

Knee imaging in 2014

MRI vs CT arthrography

Rivals?

Local solutions !

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MRI vs CT arthrography

- Technique
- Menisci
- Ligaments
- Cartilage
- ...

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CTA

Arthrography + 10 cc Iodine

PUNCTURE

CT

X-RAYS

MRI

Before

Normal

Meniscus

Tear

I.-P

Now

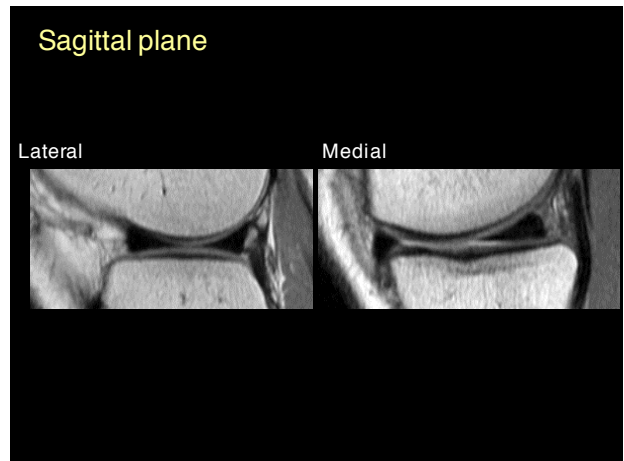
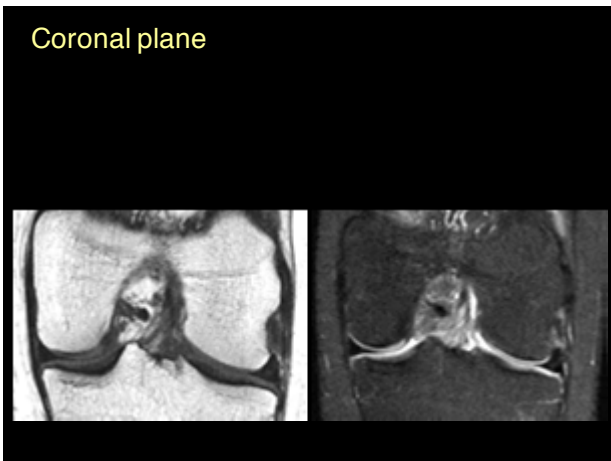
Right

Lateral

Medial

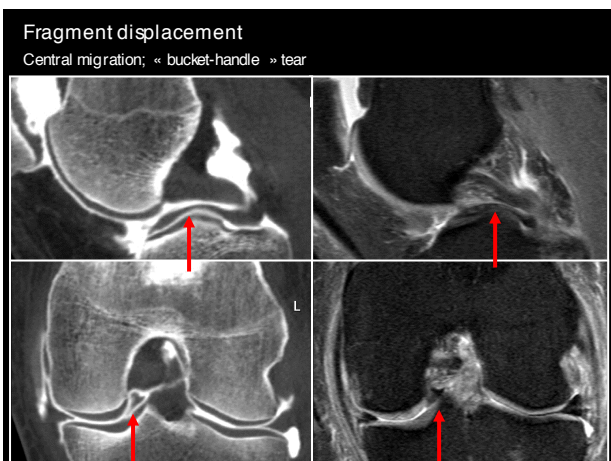
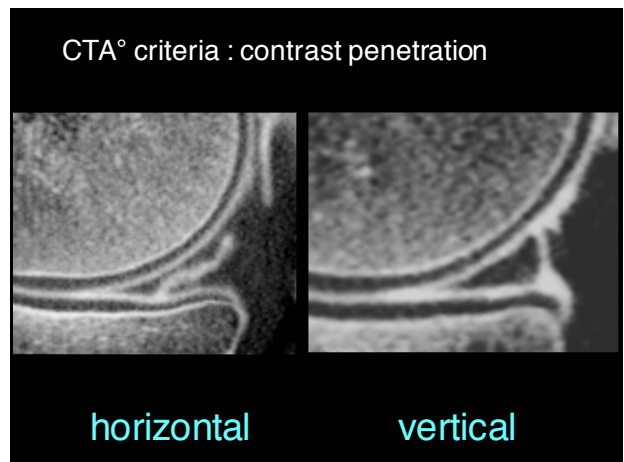
Our MR protocol

- Coronal T₁ SE (3 min or 1 min)
- Coronal PD fat-sat FSE (PDFS)
- Sagittal PD FSE
- Sagittal T₂ FSE
- Axial PDFS (3mm / 1mm)
- Going 3D...



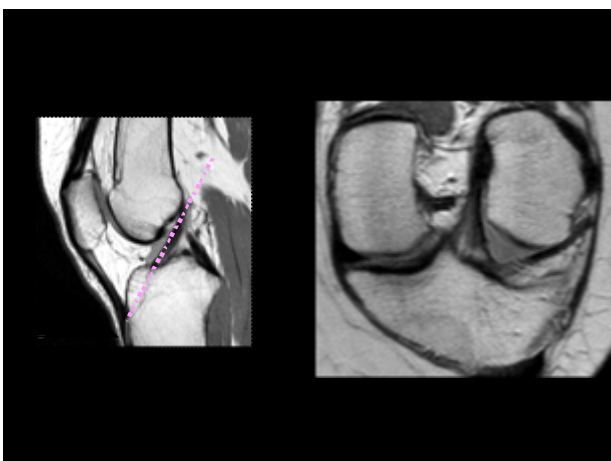
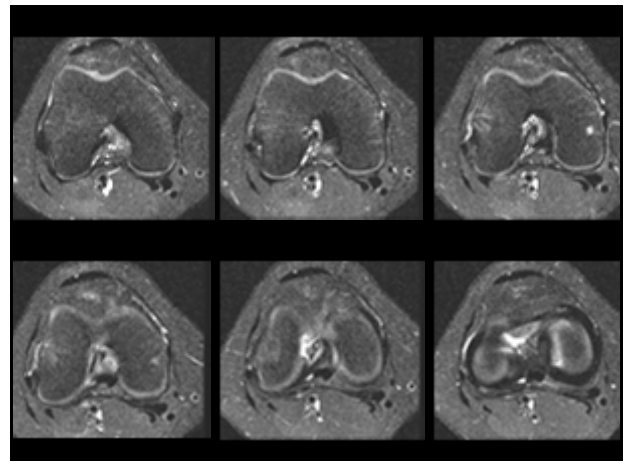
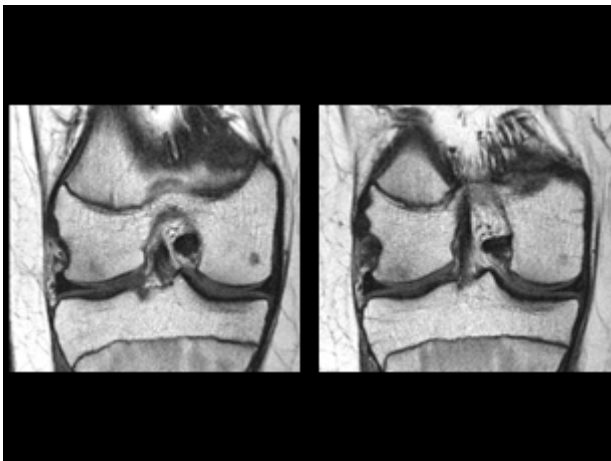
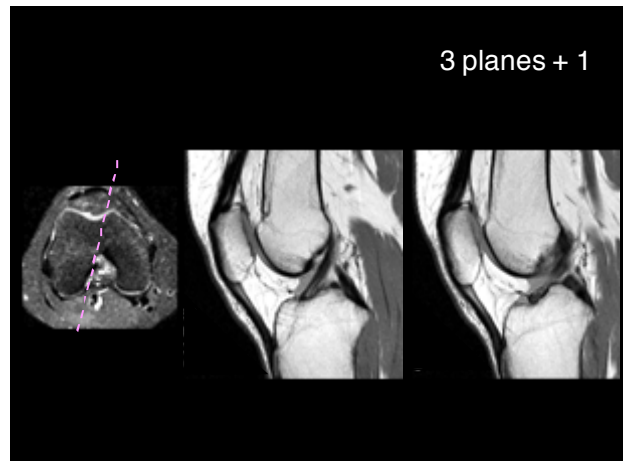
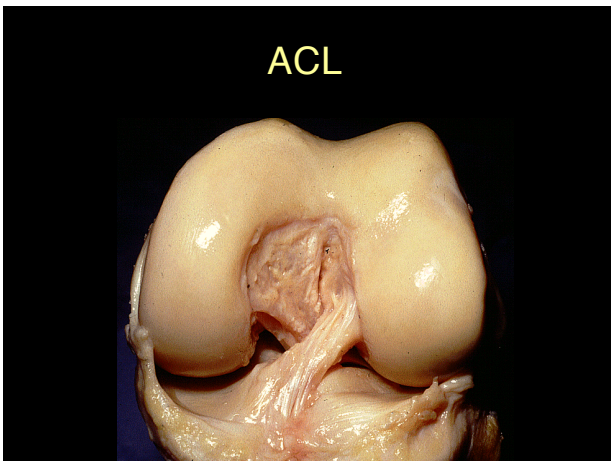
MENISCI

MRI
=
CT A°



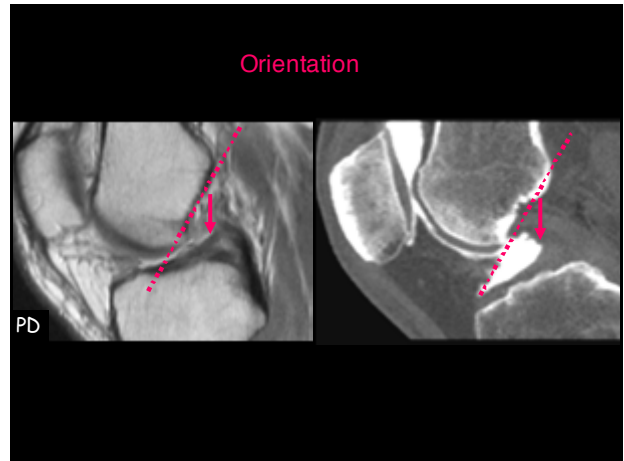
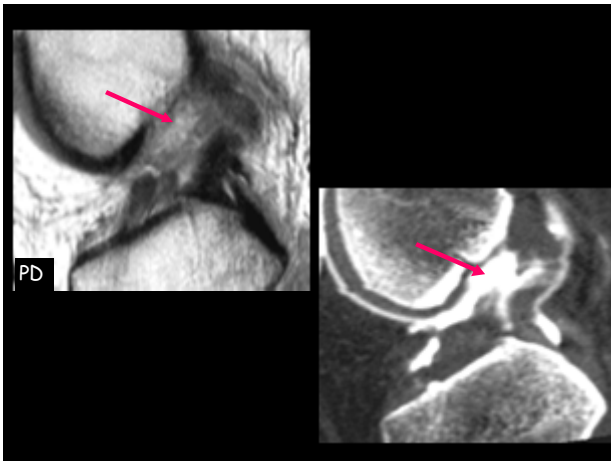
LIGAMENTS

MRI
>
CT A°




ACL Tear : direct signs

- Loss of continuity
- Orientation: abnormal obliquity, concavity, horizontalisation
- Contours: thickened, disorganized
- Signal: interm. – high T1, T2



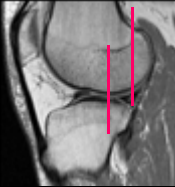
ACL Tear : indirect (secondary) signs

- **Impactions:**
 - Bone marrow contusions
 - Cortical fractures:
 - post tibial plateaus,
 - lat.fem. condyle

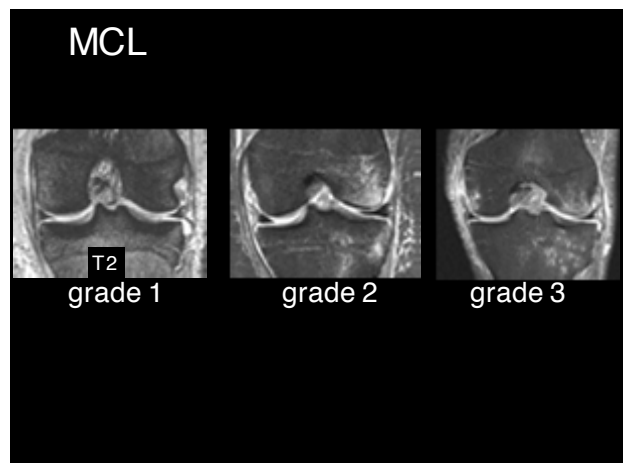
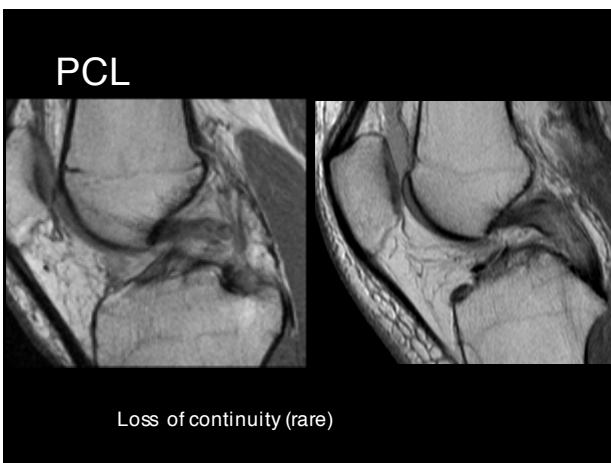
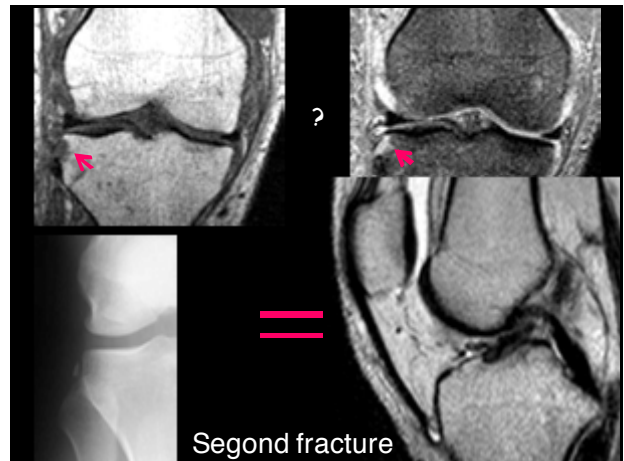


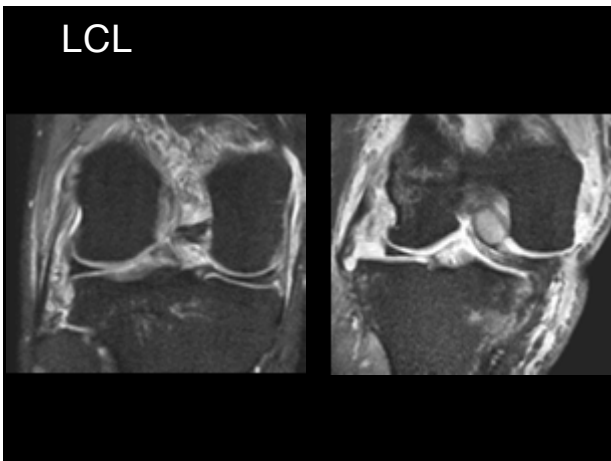
= signs of complete tear

- **Ant tibial translation:**
 - PCL sinuosity,
 - Posterior horn lat. meniscus



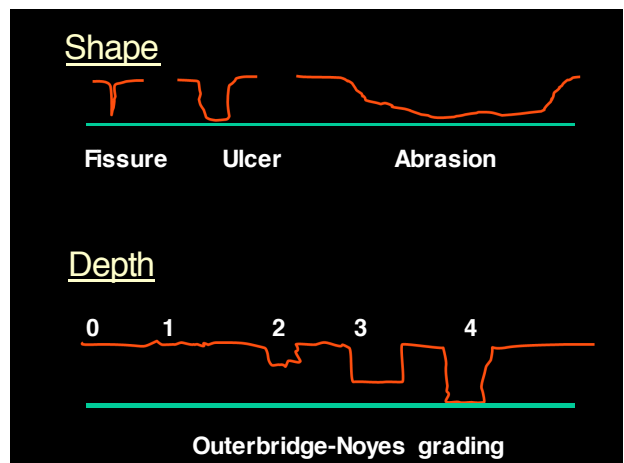
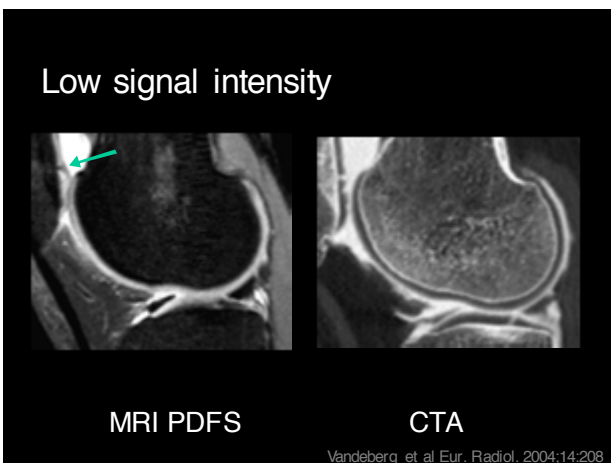
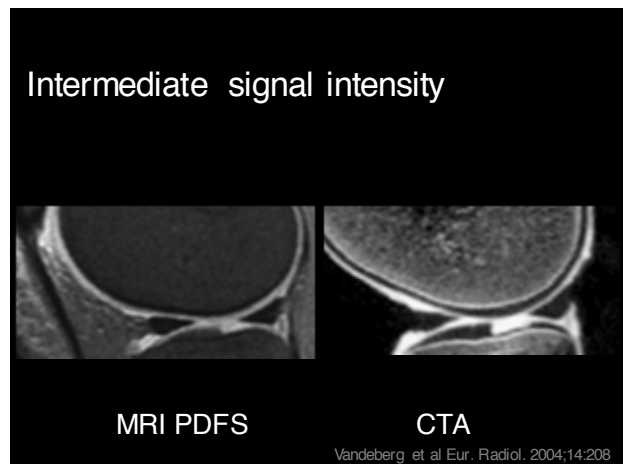
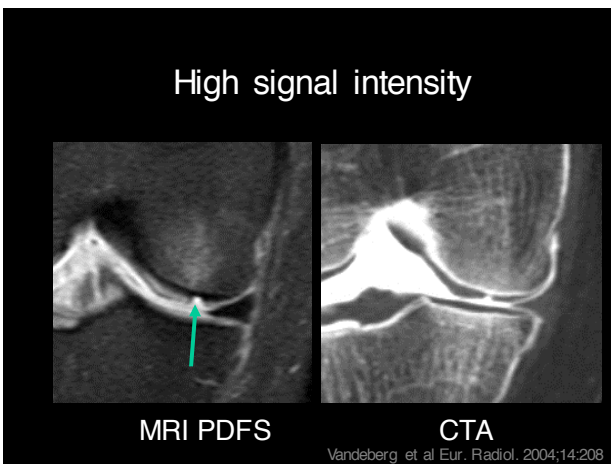
- **Segond fracture**

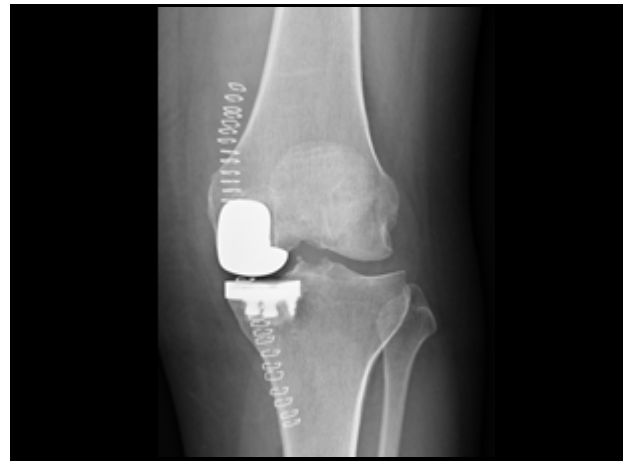
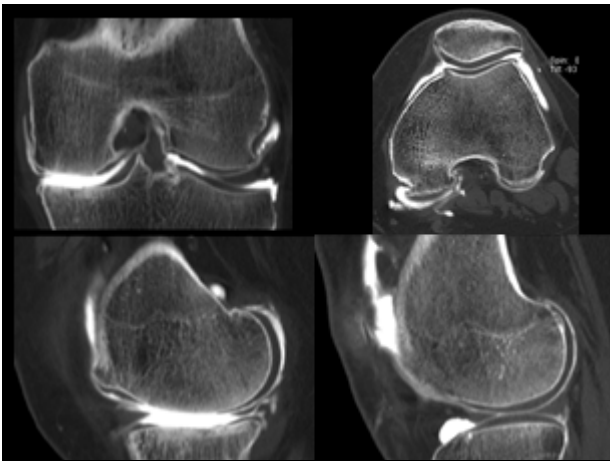




CARTILAGE

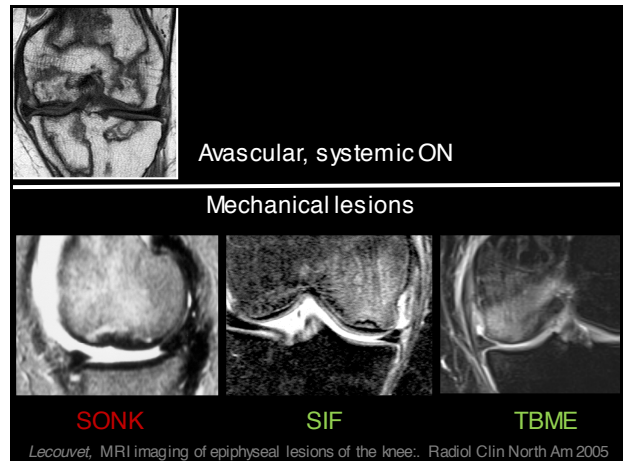
MRI
<
CT A°





WHAT CT MISSES :

BONE!



	MRI	CT-A°
Menisci	+++	+++
Ligaments	+++	+
Cartilage	+	+++
Bone	+++	+