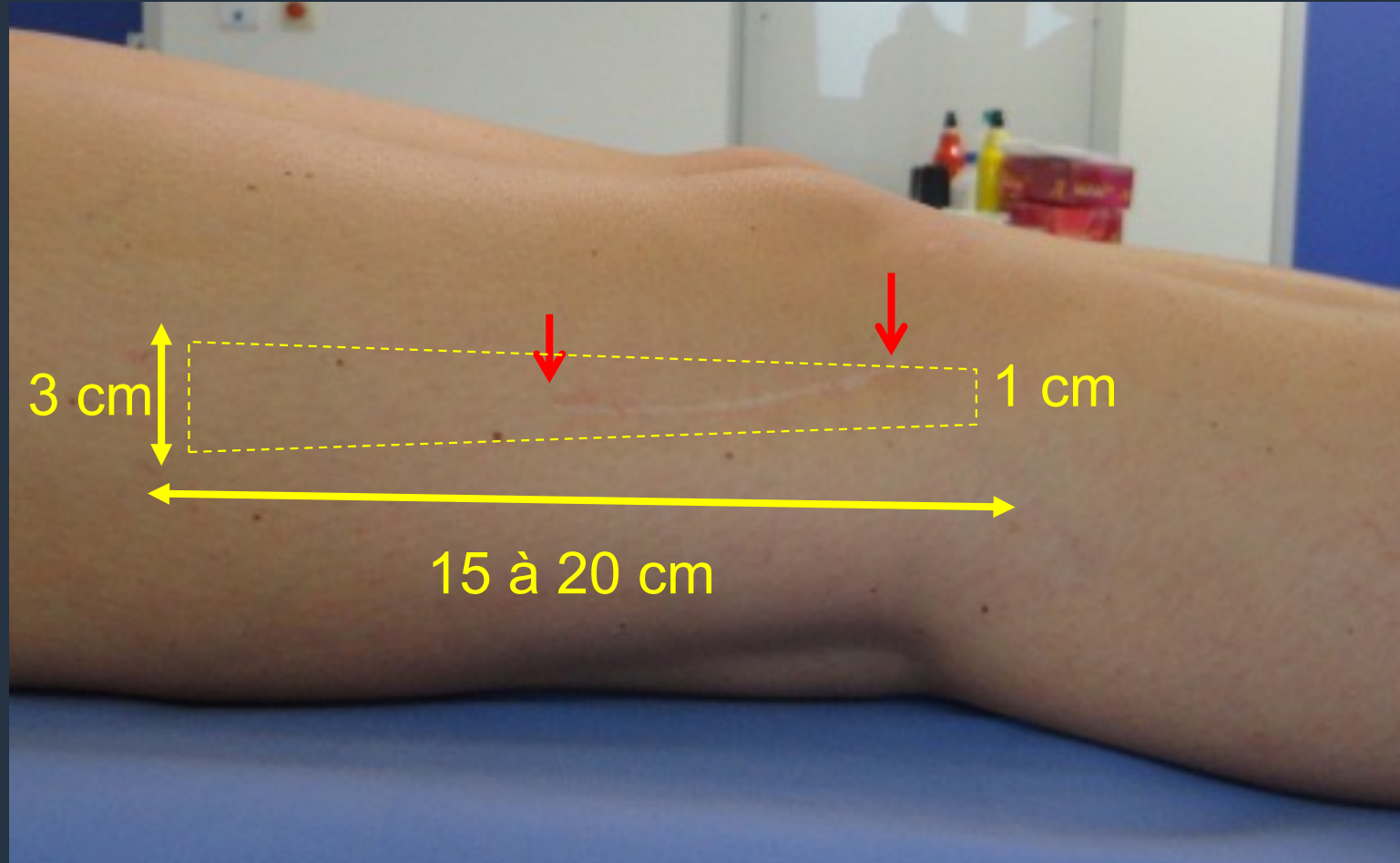
Combined Anterior and Anterolateral Stabilization of the Knee With the Iliotibial Band

Christian Lutz, M.D., Bertrand Sonnery-Cottet, M.D., Pierre Imbert, M.D.,
Nuno Camelo Barbosa, M.D., Sanesh Tuteja, M.D., and Jean-Henri Jaeger, M.D., Ph.D.



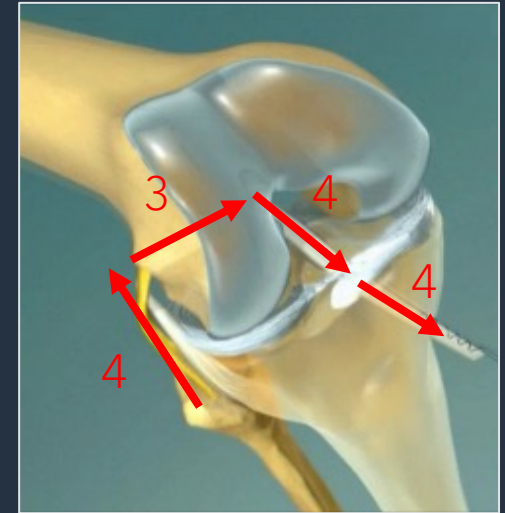
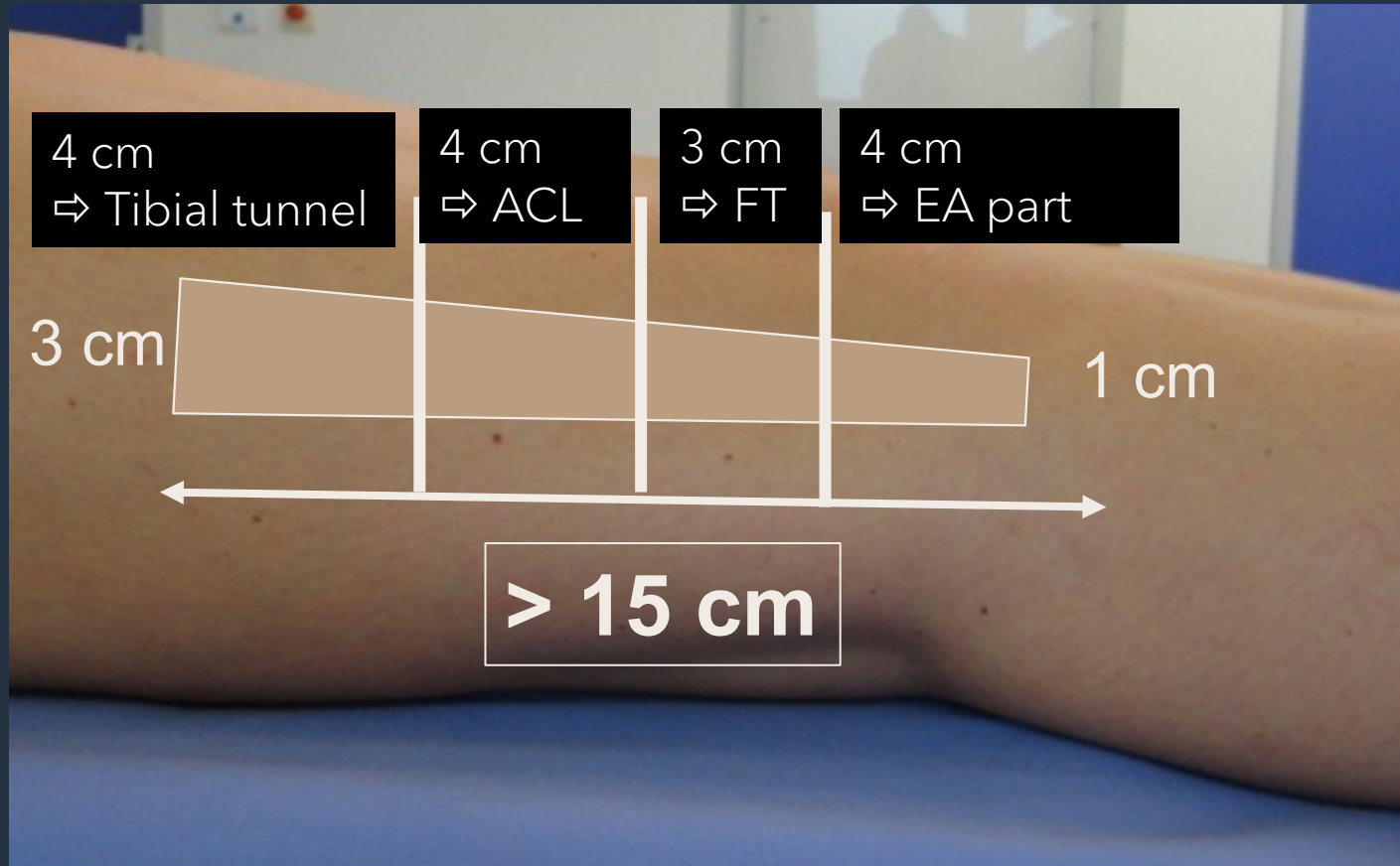
SURGICAL TECHNIQUE

GRAFT HARVESTING FROM THE FM



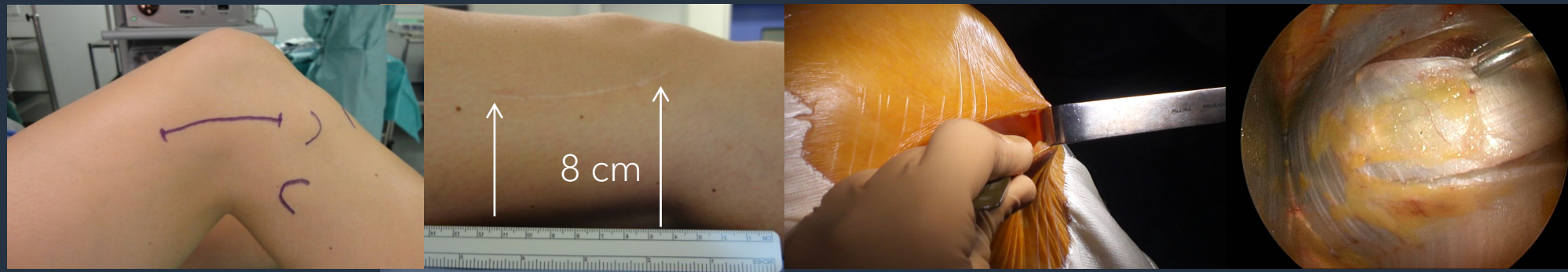
Keep it
attached
to Gerdy
Tubercule

GRAFT SETTING

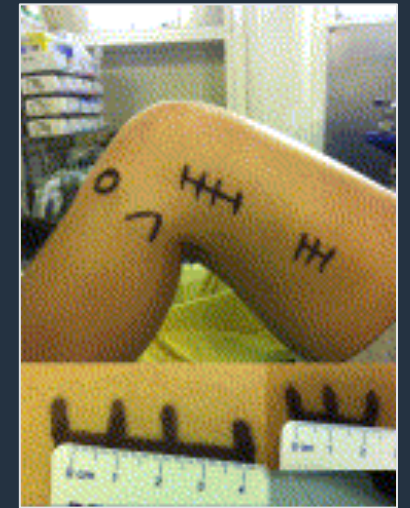


OPTIMISATION SCARE LENGTH VERSUS GRAFT LENGTH

- Cutaneous incision $\Rightarrow$ 7 à 10 cm



Mini-invasive surgery (mobile skin window) +
video assisted harvest
Lutz Arthrosc Tech 2016

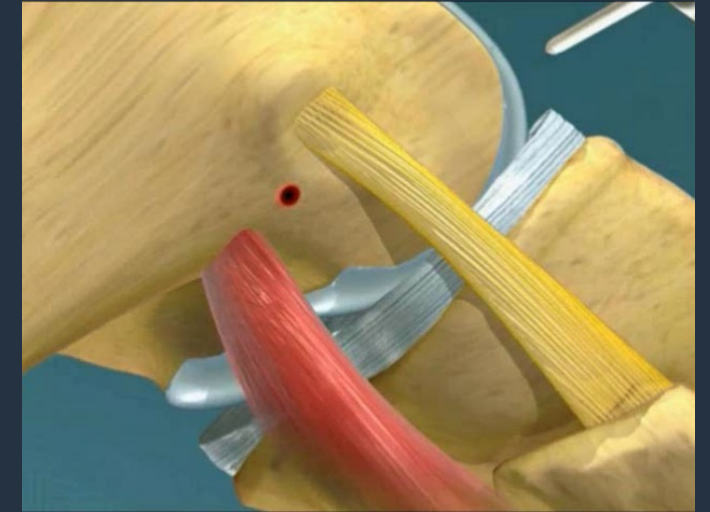
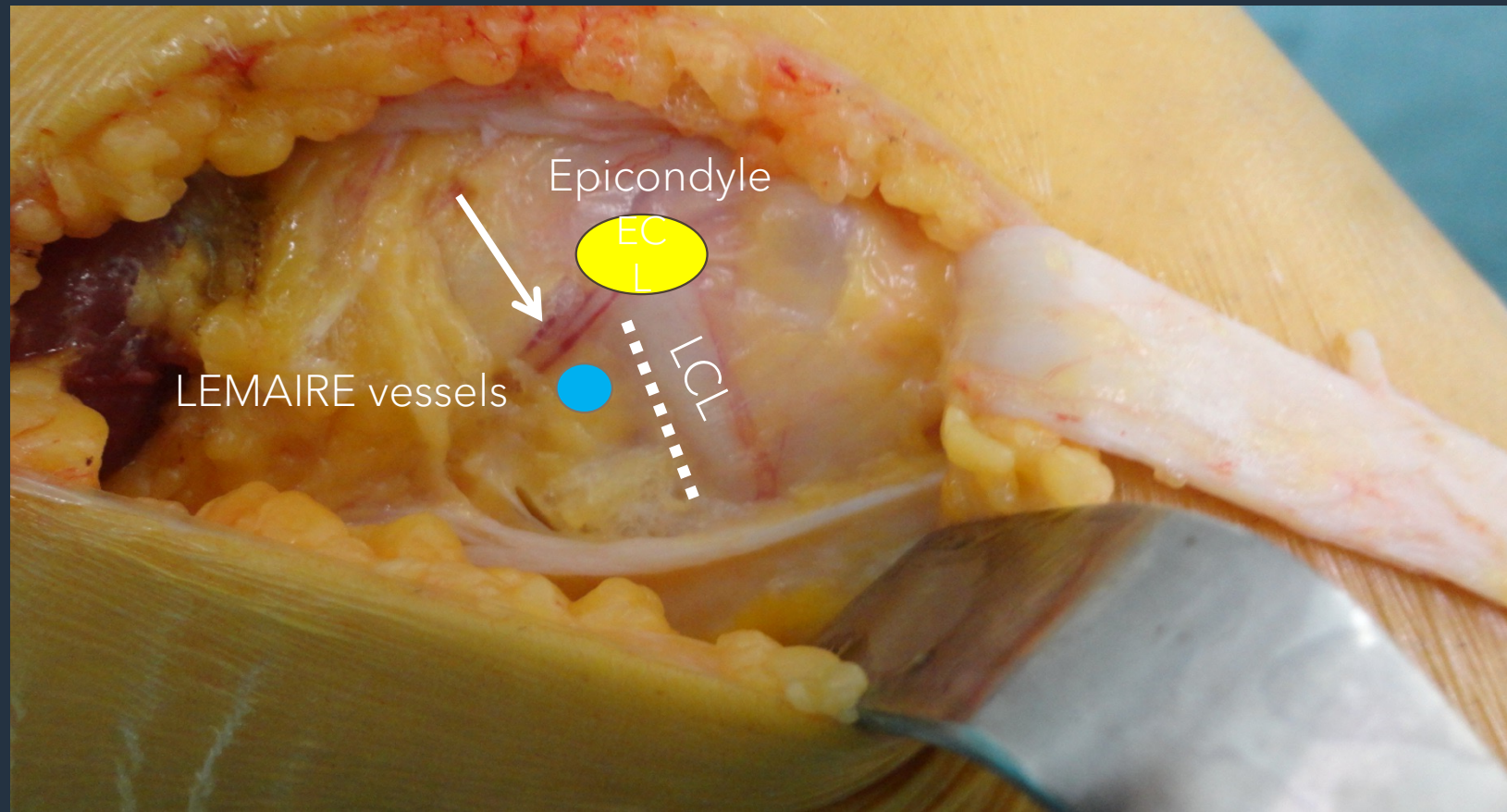


Double mini-incision
Khiami RCOT 2013

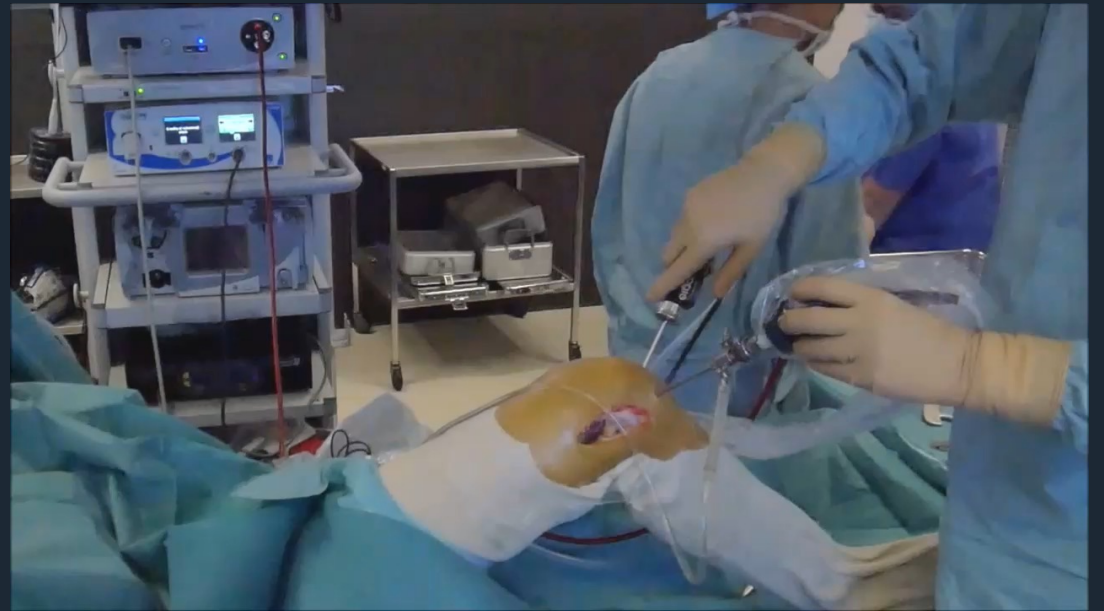
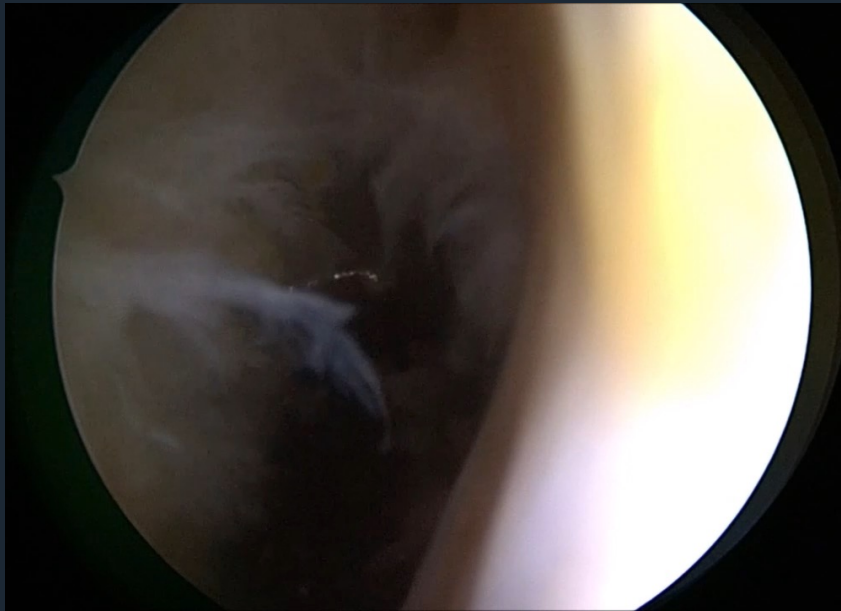
TUBULISATION OF THE GRAFT



FEMORAL TUNNEL ENTRANCE



FEMORAL TUNNEL DRILLING



TIBIAL TUNNEL



GRAFT PASSAGE

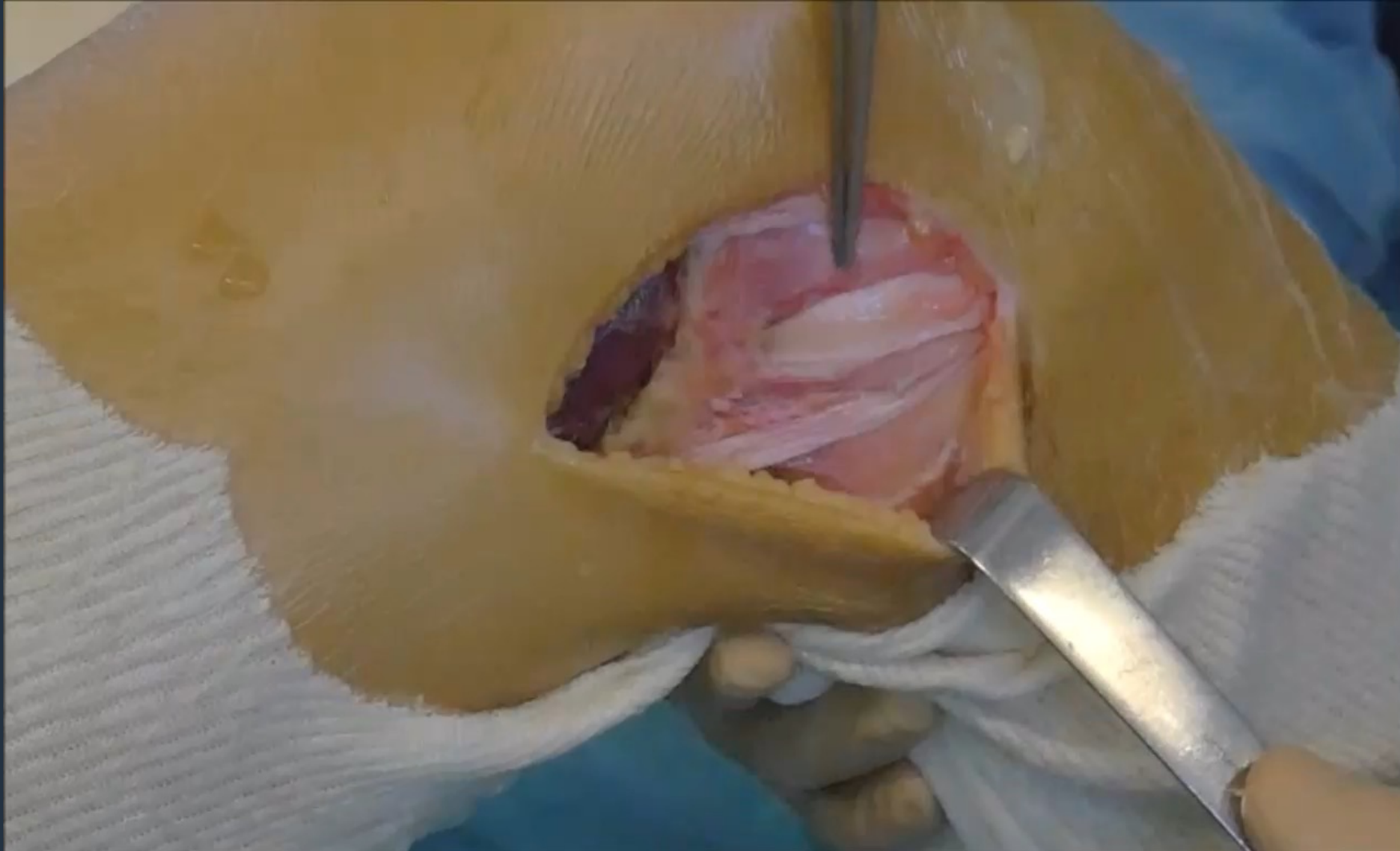


FIXATION OF THE ACL IN THE TIBIA

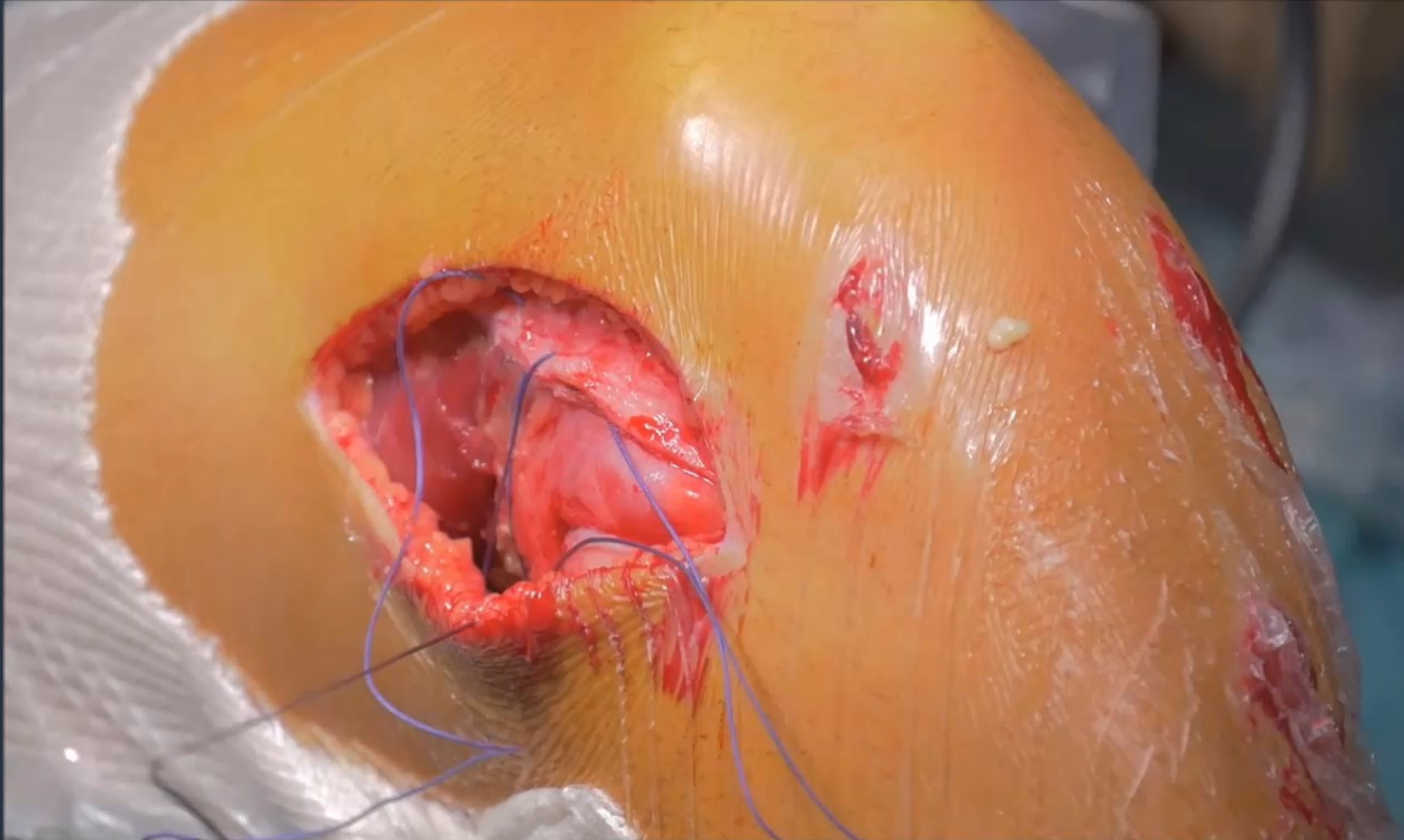


Full extended knee + foot neutral rotation

TESTING GRAFT



Closing of the approach



TIPS & TRICKS BY THE AUTHORS

BIOMECHANICAL TESTING OF THE GRAFT « TOO SMALL » - « TOO WEAK » ?

Graft	Strength
ACL	100%
BTP	168%
DT	70%
Gr	49%
Fascia lata	36%

LAB

Copyright 1984 by The Journal of Bone and Joint Surgery, Incorporated

Biomechanical Analysis of Human Ligament Grafts used in
Knee-Ligament Repairs and Reconstructions**

BY FRANK R. NOYES, M.D.†, DAVID L. BUTLER, PH.D.‡, EDWARD S. GROOM, PH.D.‡, RONALD F. ZERNICKE, PH.D.§,
AND MOHAMED S. HEFZY, PH.D.‡, CINCINNATI, OHIO

From the Giannestras Biomechanics Laboratory, Department of Orthopaedic Surgery, University of Cincinnati Medical Center,
and the Cincinnati Sportsmedicine and Orthopaedic Center, Cincinnati

REAL LIFE (OR) Large = 30 mm

Distal Harvest compare to Lab (more resistant)

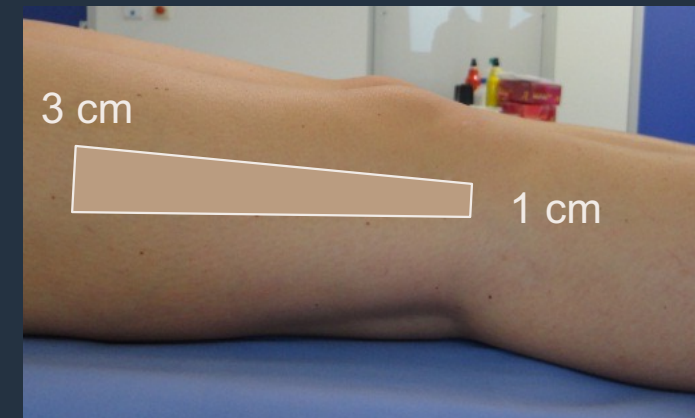
intra + extra-articular plasty

*“Adding the iliotibial band **tenodesis** to an existing standardized intraarticular reconstruction significantly **decreased** the force in the ACL composite graft by an average of **43%**”.*

Engelbrechtsen, AJSM 1990

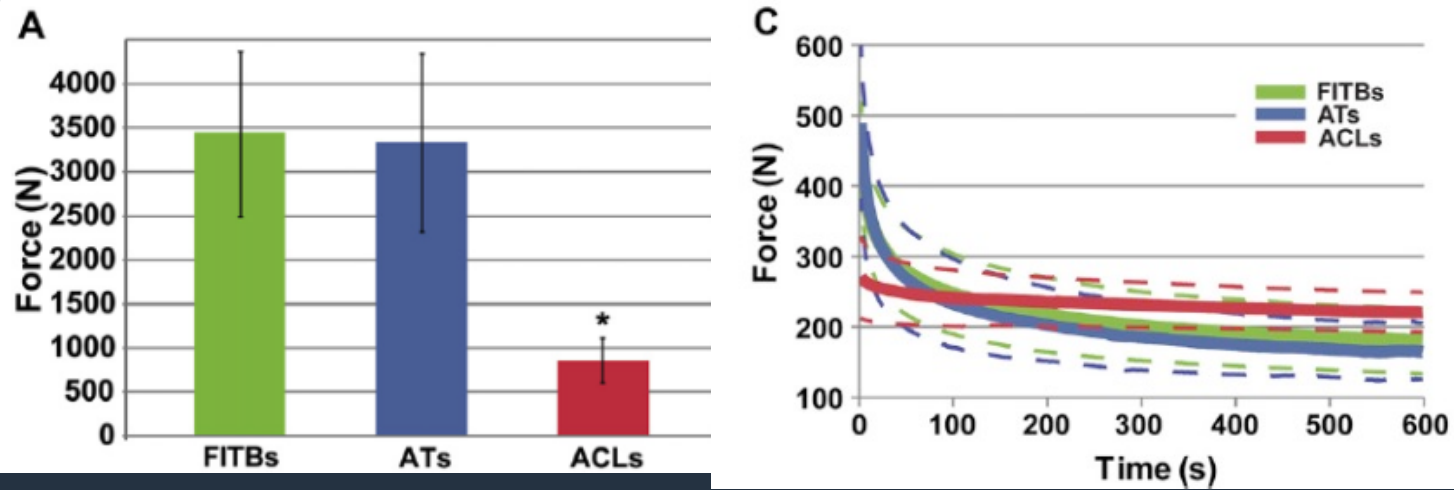
*“Patients who undergo combined **ACL-ALL reconstruction** with an ACL graft **diameter of 7 mm or less** can achieve **similar results** to patients who undergo **isolated ACL reconstruction** with a graft diameter **greater than 7 mm**”.*

Helito, Arthroscopy 2023

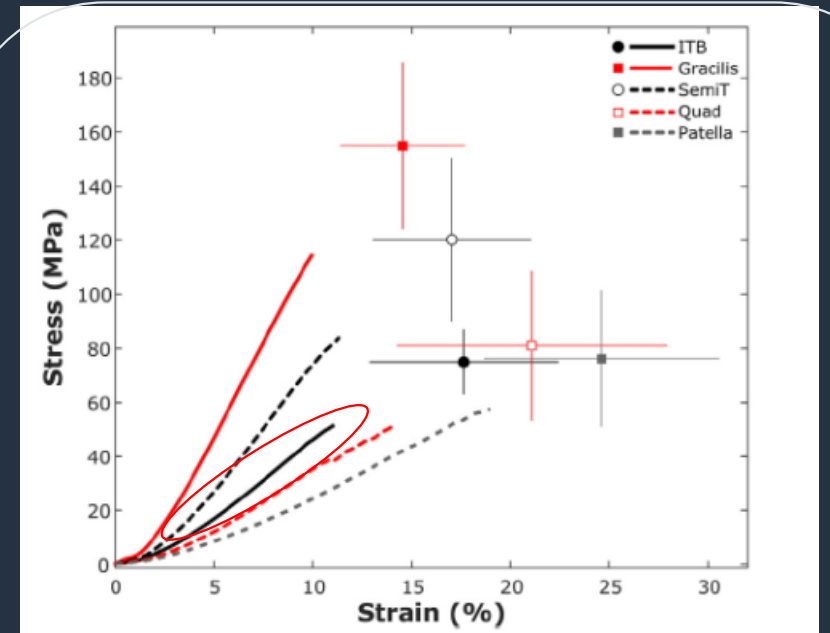


BIOMECHANICAL TESTING OF THE GRAFT

- Well supported by Bibliography



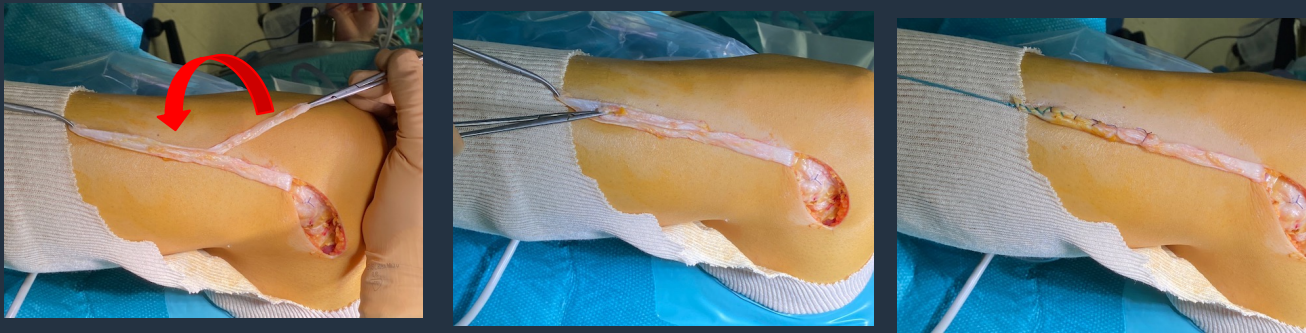
Strength to traction and relaxation
Delcroix, Arthroscopy 2013



Mechanical & viscoelastic properties
Smeets, Knee 2017

REINFORCEMENT OF THE GRAFT (SIZE)

Reversal FL plasty

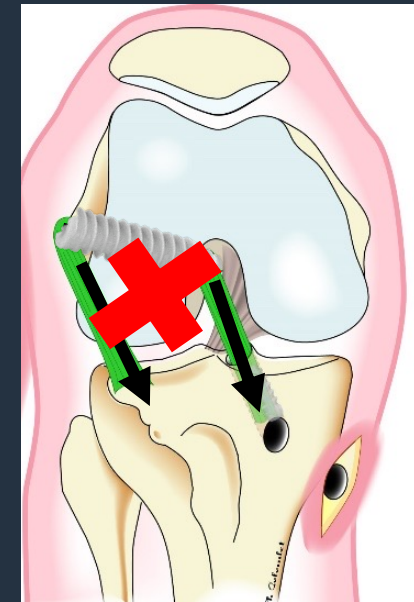
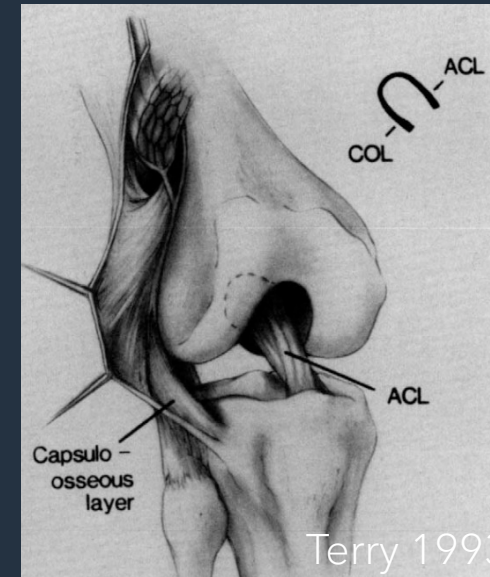
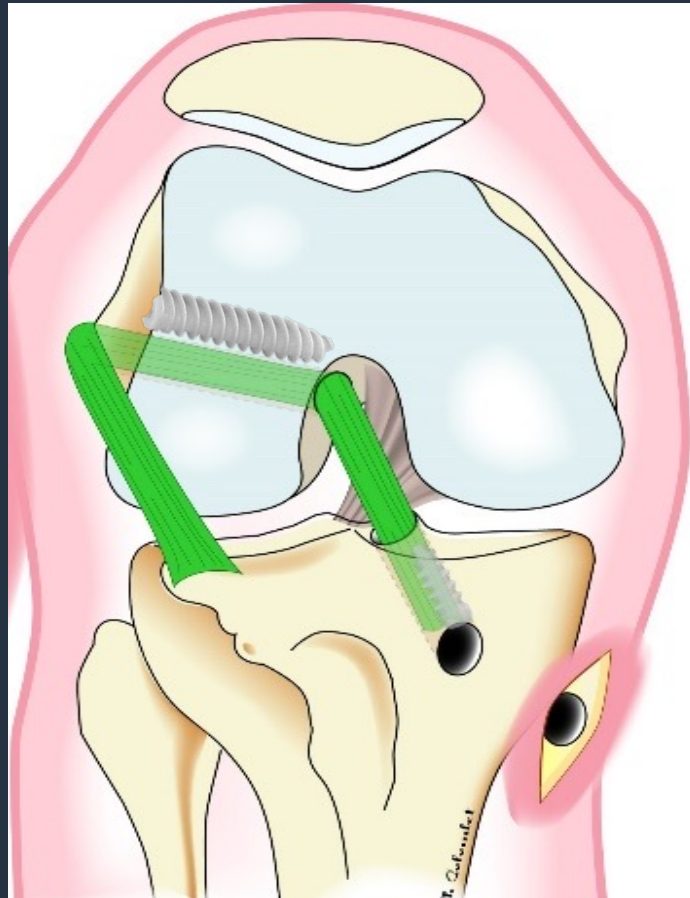


Gracilis



FIXATION IN THE FEMORAL TUNNEL : SCREW

- Not necessary
- Overconstrain ?
- Complementary behavior



NO PROOF

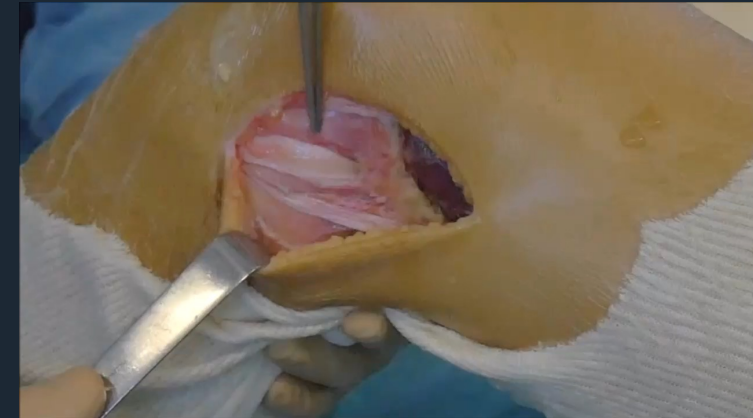
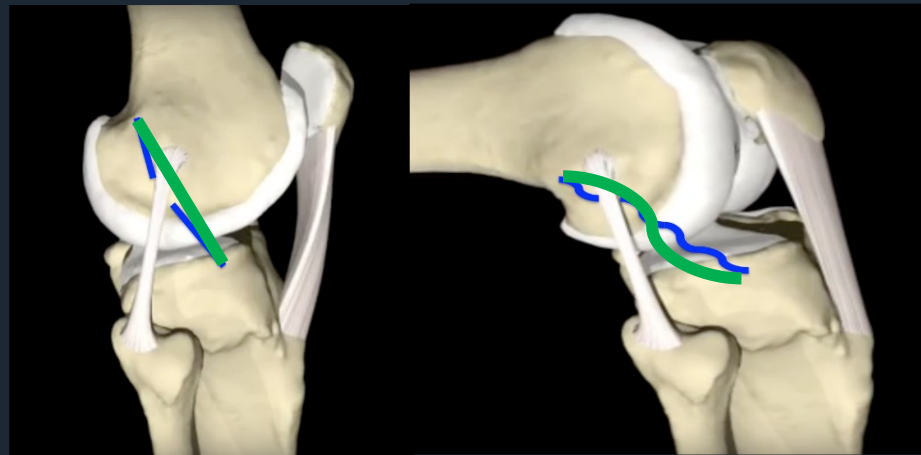
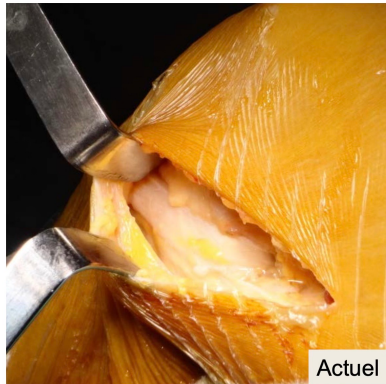
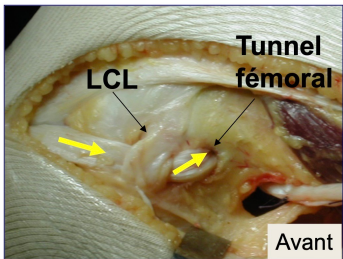
OVER OR UNDER THE LCL ?

UNDER the LCL

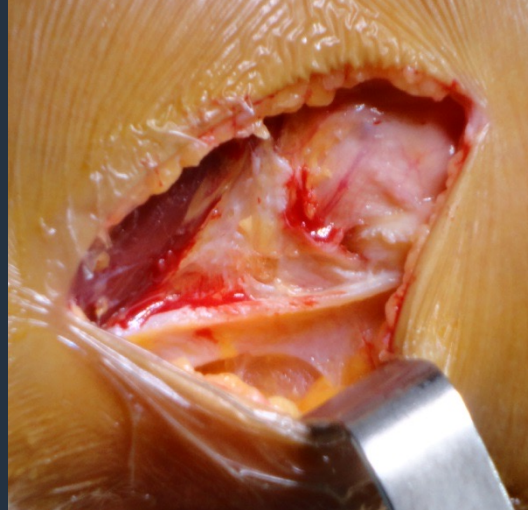
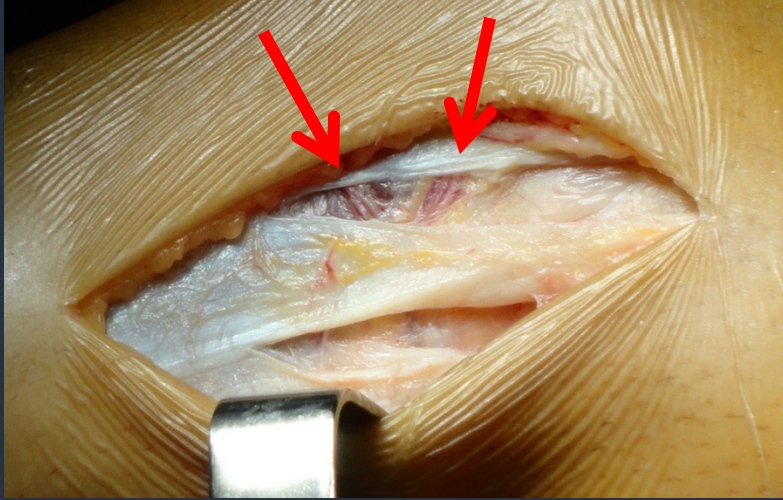
Extension $\Rightarrow$ more length : puley effect of LCL

Flexion $\Rightarrow$ slacking of EAP

OVER the LCL : LESS STRESS in the lateral compartment . DYNAMIC behavior

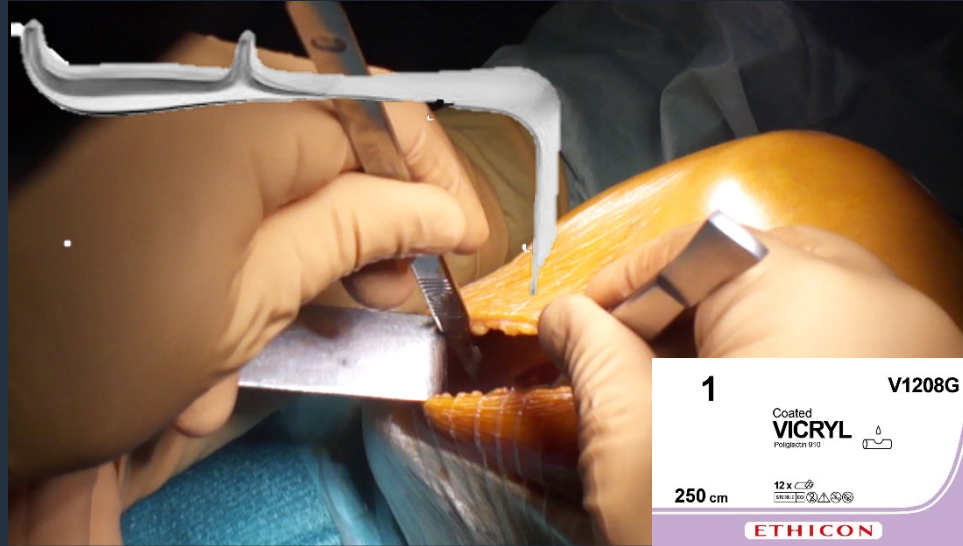
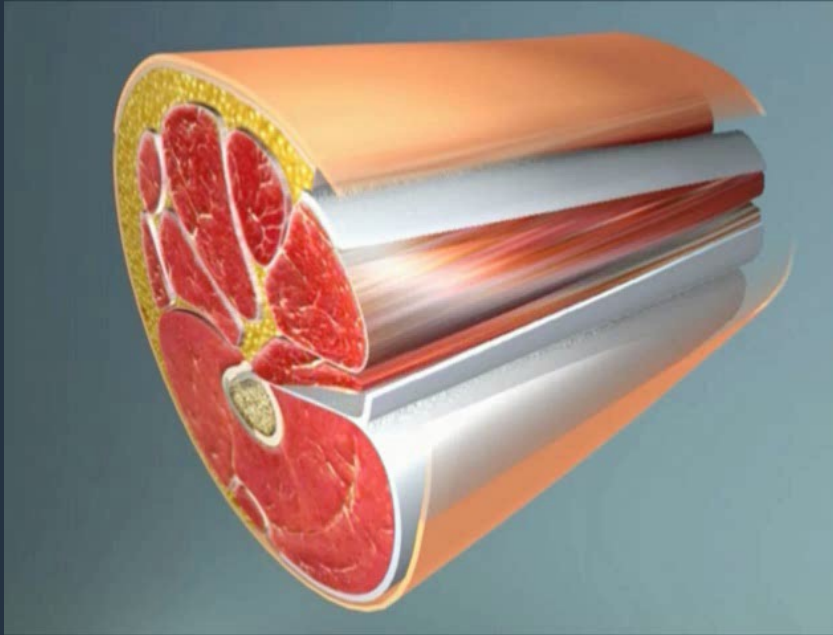


AVOID HEMATOMA



- Sharp dissection of the Facia Lata with a Knife
- Remove Tourniquet BEFORE skin closure
- Make sure they do not have low blood pressure during surgery

AVOID MUSCULAR HERNIA



- Jaeger artifice : longitudinal incision of intermuscular fascia + anterior sliding
- Retractor for closure of the fascia
- Short Needle

Conclusion

Knee Surgery, Sports Traumatology, Arthroscopy

Iliotibial band autograft is a suitable alternative graft for anterior cruciate ligament reconstruction: a systematic review and meta-analysis of outcomes

Thibaut Lucena¹ · Marie Cavaignac² · Vincent Marot¹ · Louis Courtot¹ · Christian Lutz³ · Emilie Bérard⁴ · Etienne Cavaignac^{1,5}

Received: 9 June 2021 / Accepted: 11 August 2021

Conclusion The graft survival rate and clinical and functional outcomes for ITB autograft are satisfactory. By allowing ACL reconstruction and lateral tenodesis to be done with a single, continuous, pedicled graft through an outside-in femoral tunnel, this technique may become the preferred alternative for primary or secondary ACL surgery.

Conclusion

ARTICLE IN PRESS

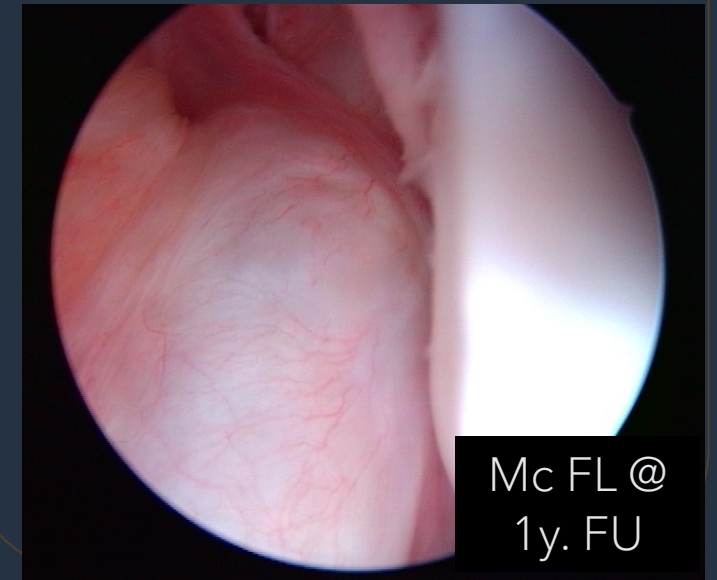
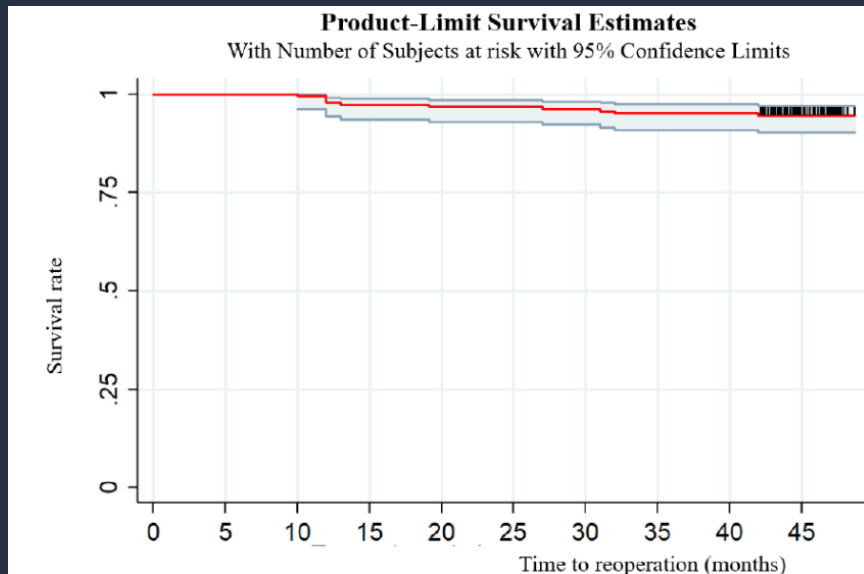
Combined ACLR and lateral extra-articular tenodesis with a continuous iliotibial band autograft is a viable option in a population of athletes who participate in pivoting sports

C Lutz¹, Dr C Casin², C Pioger³, Dr X Jacquot¹, J-H Jaeger^{4†}, W Van Hille²

43,1 months
F.U.



Re-rupture rate
= 5,6%





SFA 2024 BORDEAUX PALAIS 2 L'ATLANTIQUE DÉCEMBRE 11/12/13/14

PRÉSIDENT DU CONGRÈS :
YACINE CARLIER
NICOLAS GRAVELEAU

SYMPOSIA

- Registre instabilité antérieure de l'épaule.
Mikael CHELLI, Guillaume VILLATTE
- Reprise du sport après LCA.
Benjamin FREYCHET, Camille CHOUFANI
- SMILE, Mini instabilité latérale épicondylienne du coude
Hubert LENOIR, Patrick GOETTI

www.sofarthro.org

