Osteotomies and Knee Instabilities

Val d Isère

Ph Neyret, V Duthon, E Servien

LYON GENOU — CENTRE ALBERT TRILLAT

O. and Knee Instabilities

- O. for Anterior Instabilities

•12 articles

- O. for Posterior Instabilities

• 2 articles

• "Effects of increasing tibial slope on the biomechanics of the knee"
Am J Sports Med. 2004 Mar 32(2):376-382
Giffin JR, VogrinTM, Woo SL, Harner CD

• "Influence of high tibial flexion osteotomy on cartilage presure and joint kinematics; A biomechanical study in human cadaveric knees"
Acta Orthop Trauma Surg. 124(9) 575-84 2004
JD Agnes kirschner, C Hurschler, C Stukenborg-Colsman, A.B Imhof, P Lobenhoffer.

- O. for Antero-Posterior Instabilities

O. and Knee Instabilities

2000

O. and Knee Instabilities

Long term follow-up ?

ACL INJURY

« Isolated »
Complete
Partial

→ Evolved

ACLaxity with Pre-OA

→ OA due to Acl Laxity

Posterolateral < 5%

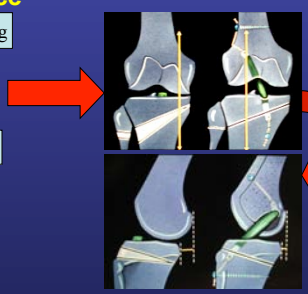
25-35y

O. and Knee Instabilities

Frontal imbalance

medial narrowing

lateral opening



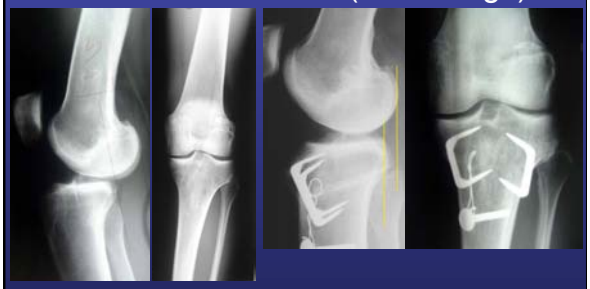
Sagittal imbalance

HTO combined with ACL Reconstruction

The pre-operative clinical examination and radiological check-up allow to detect degenerative changes or Imbalance

Frontal or Sagittal

Female 27y: Failure of previous ACL reconstruction (hamstrings)



Sagittal imbalance

O. and Knee Instabilities

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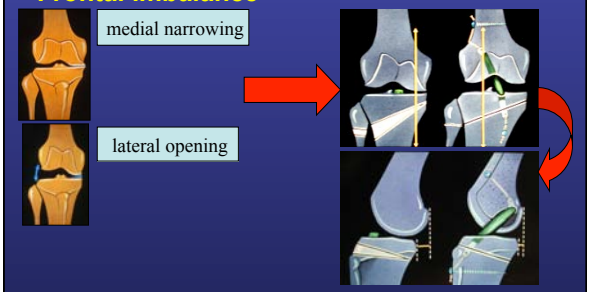
- O. for Antero-Posterior Instabilities

O. for Anterior Instabilities

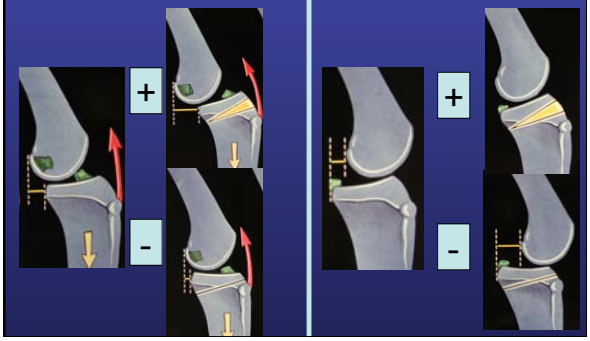
Frontal imbalance

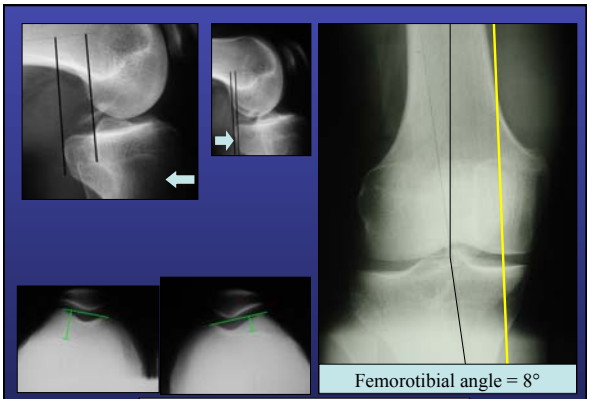


Sagittal imbalance

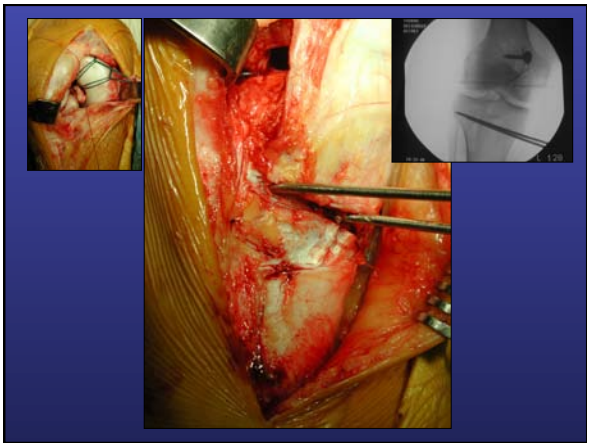
HTO combined with Sagittal Instabilities

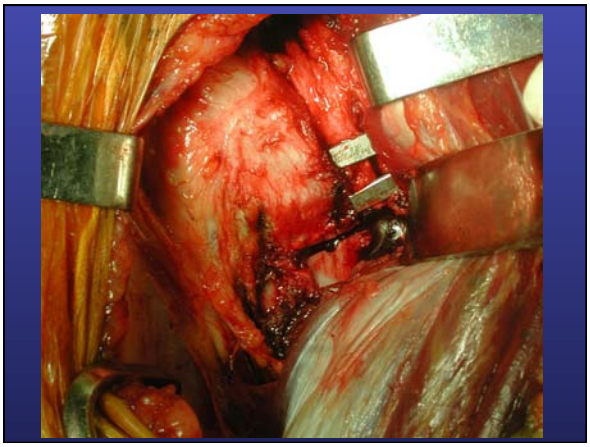
Anterior **Posterior**

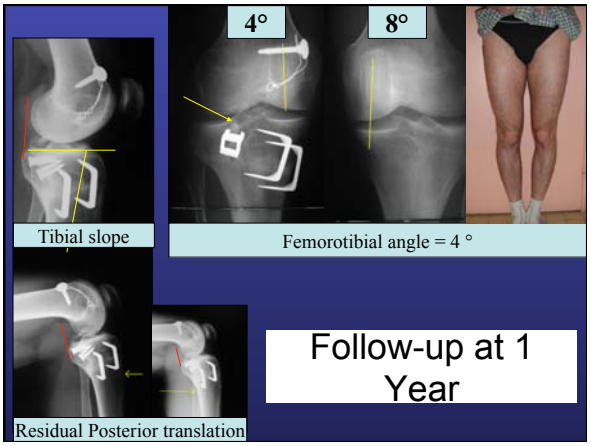


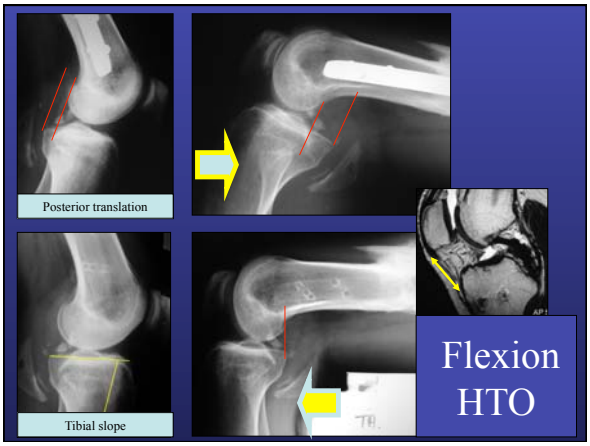


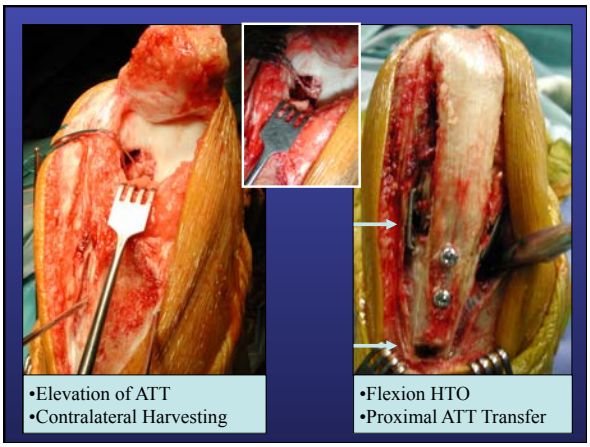
Valgus HTO

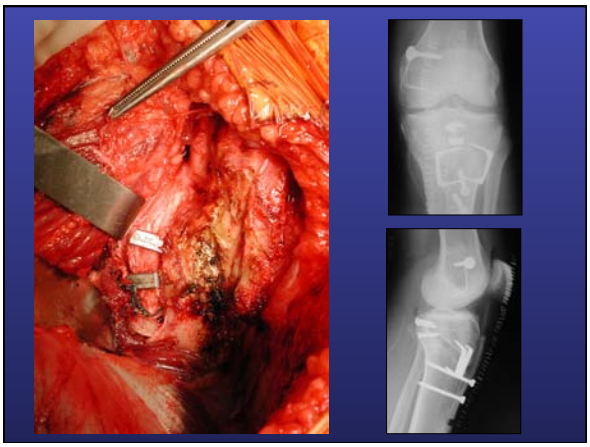





4°
8°
Tibial slope
Femorotibial angle = 4 °
Follow-up at 1 Year
Residual Posterior translation

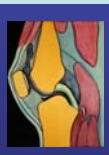

Posterior translation
Tibial slope
Flexion HTO

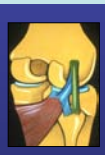

•Elevation of ATT
•Contralateral Harvesting
•Flexion HTO
•Proximal ATT Transfer



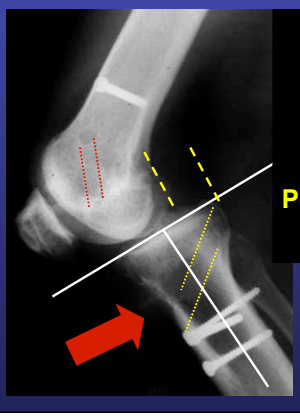
Posterior Translation

- PCL





- Posterolateral structures
- Tibial Slope



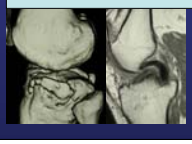
1°
Tibial slope

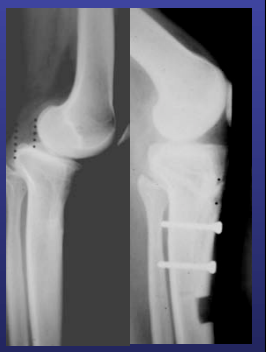
2mm
Posterior Translation

Posterior translation with PCL intact

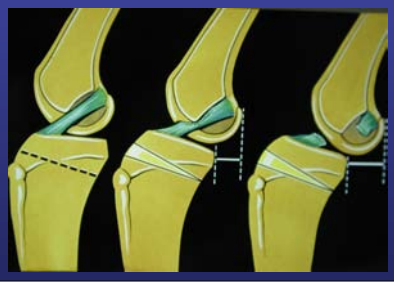
After Physeal Trauma

After tibial plateau fracture

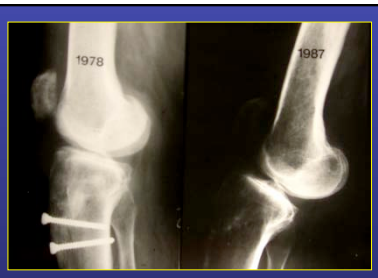




To increase tibial slope can result in *"fatigue fracture"* of the ACL



Journees lyonnaises de chirurgie du genou 1991



+ 9Y

+ 10Y

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- O. for Antero-Posterior Instabilities

O. and Antero-posterior Instabilities

- O. for Posterior Instabilities

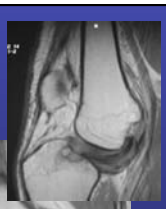
N= 12

- O. for Antero-Posterior Instabilities

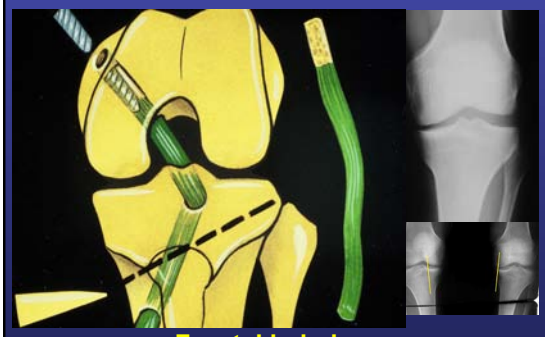
N= 9

1991

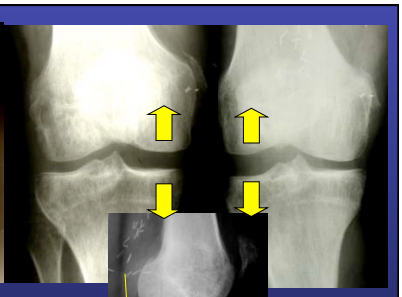
Congenital insufficiency of the central pivot



M. Gau 24Y

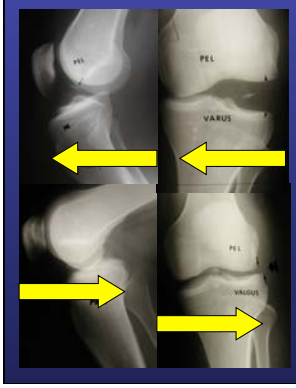


Frontal imbalance

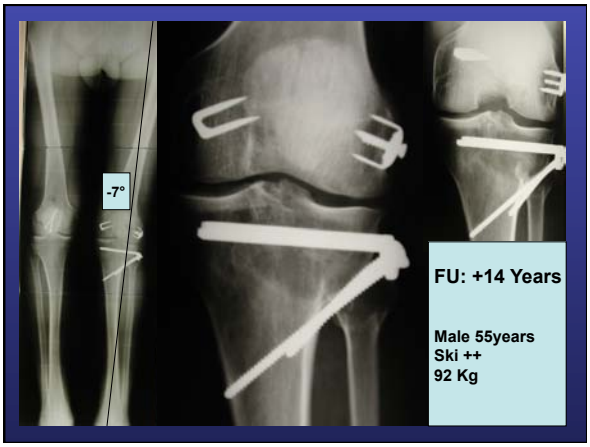


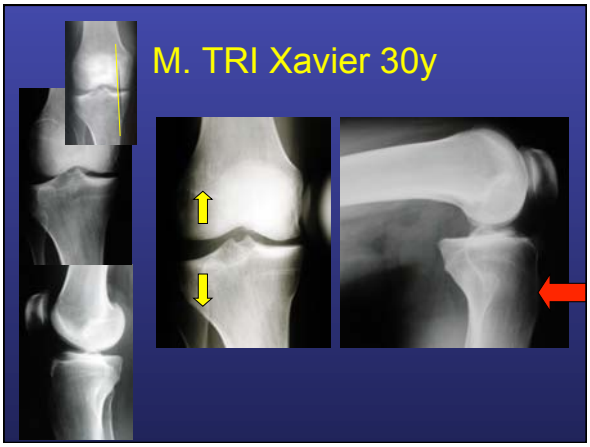
M. Bri…
Anterior dislocation
Popliteal Artery Injury

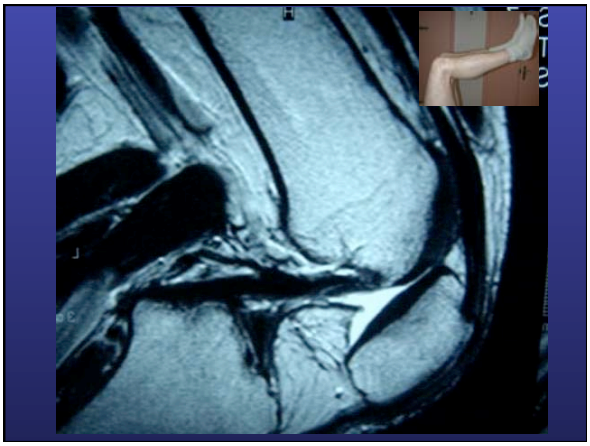
Frontal and sagittal imbalance



M. Pel.
41Y.


-7°
FU: +14 Years
Male 55years
Ski ++
92 Kg


M. TRI Xavier 30y




The J. Bartlett's view

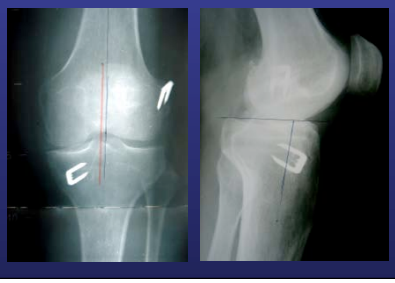

Postero Lateral Complex


Lateral Collateral Ligament

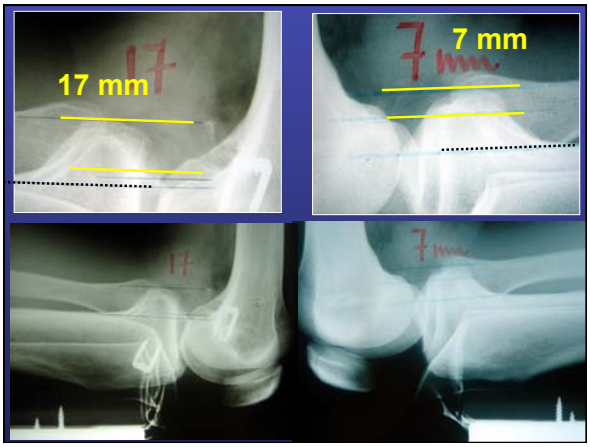
• **M. Aug… Gérard, 42 Y.**

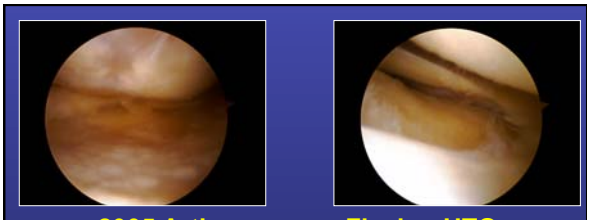
ACL and PCL Rupture (hand-ball)

Synthetic ACL Lig 20 y. ago

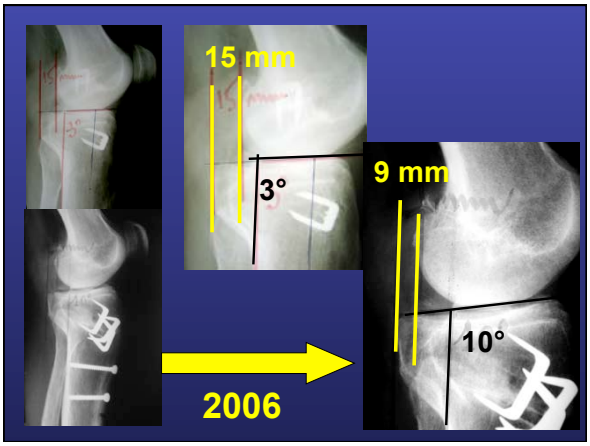


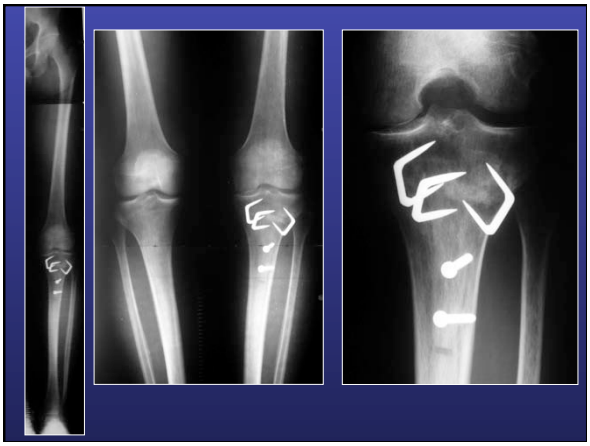
2005

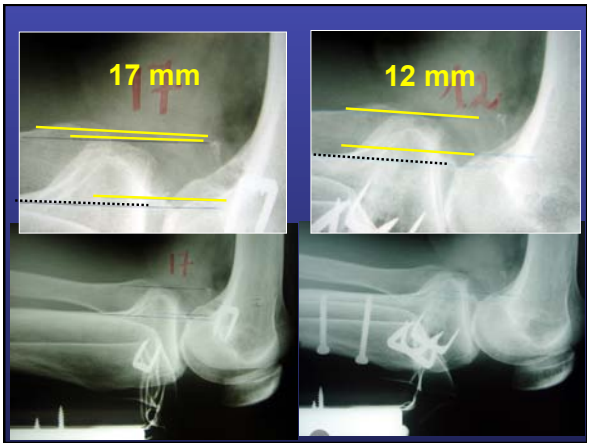


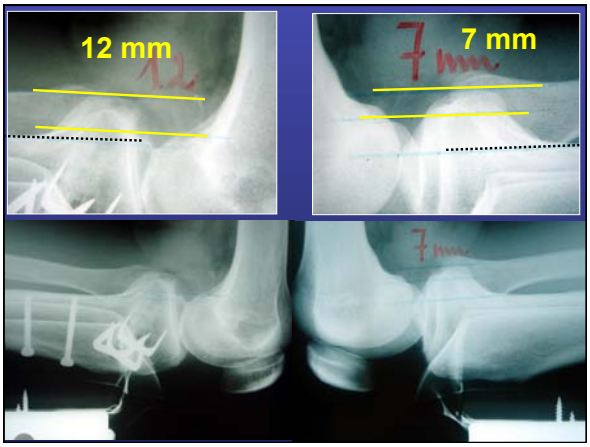


2005 Arthroscopy + Flexion HTO

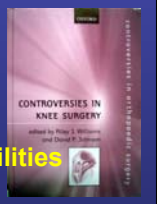








O. and Knee Instabilities



- O. for Posterior Instabilities
- O. for Antero-Posterior Instabilities

- Chronic multiple ligament knee injuries are best treated using osteotomies about the knee

Ph Neyret, G Schuck de freitas, T Lootens, L Jacquot and T Ait si selmi
Sports injuries to the knee, edited by Rose James, David Johnson

Osteotomies
and
Knee Instabilities

Thank you