

Double Bundle ACL Reconstruction

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Double Bundle = Anatomical Reconstruction

- AM Bundle
 - Tibia and Femur
- PL Bundle
 - Tibia and Femur

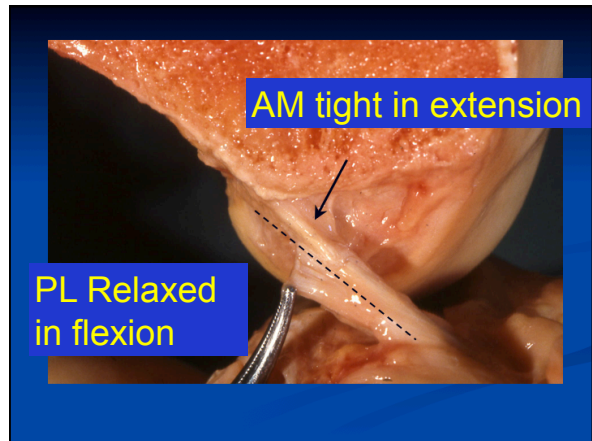
● 4 Tunnels

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What Is?

- Anatomical Reconstruction in anatomical area
 - Anatomical studies
- Biomechanical Reconstruction
 - Isometry
 - In vivo studies
- Without conflict with the notch

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Anisométrie	
AM	2 mm
PL	9 mm
Long. greffon	
AM	- PL -
Jambe	
fix.	- rot. -

Anisométrie	
AM	2 mm
PL	8 mm
Long. greffon	
AM	30 mm
PL	24 mm
Jambe	
fix.	74°
rot.	2° ext


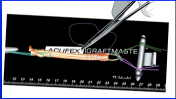
Clinical results

- Nethertheless Clinical results
 - Litteratur: poor
 - Not enough evidence basis level 1
- In our experience: prospectiv study
 - Statistically significant difference between single and double ++ : FU > 3 y

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Why?: Natural with Hamstrings

- Hamstring :
 - Semitendinosus: 1 tendon
 - 2 strands
 - Gracilis: 1 tendon
 - 2 strands
- Surgical Technical:
 - The same for one ACLR Times 2
- Devices: specific ancillary

Pre tension Graft master
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Preparation 2 bundles

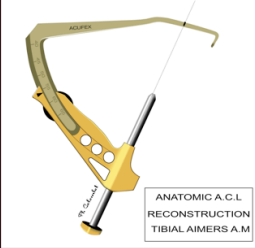
- Gracilis : Postero lateral
 - Endo bouton L = average =15
- Semi tendinosus : Antero medial
 - Endo bouton L = 30





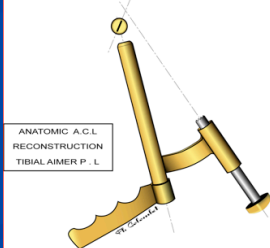

Two Guides

Viseur A .M



ANATOMIC A.C.L
RECONSTRUCTION
TIBIAL AIMERS A.M

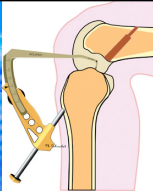
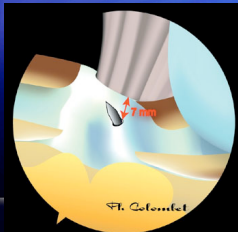

Viseur P . L



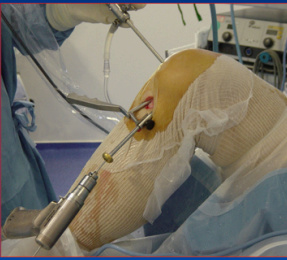

ANATOMIC A.C.L
RECONSTRUCTION
TIBIAL AIMER P . L

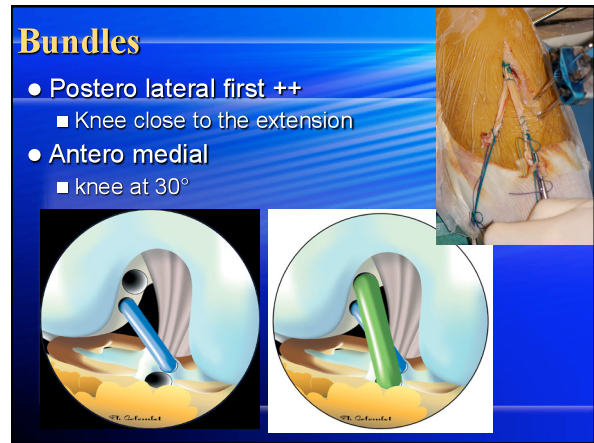
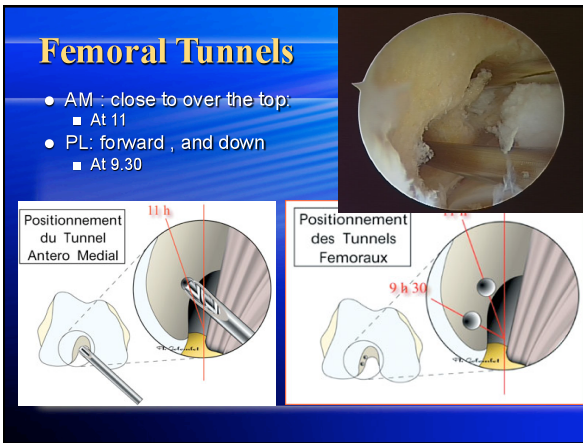
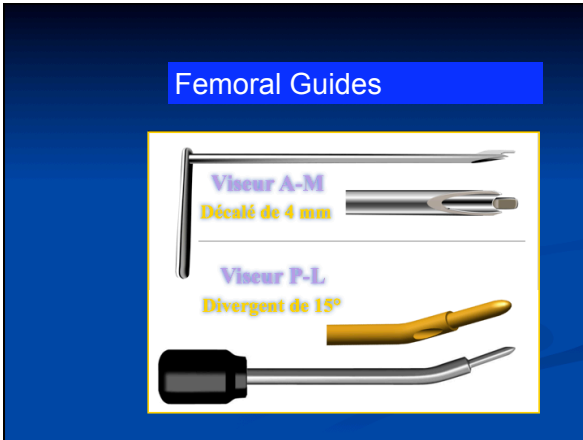
Tibia Tunnels

- AM: First: Medial and Forward
- PL :
 - 7 mm front PCL
 - close to the lateral eminence

View





Indications: Who?

- Everyone? All laxities?
- Usually the surgeon
- Patient's request
- Marketing?

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Who?

- Reasonably
 - **sporting requirements:**
 - Sports with Pivot contact
 - Level of sports
 - **Biomechanical requirements**
 - Recent laxity
 - Lachman
 - Pivot shift
 - Chronic laxity

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Disadvantages

- For the surgeon
 - Technical not easy
 - Misplacement++
 - not reproducible?
- For Rehabilitation:
 - Size of the graft
 - Conflict
 - PCL
 - Notch
 - Lateral condyle

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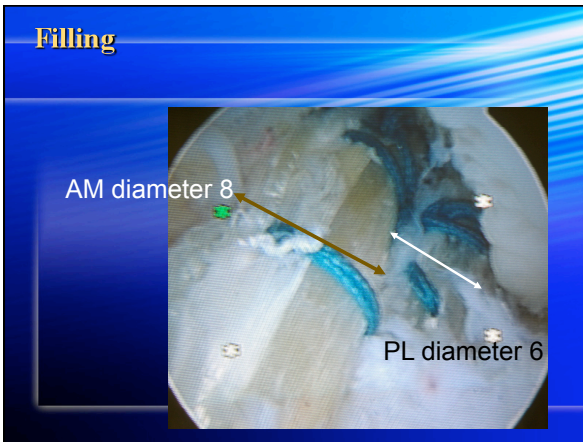
Mechanical and Histological Goals

- Where?
 - Inside Isometry envelope of ACL
- Filling +++
 - Best filling tissue
 - But: Conflict
 - Forward and laterally: PL
 - Posterior: AM : with PCL in flexion

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ACL Area

- STSG Single
 - Tibia
 - 200 mm²
 - Single ACLR fill 33% of nativ ACL area
 - Femur
 - 200 mm²
 - Single ACLR fill 30% of nativ ACL area
- STSG Double
 - Tibia : **50%**
 - Femur : **46%**



Indications

- Lachman ++
 - recent lesion
 - Isolated ACL
 - Sports recreation: Single ACLR
 - Intensive Sports ++ ; Double Bundle ACLR
- Pivot shift ++
 - Double Bundle Anatomical ACLR
 - If Peripheral lesion: repair
 - Suture of Postero lateral lesion

Chronic Laxity = disease ++

- Lachman ++ and Pivot Shift ++

→ ACL Reconstruction: Not Enough !

→ Peripheral repair: Which Technique?

- ACLR + PEA
- Extra and Intra Reconstruction
 - STSG joint intra and extra
 - Mac Intosh?
 - Osteotomy?

