



# Tibial tunnel in PCL reconstruction How I do ?

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# 8<sup>th</sup> Advanced Course on Knee Surgery



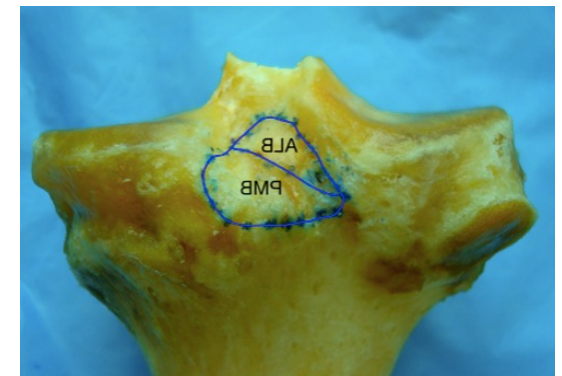
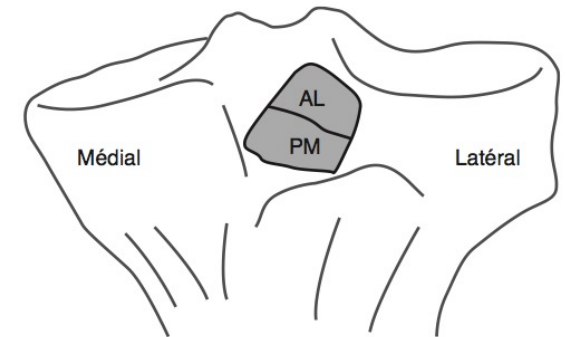
# Purpose of the talk

Access to anatomic PCL tibial insertion:

- 1,5 cm above joint line level
- 7-10 mm away from posterior layer of PCL fibers

Try to convict you to move forward to transeptal approaches

PM & PL portals to properly positioning of PCL tibial insertion



# Anterior arthroscopic approach Drilling the tibial PCL tunnel



Option 1 : the « *classico* »

AM + AL standard arthroscopic portal  
+/- PM accessory portal

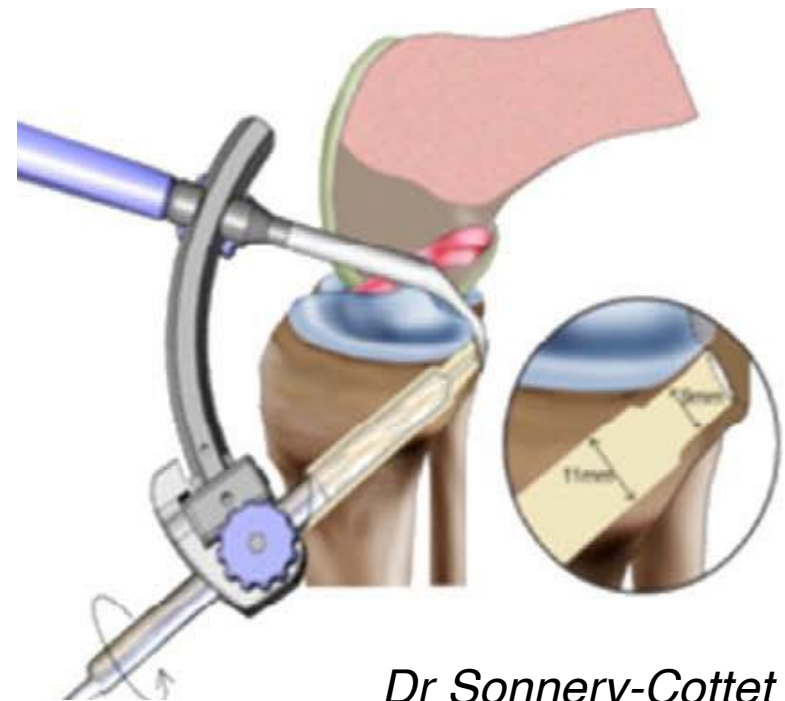
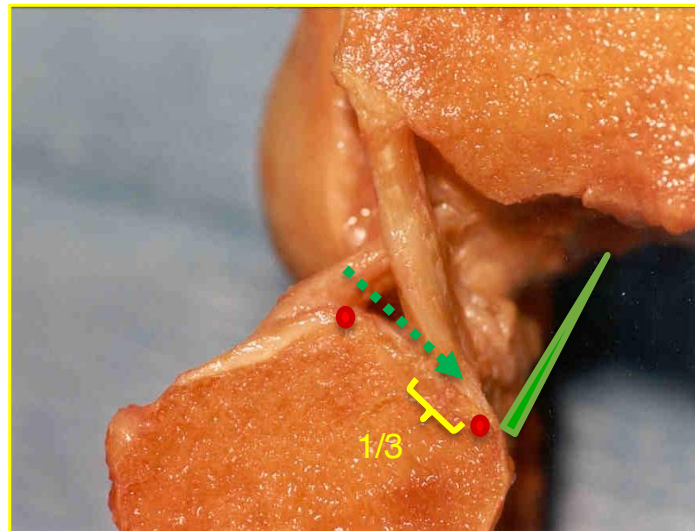
Rigid PCL drilling guide

Fluoroscopy with radiological landmarks



# Anterior arthroscopic approach Drilling the tibial PCL tunnel

Try to keep « as much » PCL as you can  
**BUT** fibers detached from bone with the aimer



*Dr Sonnery-Cottet*

# Anterior arthroscopic approach Drilling the tibial PCL tunnel



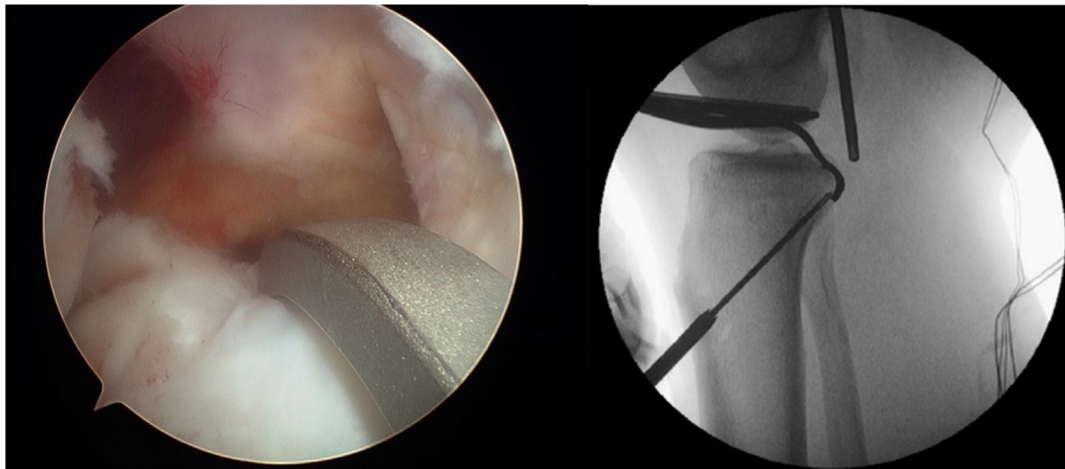
Accessory PM portal



Fluoroscopy setting



## Tibial tunnel positioning from the front

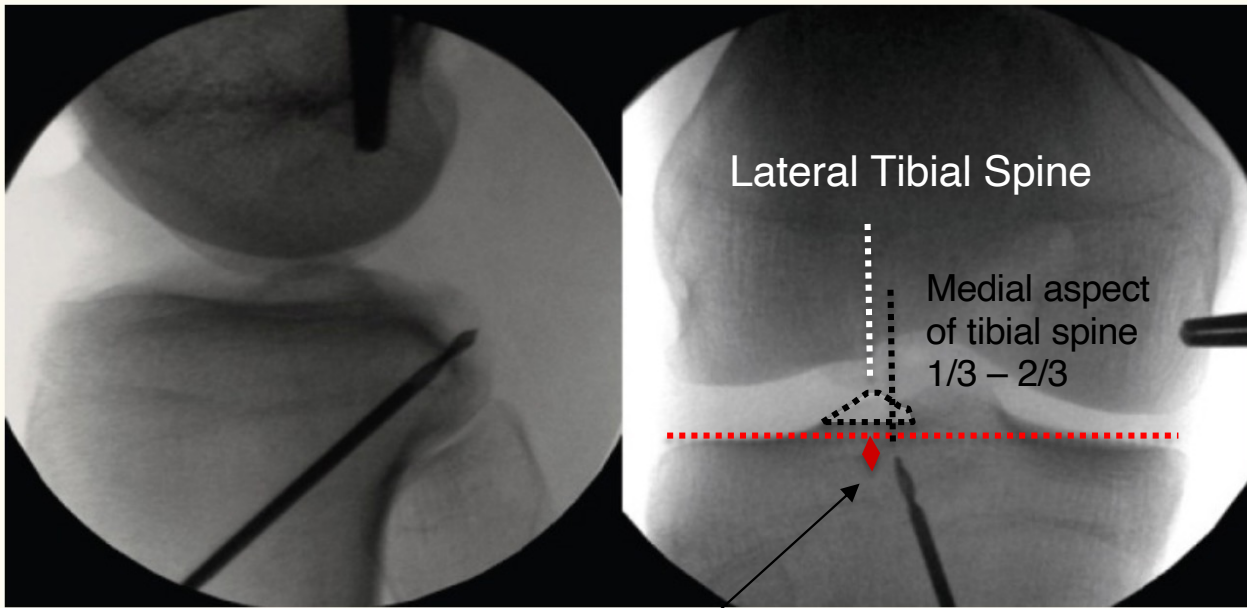


**Fig. 1.** Intraoperative views of PCL guide placement during all-inside PCLR. Intra-articular view (*left*). Peroperative X-ray view (*right*).

- Dedicated pin aimer / tibial guide
- Tissue damage on the PCL remnant : tibial insertion
- Systematic fluoroscopy use
- No direct visualisation of Tibial PCL insertion
- Medial-lateral placement ?

Benjamin Freychet,

# Tibial tunnel positionning from the front: *fluoroscopy*



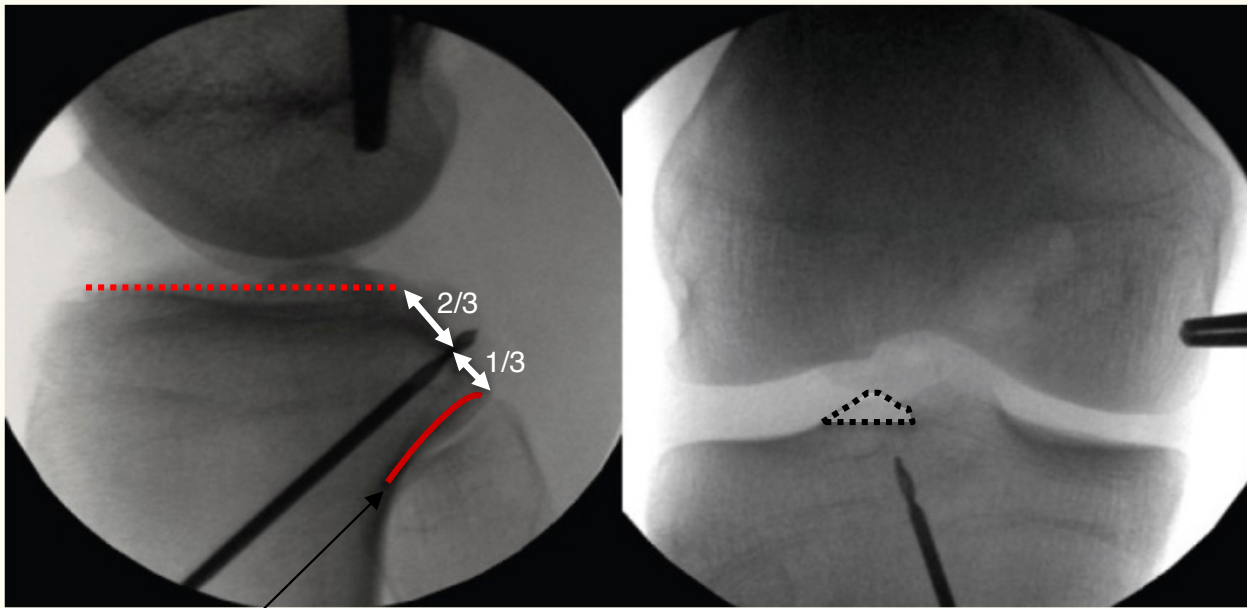
Pin end = 2 mm above joint line

## Frontal view

! Need to change fluoroscopy position



# Tibial tunnel positionning from the front: *fluoroscopy*



Lateral view

Pin end = parallele to the posterior cortical wall

# Posterior arthroscopic approach Drilling the tibial PCL tunnel

Option 2 : the « *gangnam* » style

AM + AL standard arthroscopic portal  
+ **PM & PL trans-septal posterior portals**

Fibers conservation as much as possible  
Arthroscopic landmarks

No systematic fluroscoopy



Posterior “Back and Forth” Approach in Arthroscopic Surgery  
on the Posterior Knee Compartments

Stéphane Louisia, M.D., Olivier Charrois, M.D., and Philippe Beaufile, M.D.

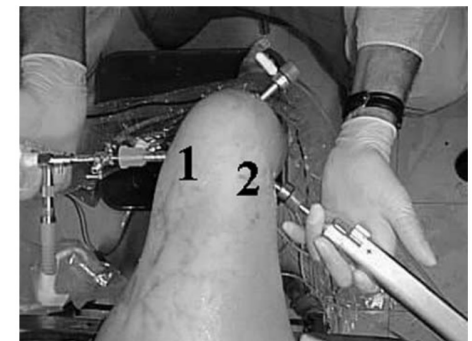
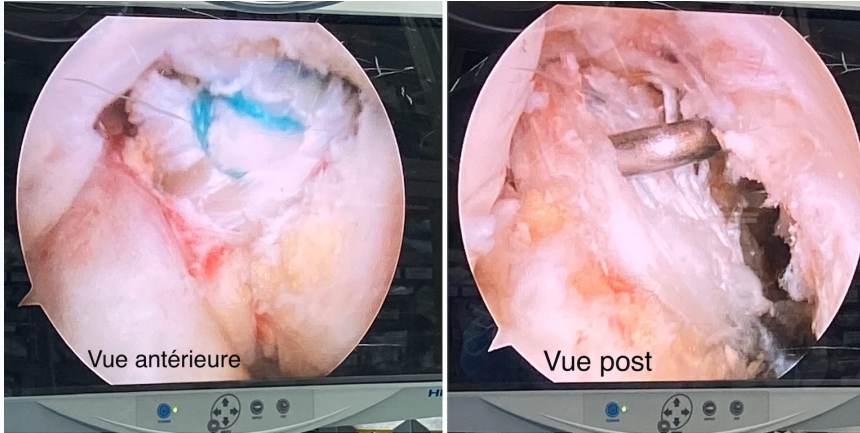


FIGURE 6. The location of the posteromedial portal (1) and the posterolateral portal (2) provides ample room for maneuvering the instruments (this is a cadaver leg).

# PCL reconstruction preserving the remnant

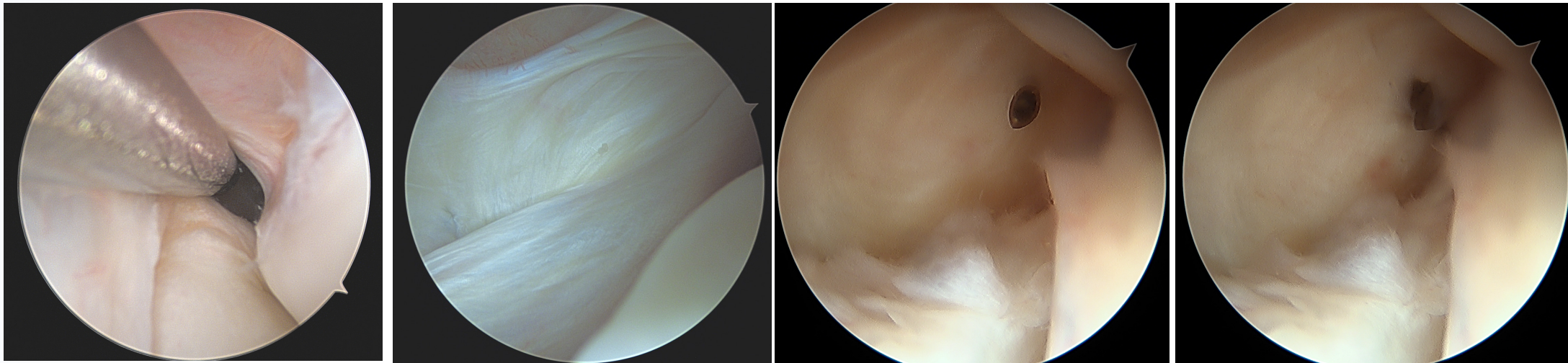
## The corean 2019 experience



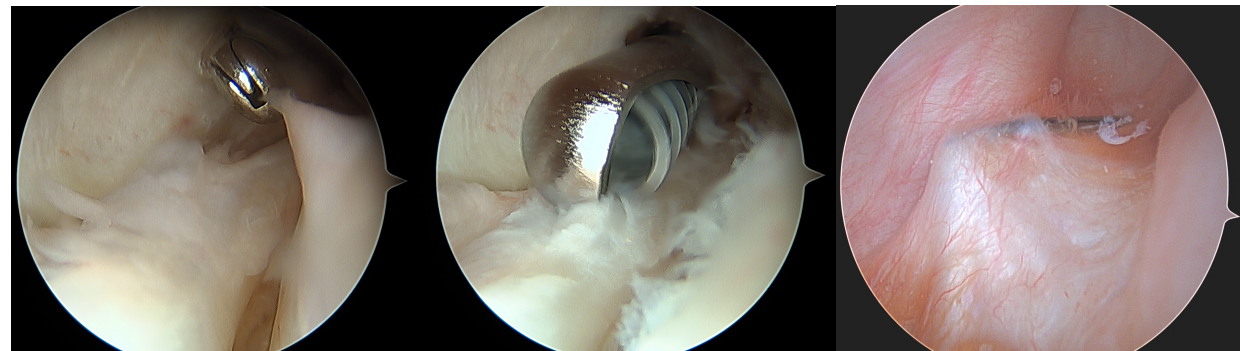
Pr Dae-Hee Lee



# Access to posterior compartment Create posterior PM portal first



Knee flex at 90°

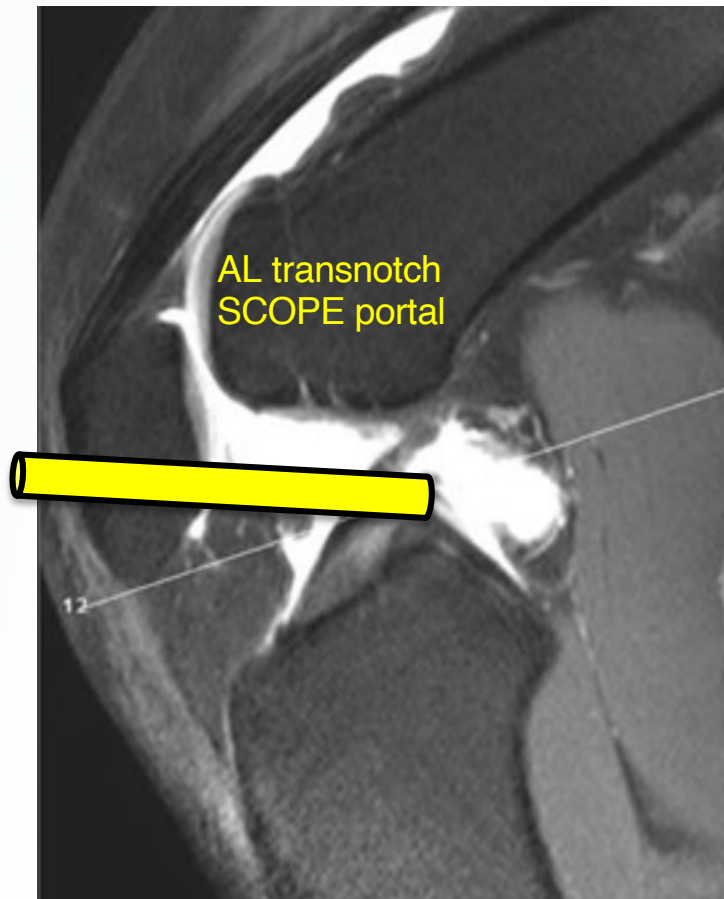


# Create posterior transeptal portals

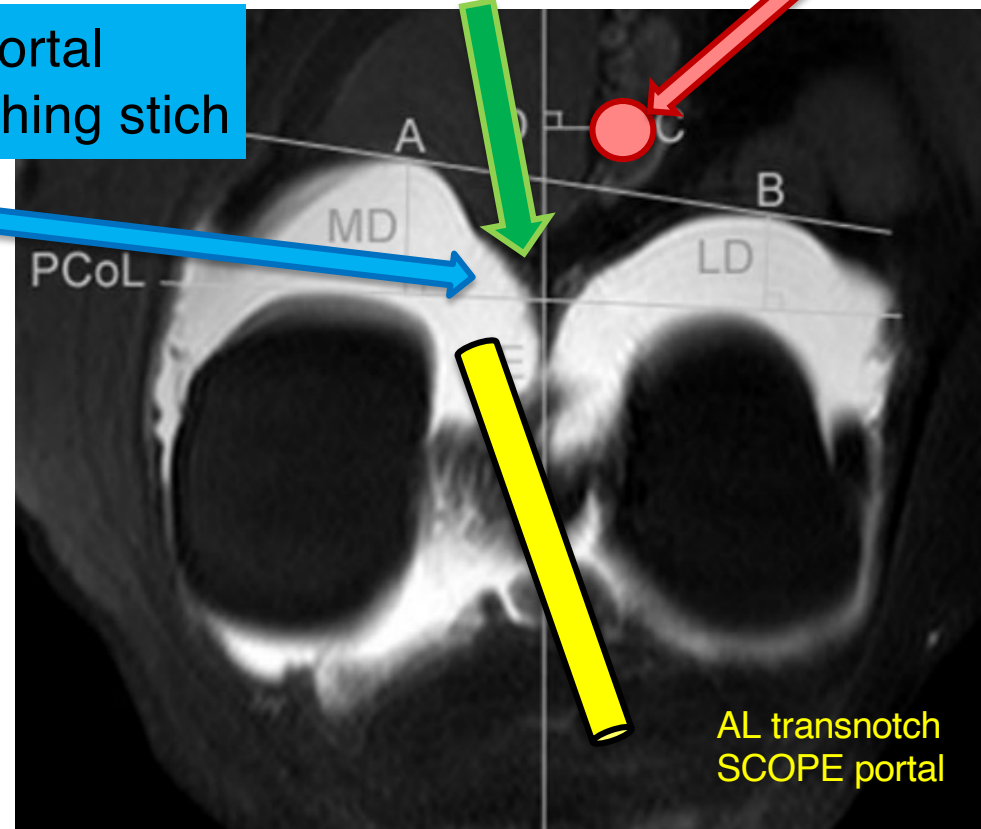
Instrumental portal

Posterior septum

Popliteus artery



PM portal  
Switching stich

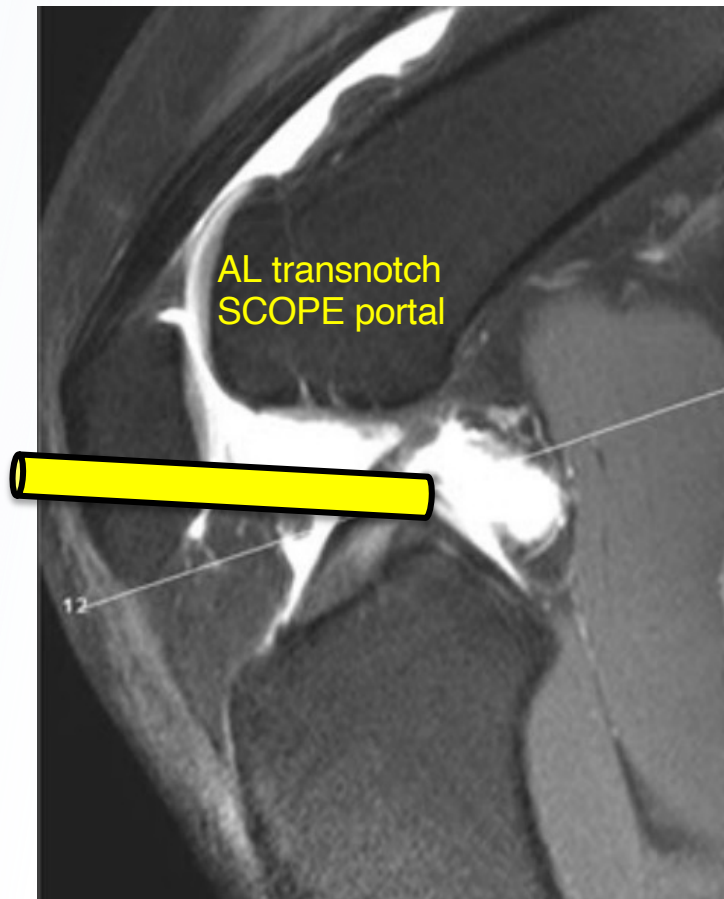


# Create posterior transeptal portals

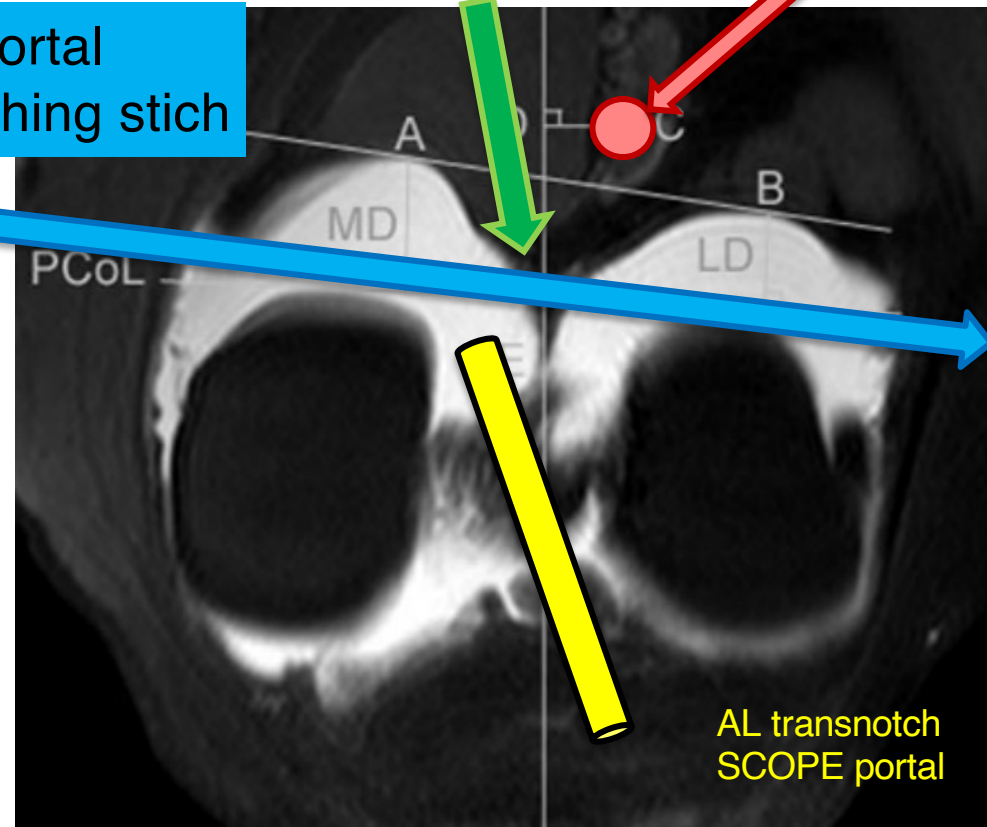
Instrumental portal

Posterior septum

Popliteus artery



PM portal  
Switching stich



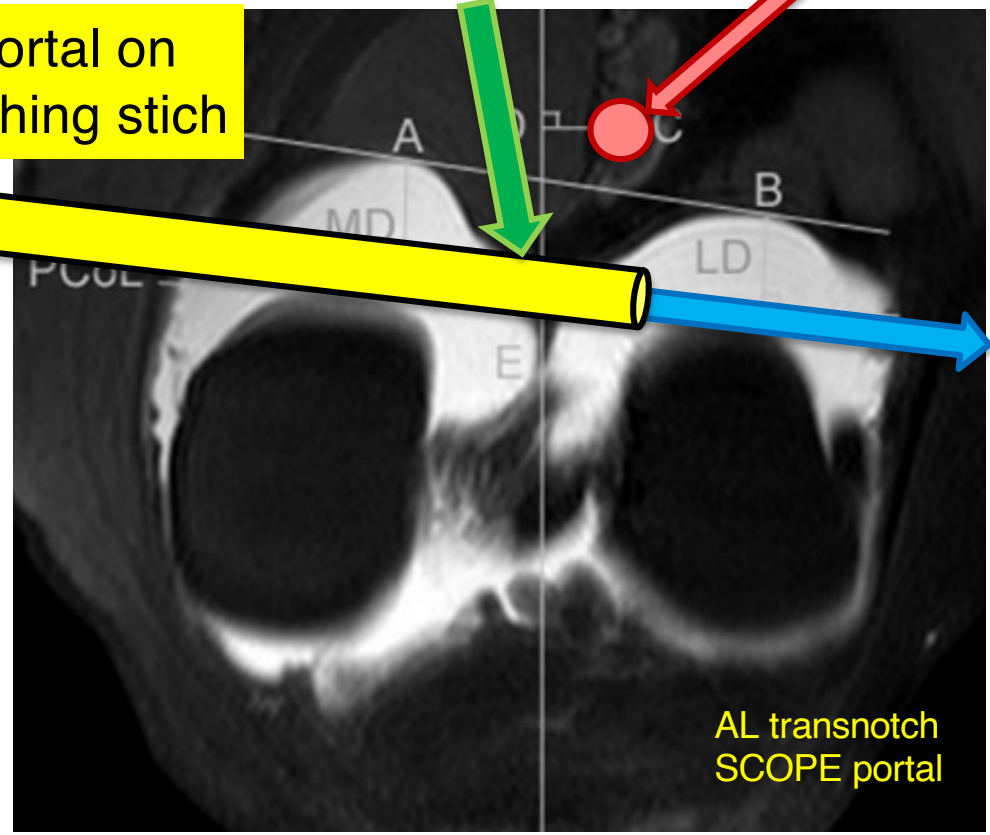
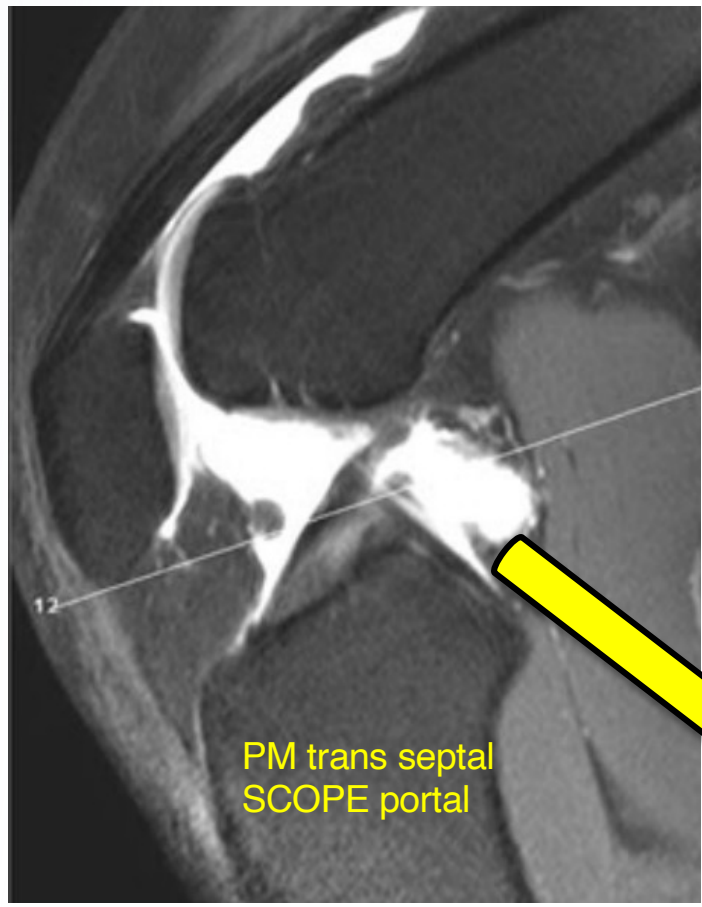
# Create posterior transeptal portals

Instrumental portal

Posterior septum

Popliteus artery

PM portal on Switching stich



# Create posterior transeptal portals

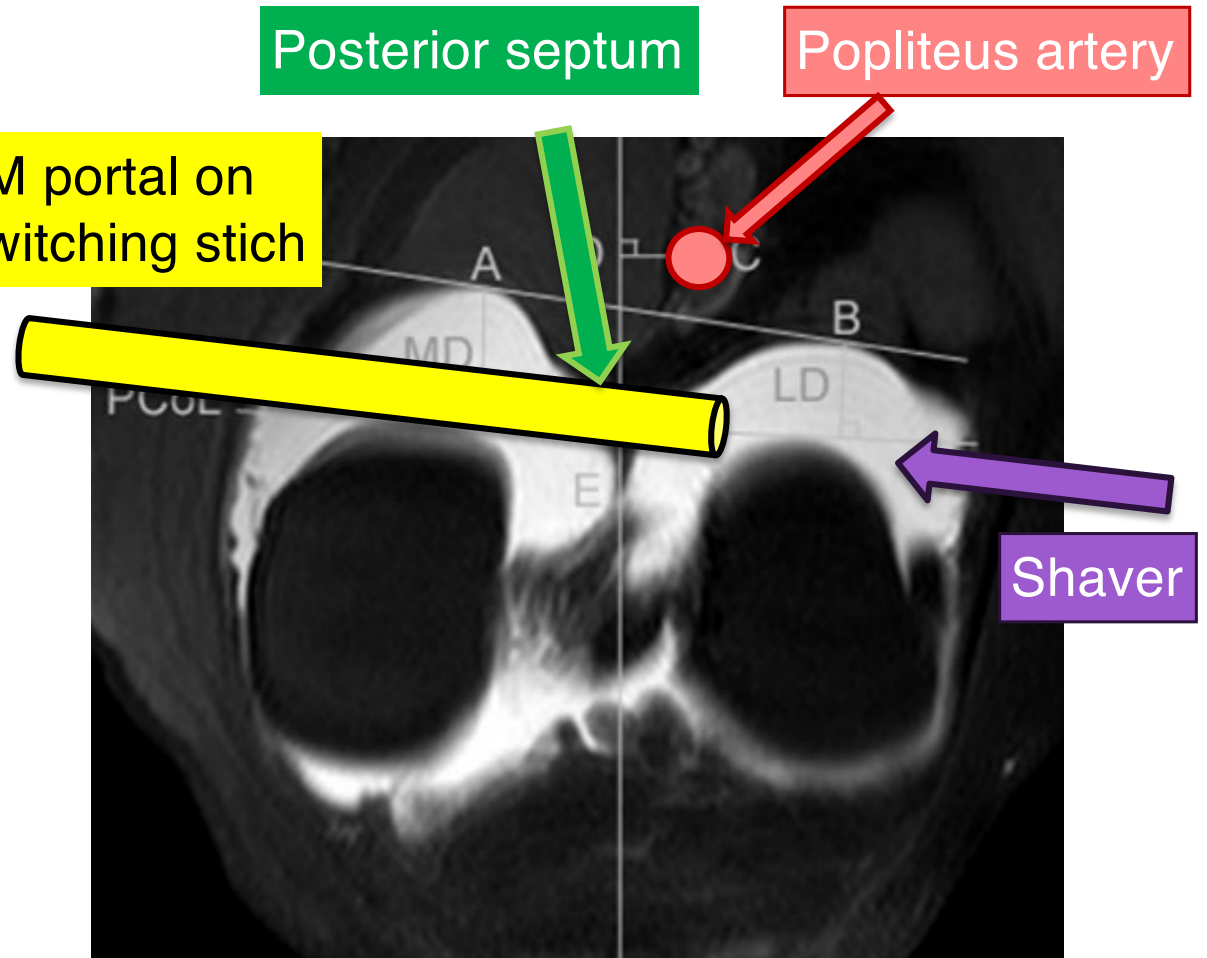
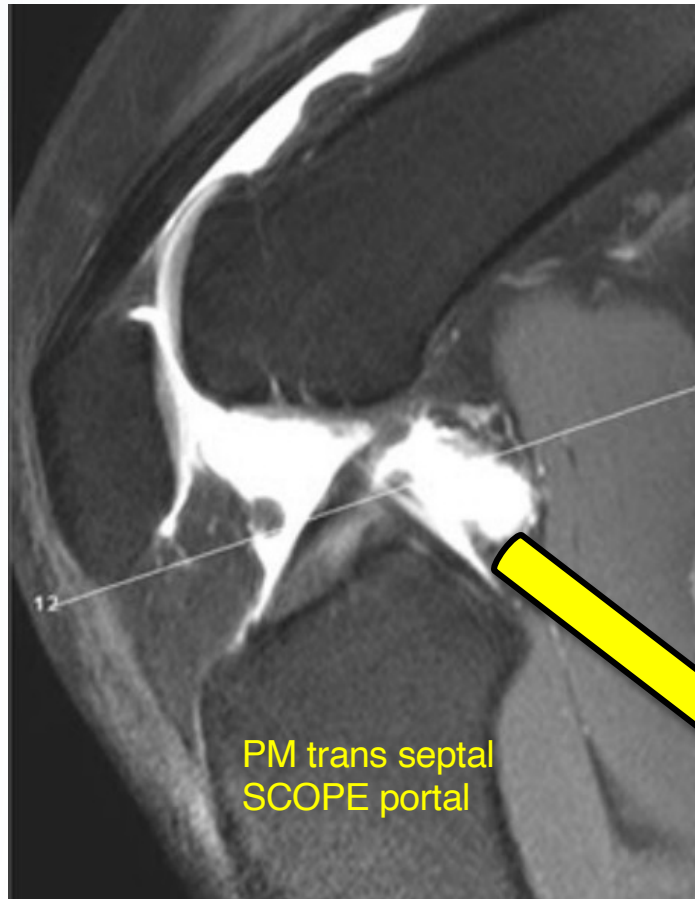
Instrumental portal

Posterior septum

Popliteus artery

PM portal on  
Switching stich

Shaver





# Create posterior transeptal portals

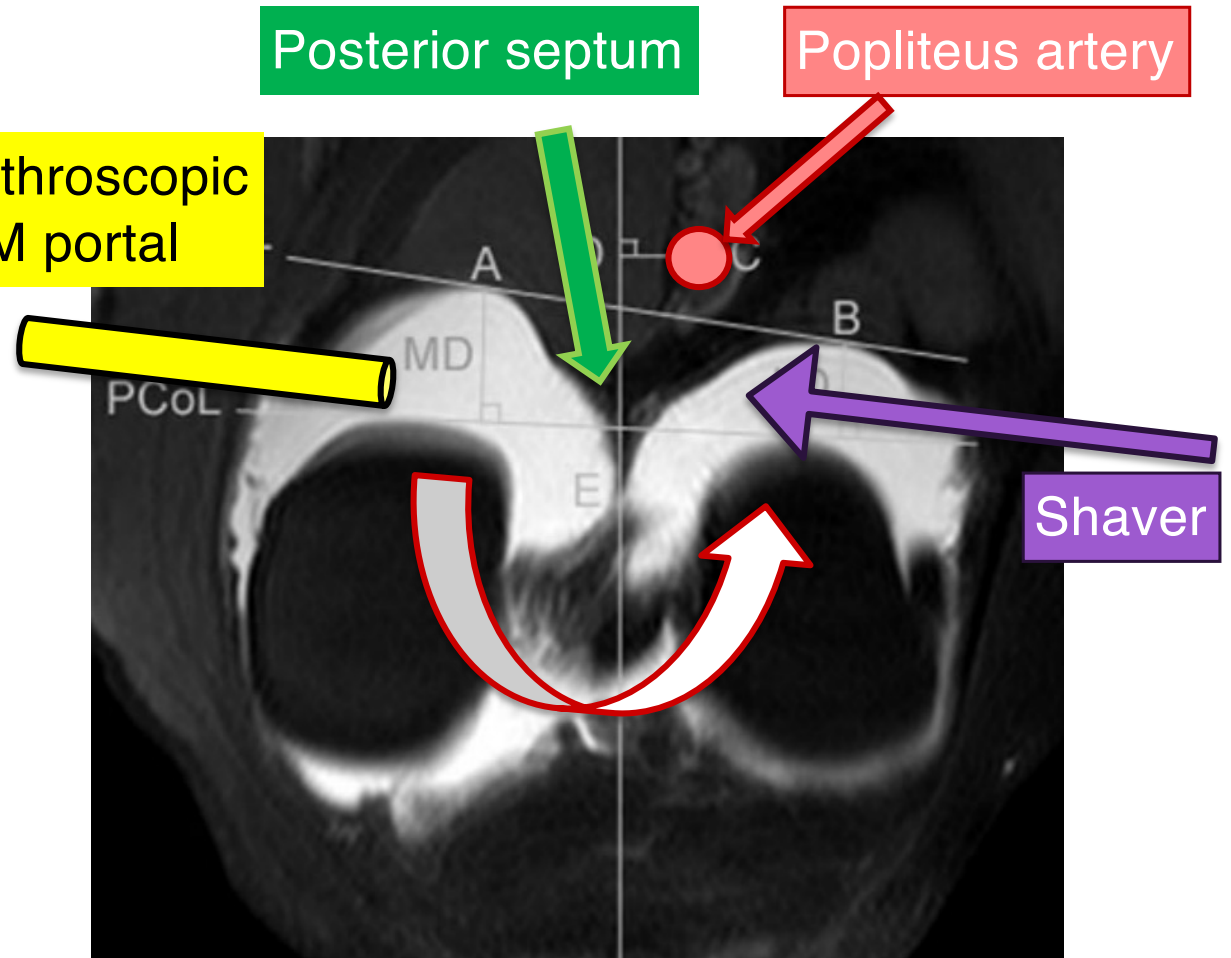
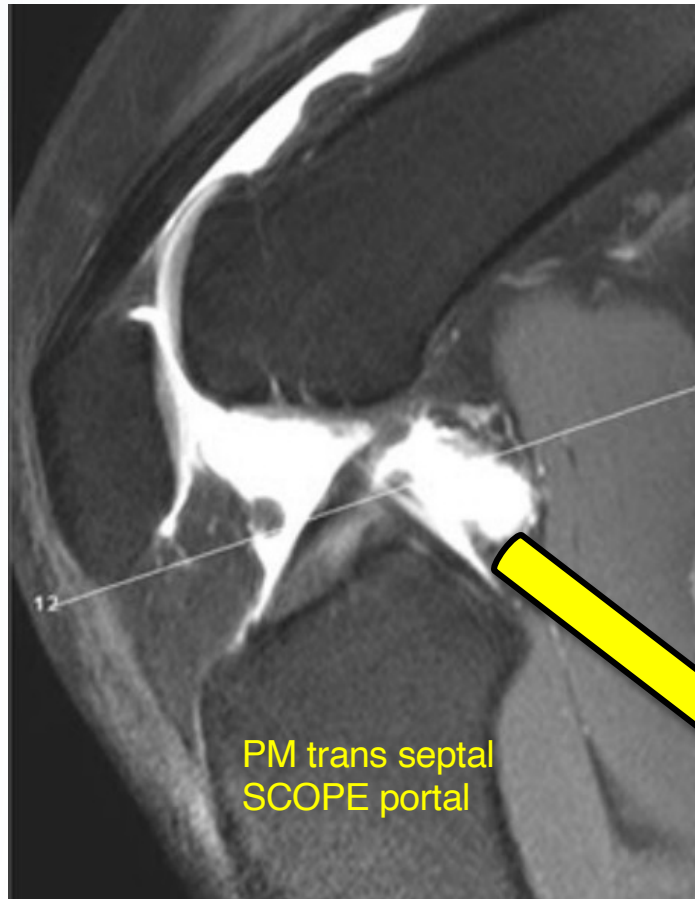
Instrumental portal

Posterior septum

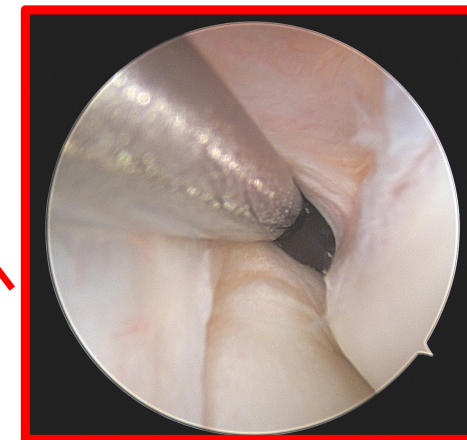
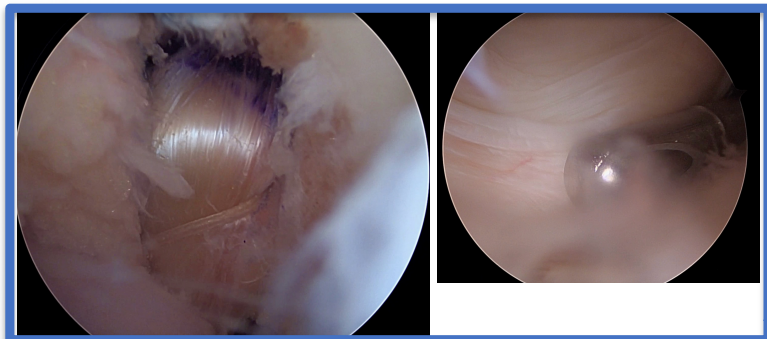
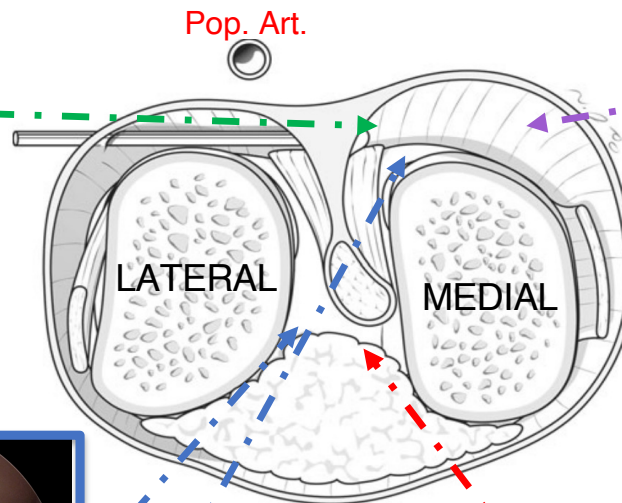
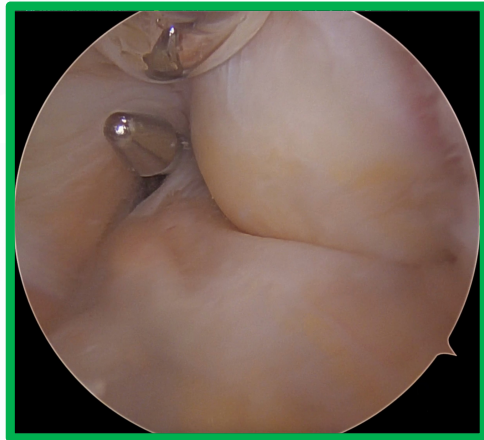
Popliteus artery

Arthroscopic PM portal

Shaver



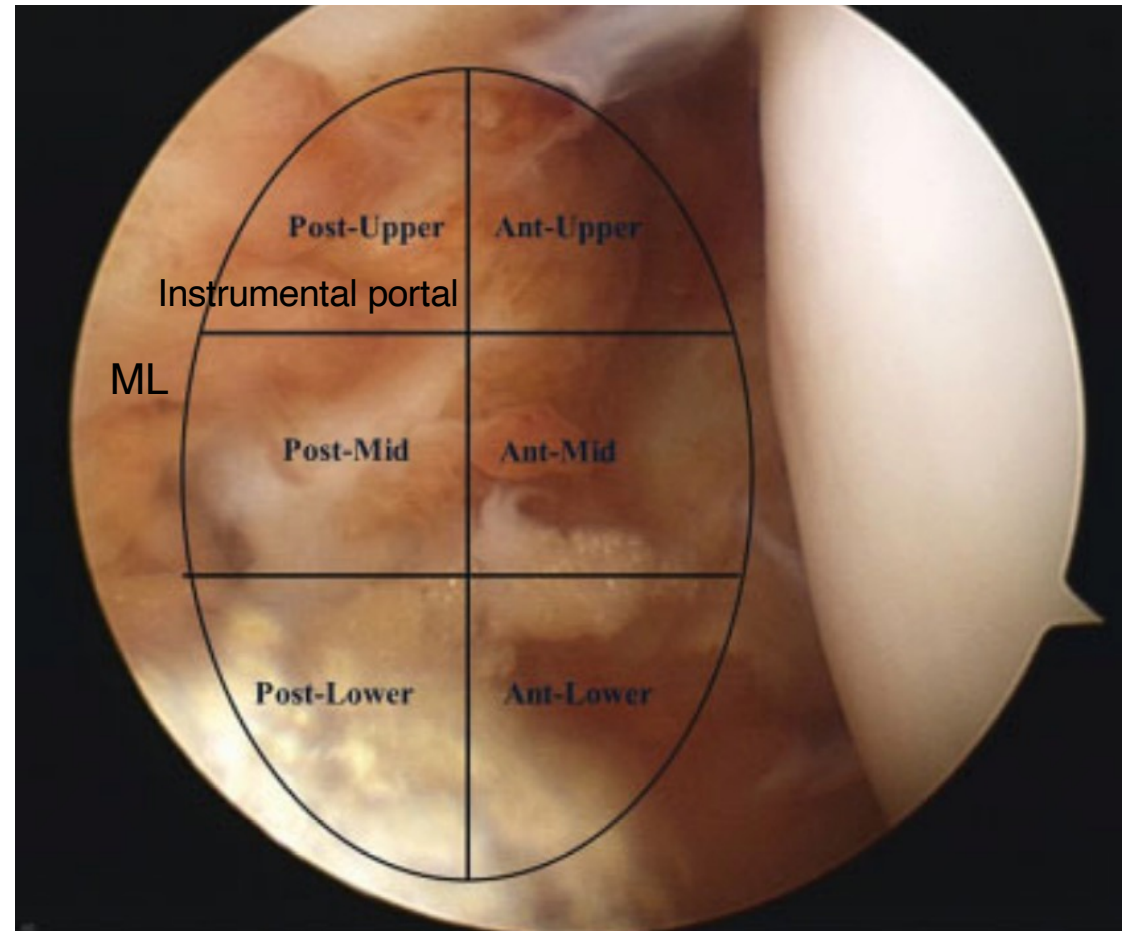
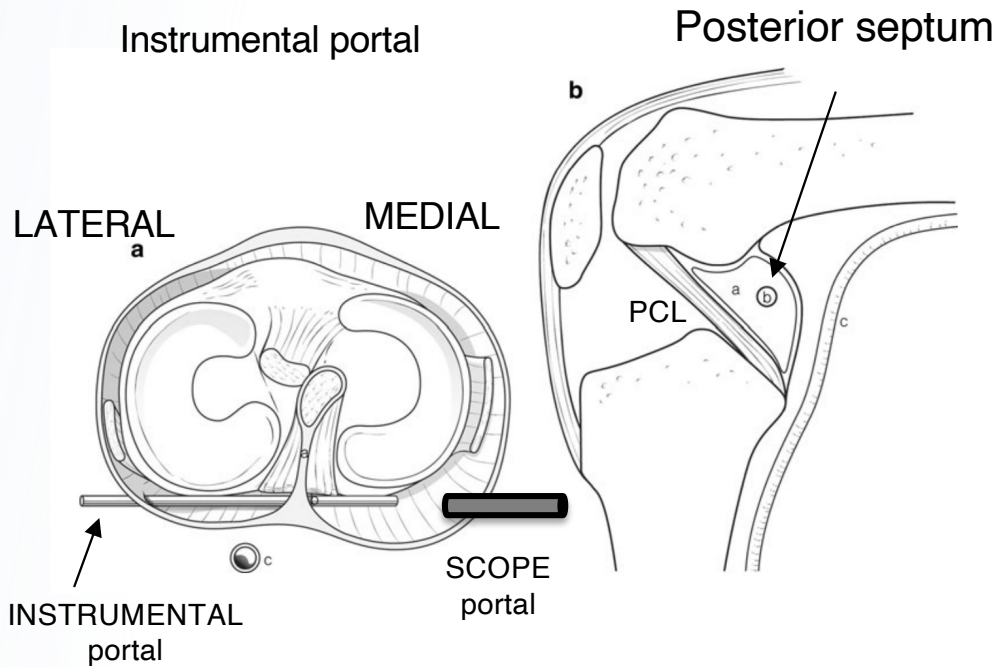
# Switch your scope !



AM  
portal

AL portal  
Transnotch

# Posterior septum anatomy



# Different Strategies in Making Transseptal Portal for the Different Purposes

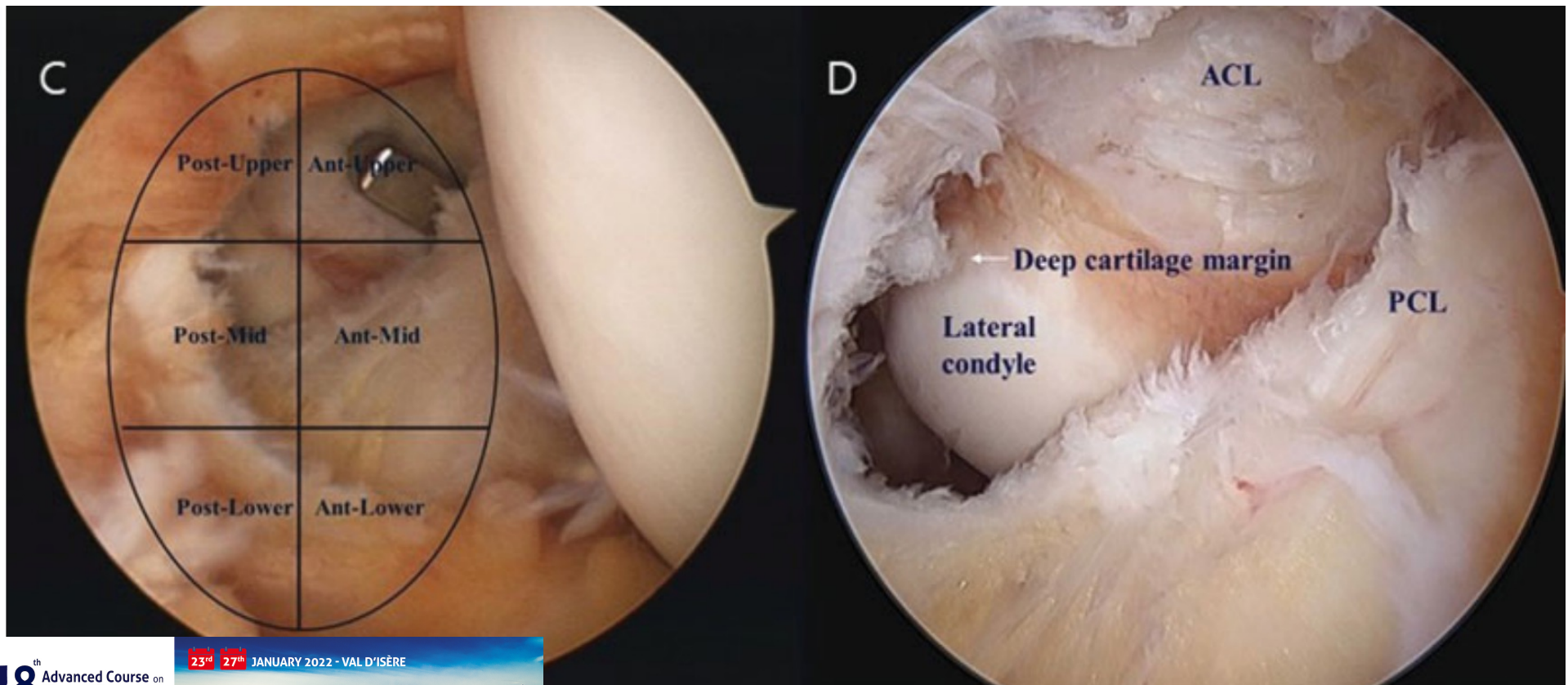
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Seung Hoon Lee, MD<sup>2</sup>



**Yong Seuk Lee, M.D., Ph.D.**

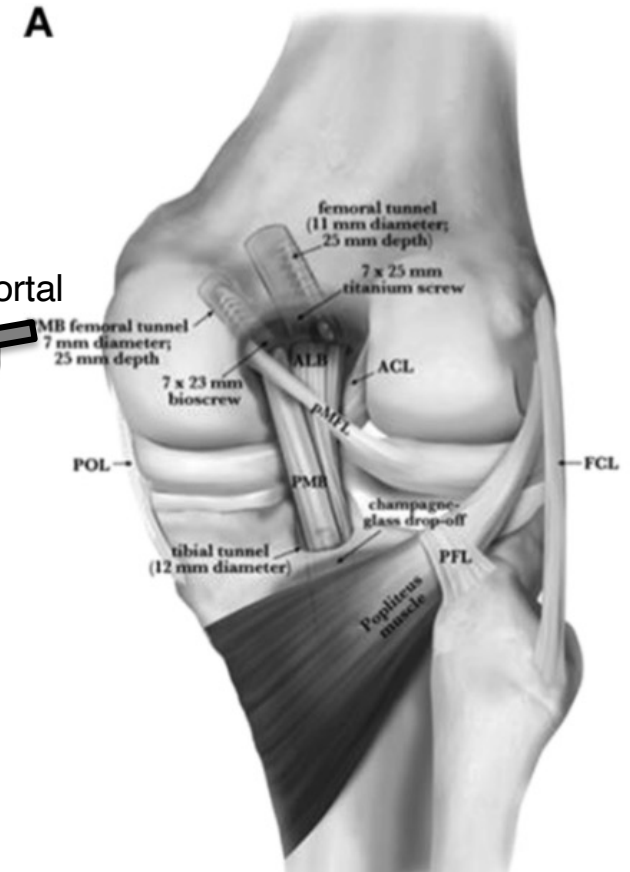
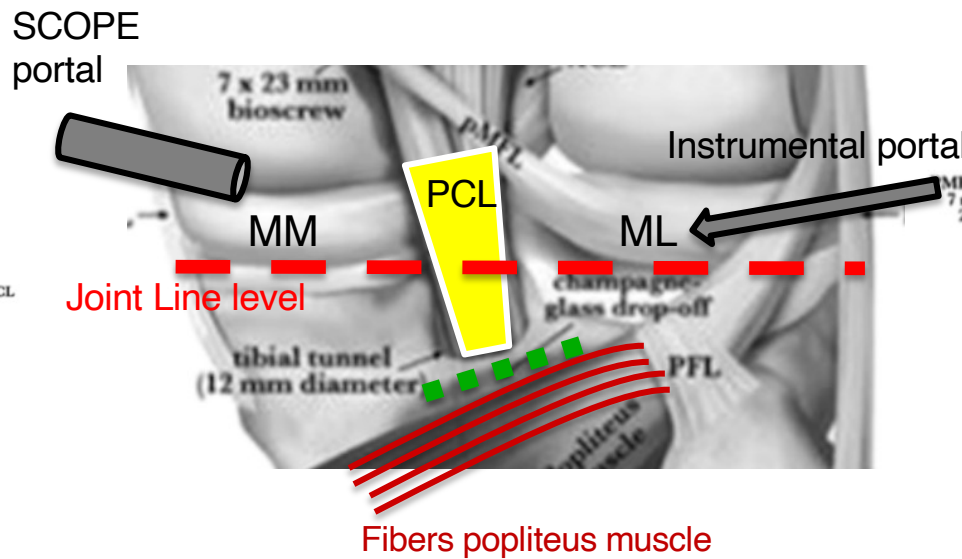
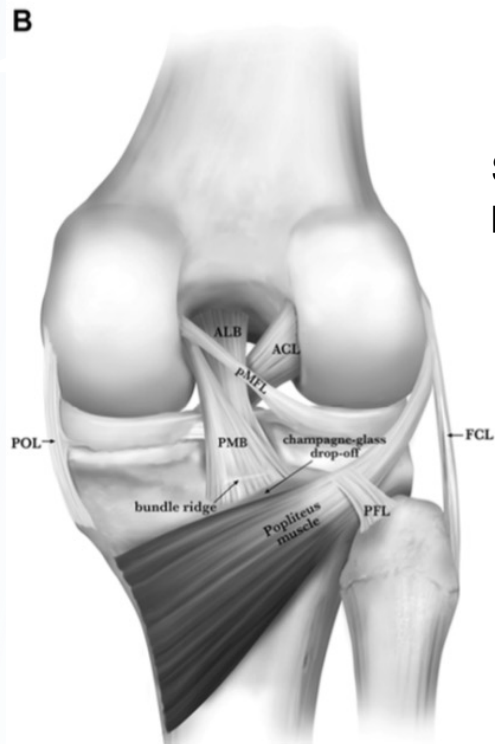
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## Scope in PM portal

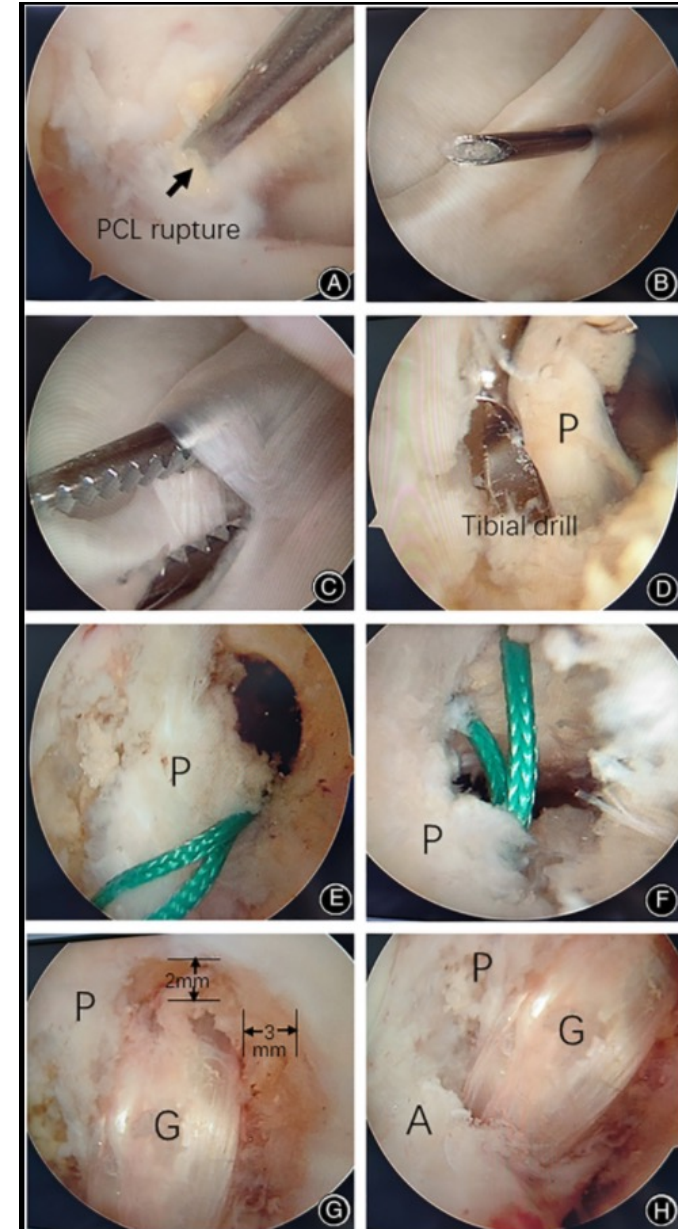
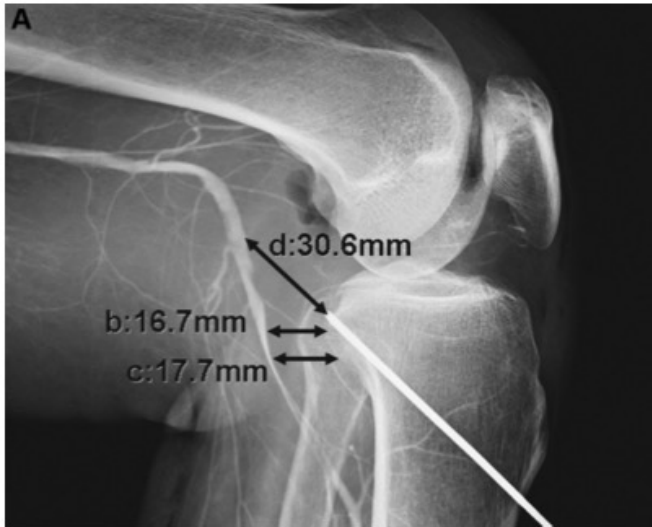


# Posterior approaches : landmarks

Sup<sup>R</sup> : Joint-line & cartilage & MF-Lig Wrisberg  
 Inf<sup>R</sup> : Capsule and Popl.muscle fibers  
 Med-Lat : retrospinal fossa of the tibia

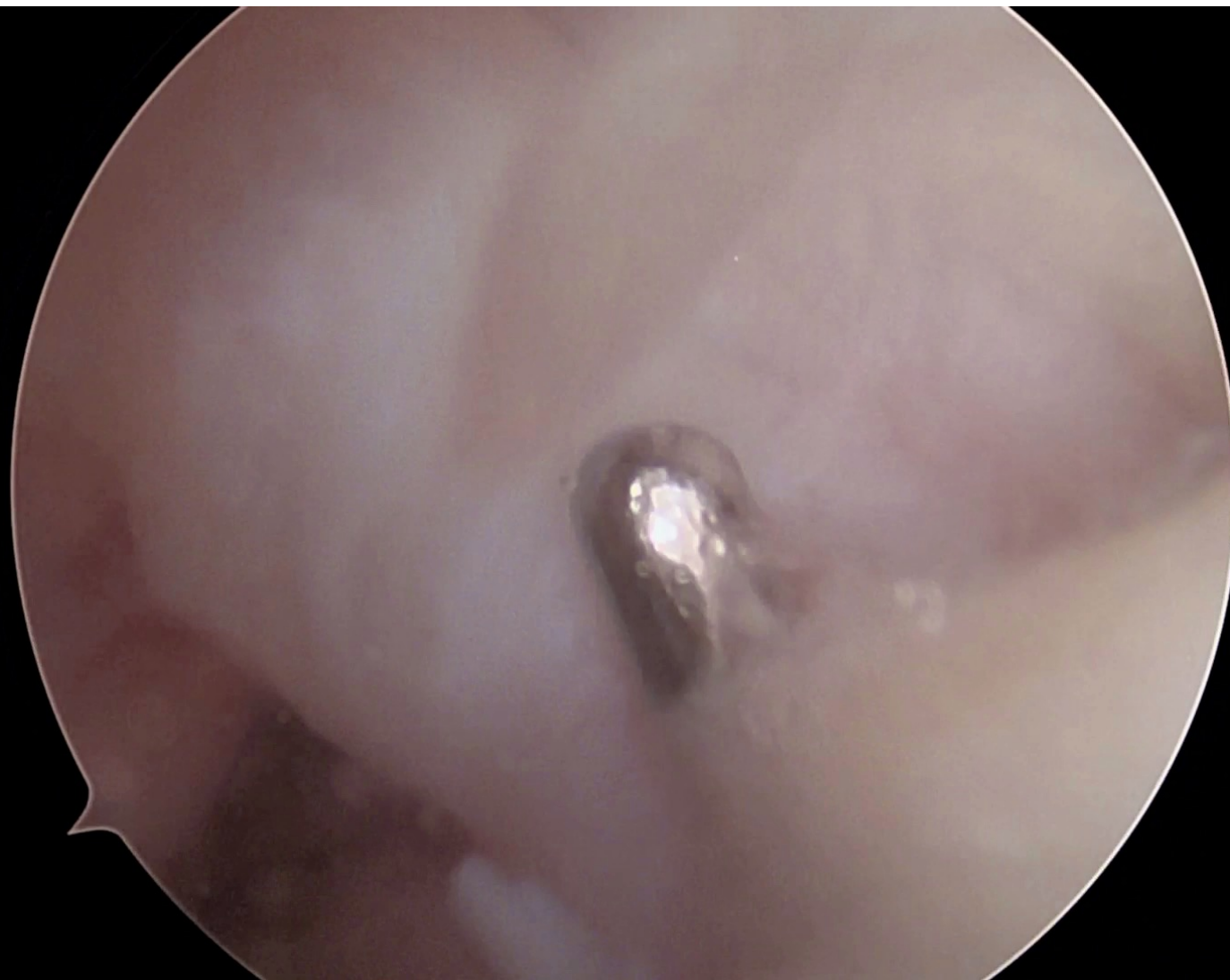


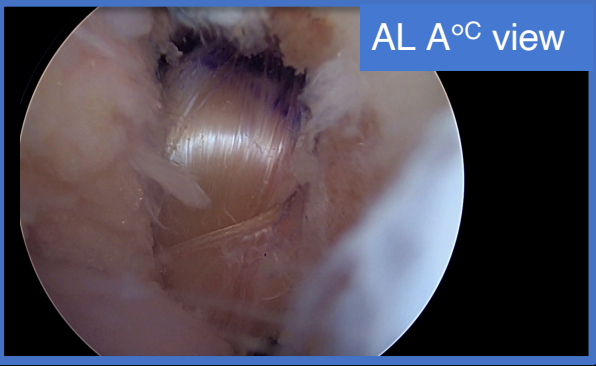
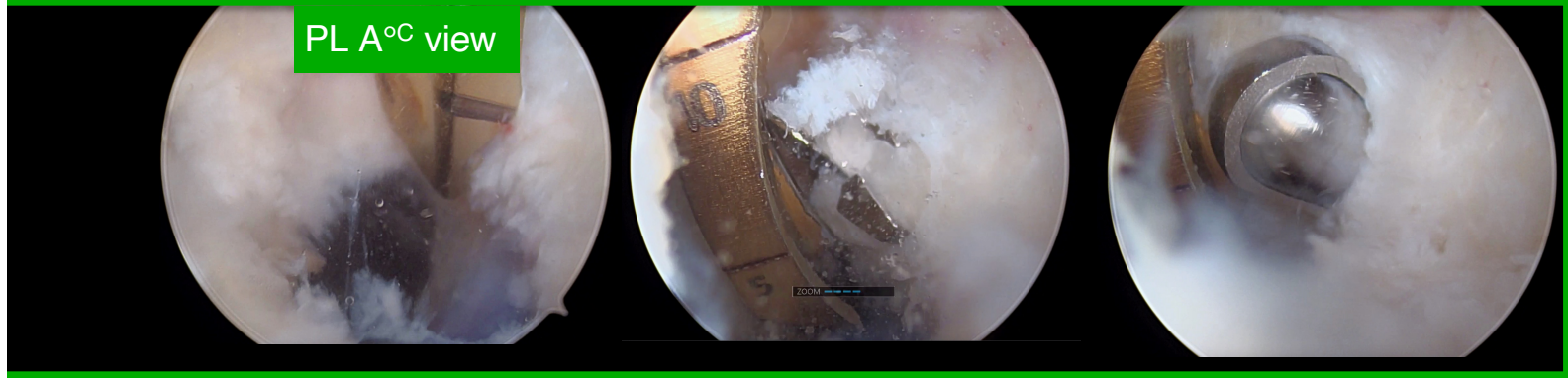
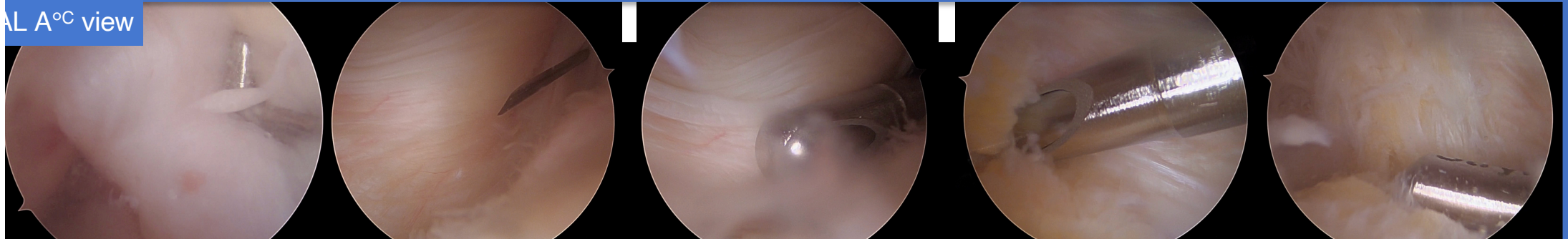
# Posterior approaches : landmarks



Ahn JH, Wang JH, Lee SH, et al. Increasing the distance between the posterior cruciate ligament and the popliteal neurovascular bundle by a limited posterior capsular release during arthroscopic transtibial posterior cruciate ligament reconstruction : a cadaveric angiographic study. Am J Sports Med 2007 ; 35 : 787–92

Right knee  
Chronic PCL deficiency  
PCL remnant









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