



# Evaluation of the Painful TKA

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# Disclosures

American Journal of Orthopedics: Editorial or governing board

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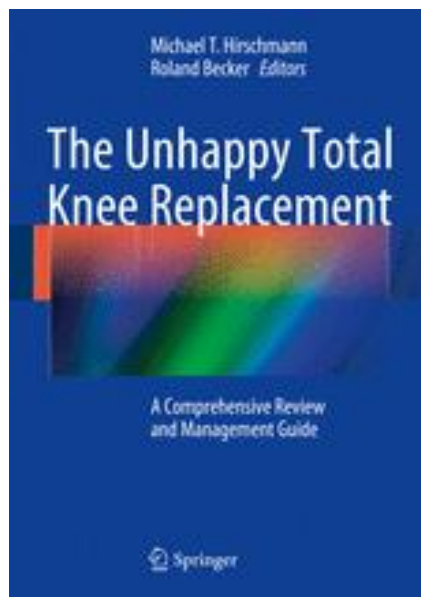
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# Introduction

- TKA is a highly successful procedure
- 10-20% of patients remain dissatisfied
- Painful TKA not uncommon





# Key Points

- Establishing a specific diagnosis is paramount!
- Evaluation is incomplete until infection has been excluded
- Remember to consider extraarticular sources of pain
- Surgical intervention without a clear cause frequently results in poor outcome





# Common Modes of Failure

- Infection
- Loosening
- Instability
- Stiffness
- Osteolysis
- Component failure
- Extensor mechanism/patellofemoral
- Soft tissue impingement
- Extraarticular/referred
- Unexplained pain





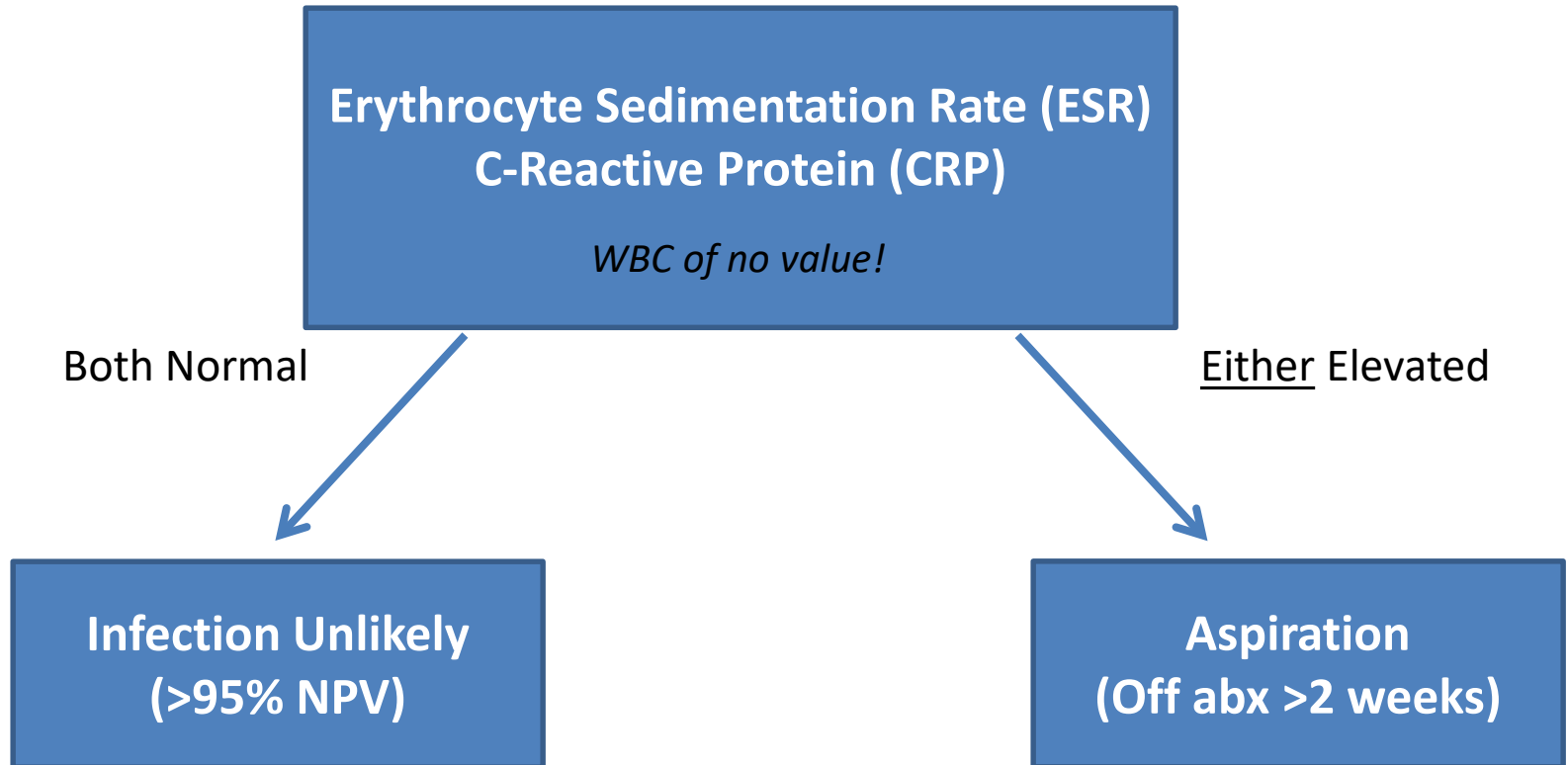
# #1: Infection

- History (drainage, antibiotics)
- PMH (DM, RA, dialysis, multiple procedures, trauma, previous infection)
- Physical (sinus tract, effusion)





# Infection Algorithm



WBC > 3000 cells per  $\mu$ L  
PMN % > 80%  
Cultures





## #2: Knee or Not Knee

- Is it really the knee?
  - Same type of pain as preop?
  - Occur at rest?
  - Specific activities (i.e. stairs)?
  - Start-up pain?
  - Associated with stiffness?
  - Where is it located?
  - How soon after the surgery did it start?







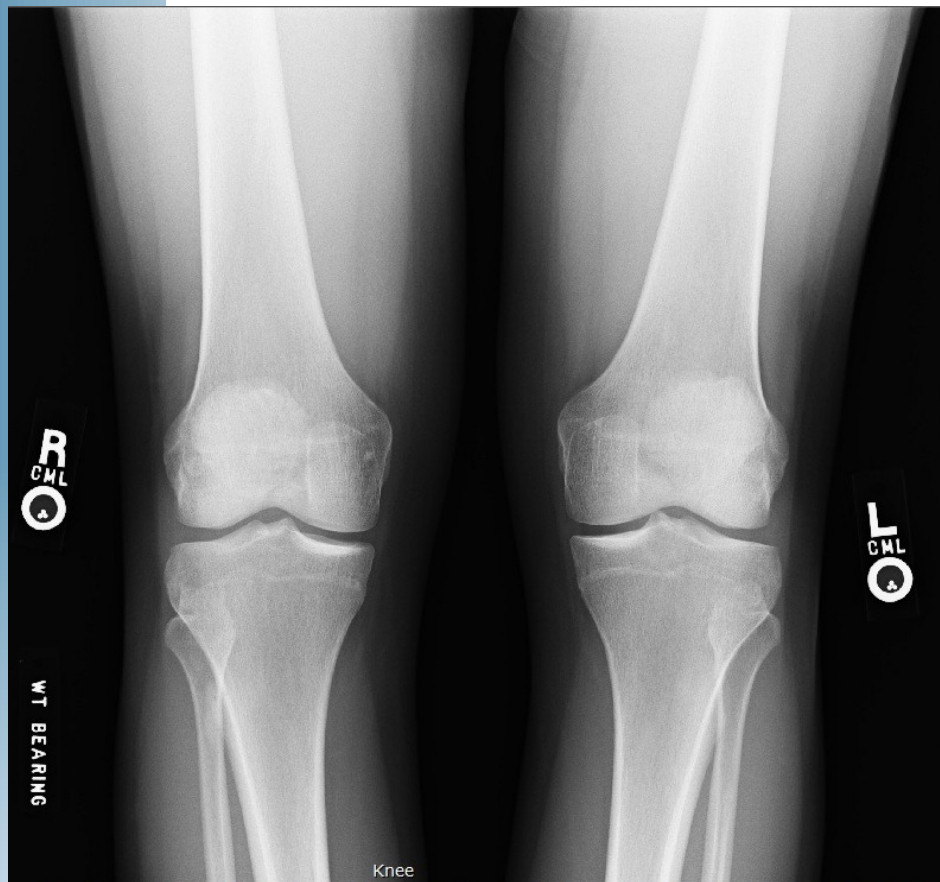
# Red Flags

- “Nothing ever helped before the surgery and now I’m even worse”
- “12/10 pain all the time”
- “My bedsheets hurt”
- “The only thing that helps is that medication that starts with a D... Dilaudid? Yes, that’s the one”



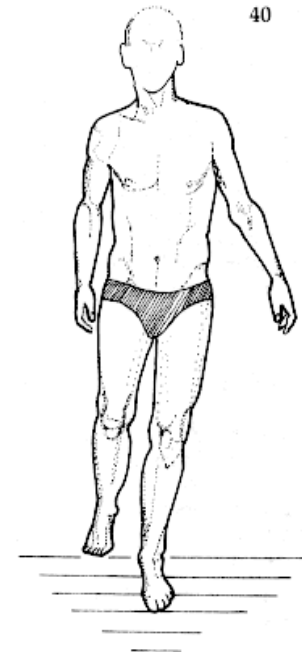


# Obtain Preop Imaging!



Original Indication for Surgery? Low Pain Threshold ?

- Neurologic
  - Spinal stenosis
  - Lumbar radiculopathy
  - CRPS
- Vascular claudication
- Hip OA



- Start-up pain
- Serial radiographs!
- Subsidence and change in implant position
- Complete, progressive radiolucent line
- Fluoro-guided radiographs are helpful

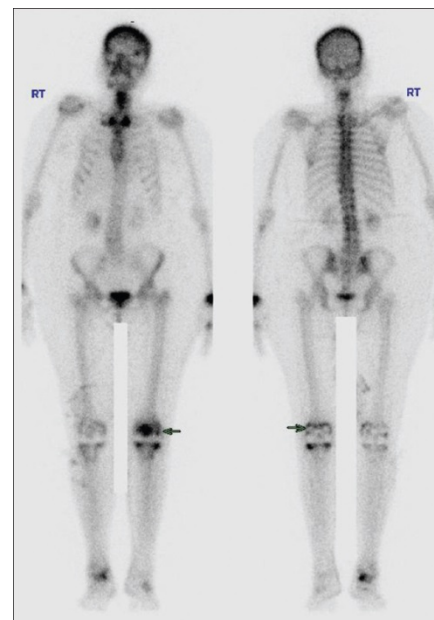
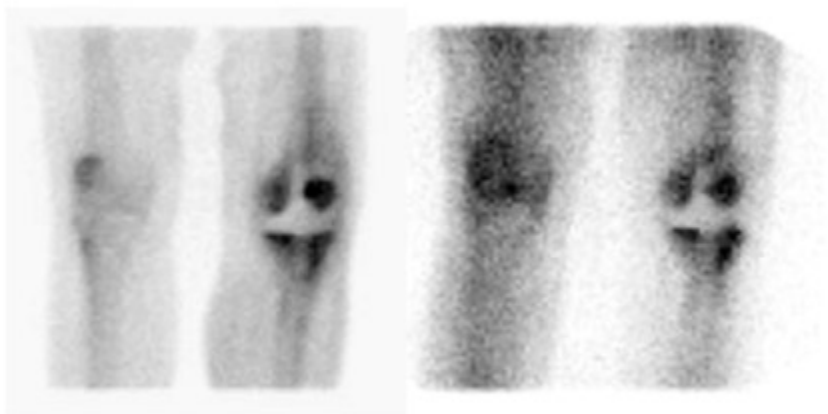


2008



2016

- Bone scan of limited utility
  - Variable uptake for first 1-2 years
- No role for CT to look for loosening





# Instability

- History
  - Recurrent effusions
  - Problems with stairs
- Exam
  - Varus-valgus – collateral laxity
  - Sagittal flexion instability – loose flexion gap, incompetent PCL
  - Recurvatum – loose extension gap, neurologic problem or charcot joint
  - Pes tenderness
  - May have above average ROM (but not always)

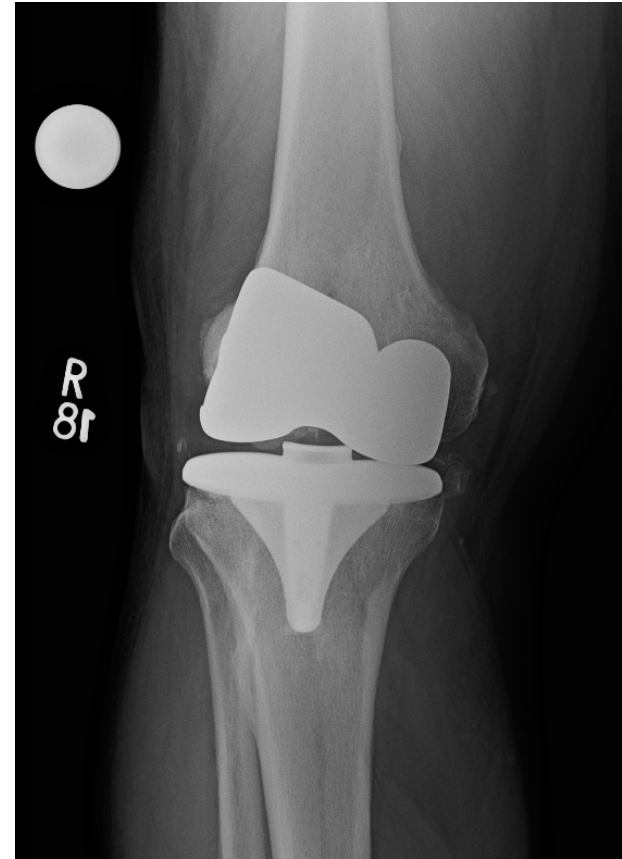




# Instability



Early – iatrogenic

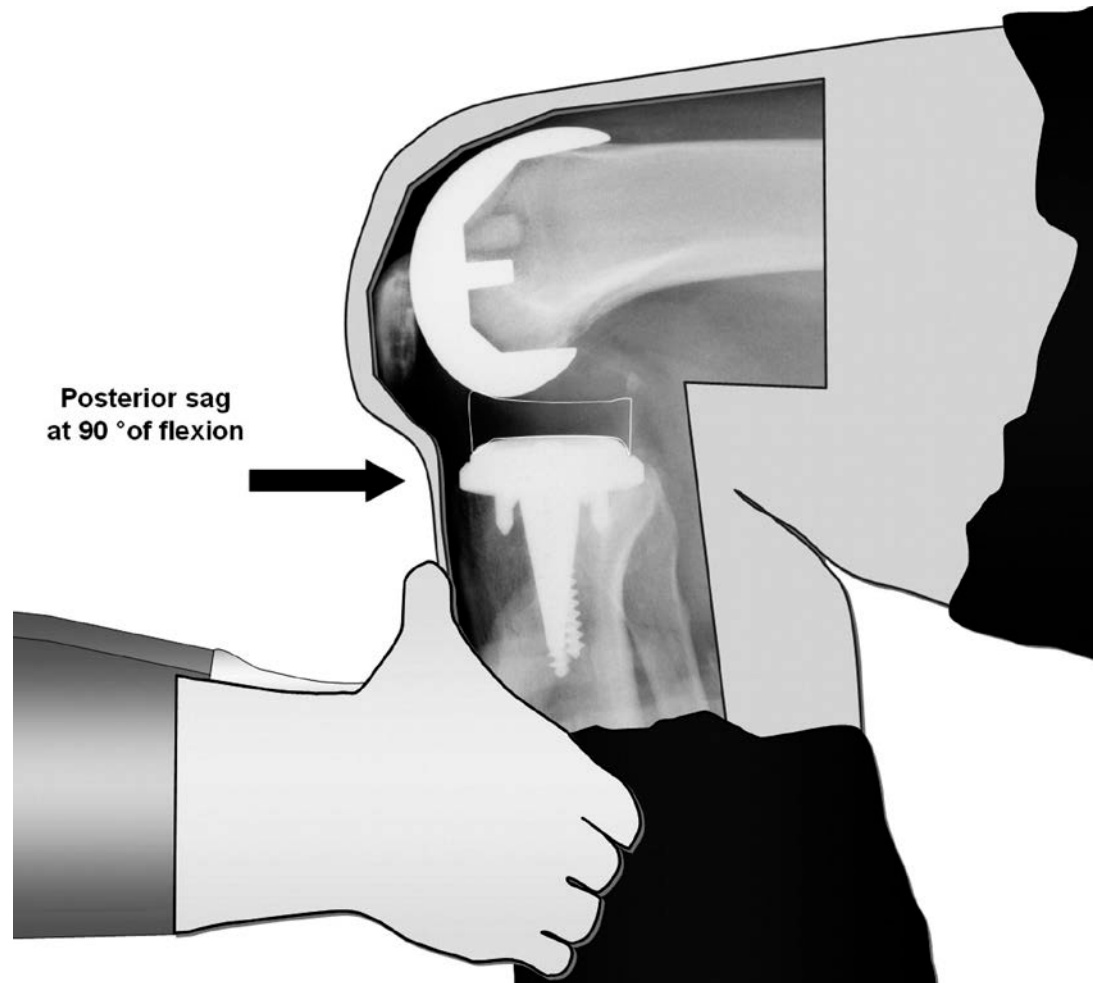


Late – poly wear





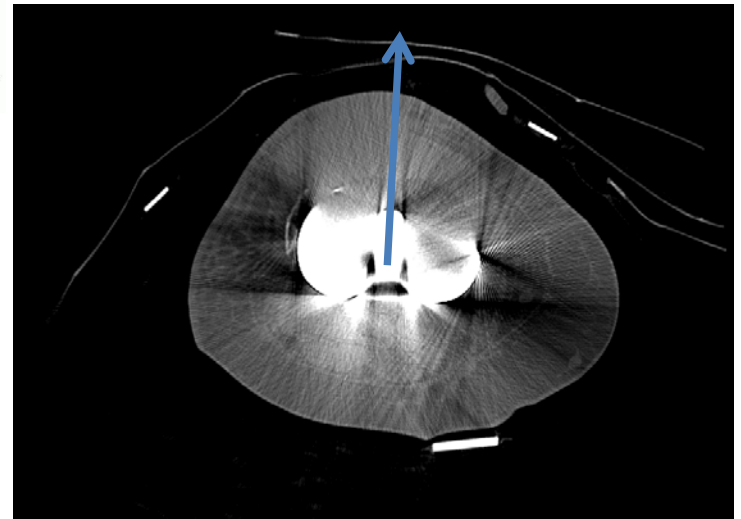
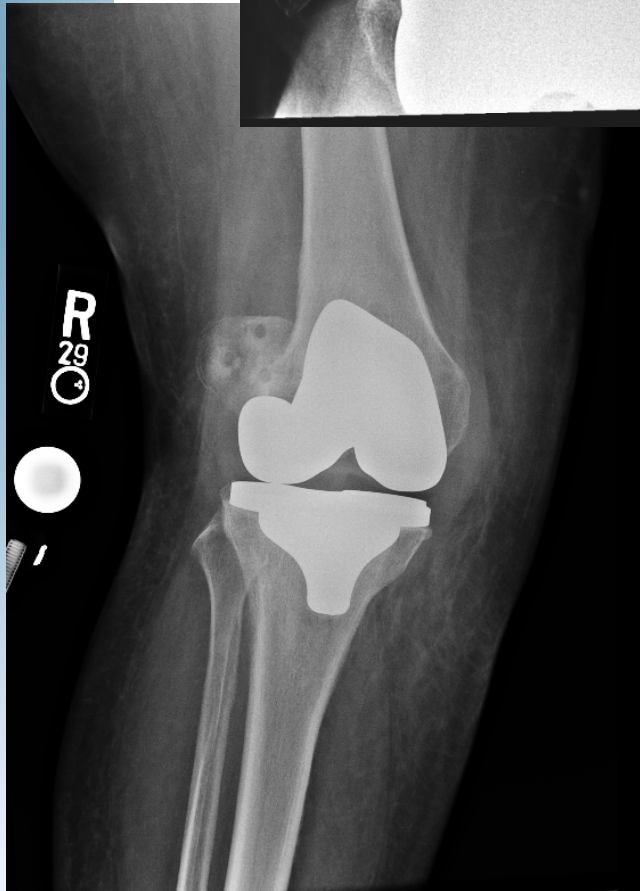
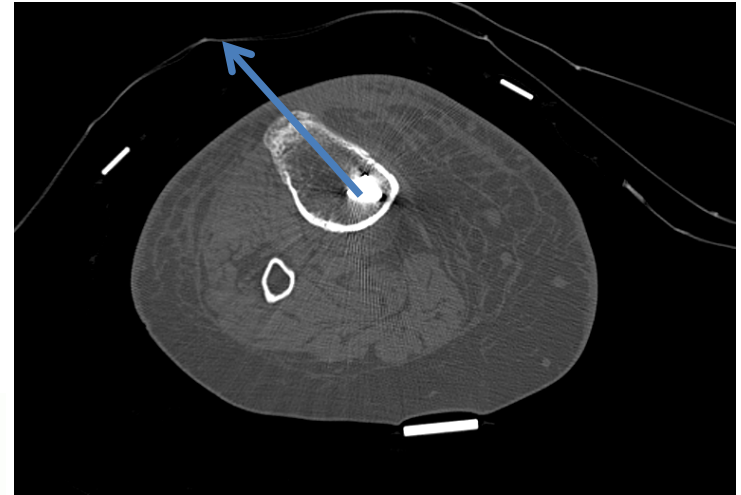
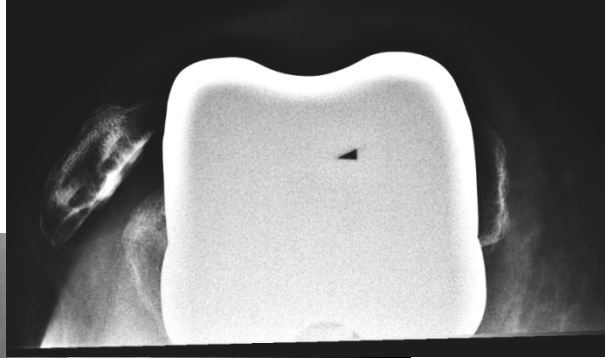
# Flexion Instability







# Patellofemoral Joint/Malrotation



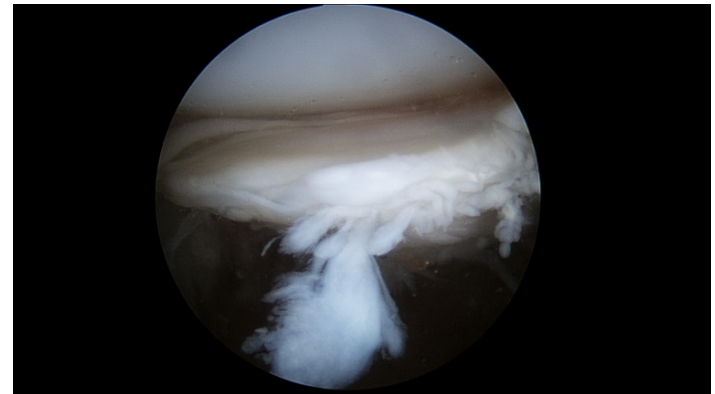
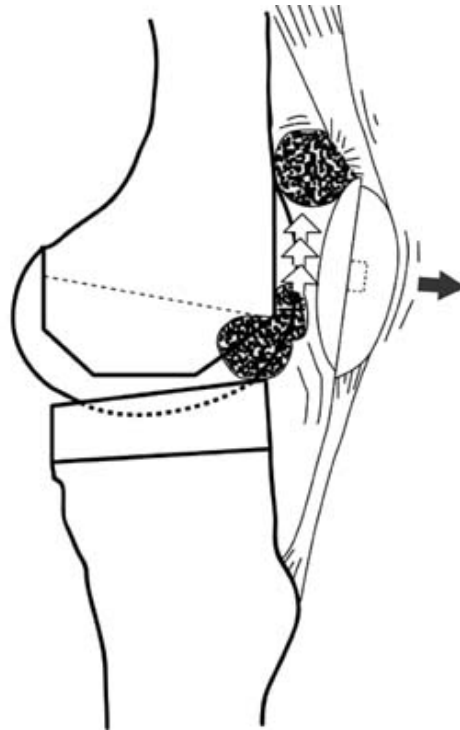


# Stiffness

- Greater than 15 degrees contracture or less than 75 degree arc of motion
- Poor preop ROM, poor rehab, biologic problem (true arthrofibrosis)
- Technical problems (tibial slope, resection of posterior condyles, malrotation, patellofemoral joint)
- When the underlying cause can be identified then there is hope for a solution!



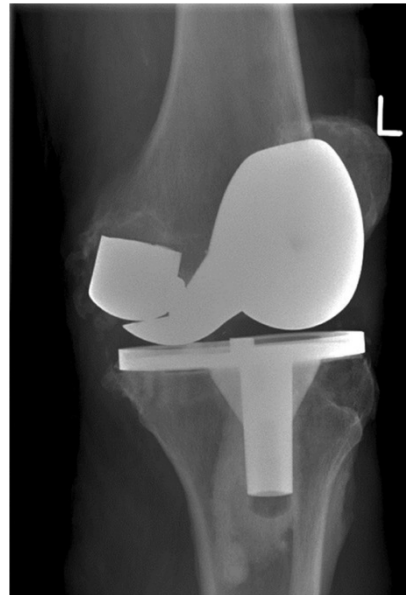
- Retropatellar crepitus and clunk
- Popliteus impingement





# Catastrophic Implant Failure

- Relatively rare
- May be obvious... or not!





# Worksheet

DIAGNOSIS		Patient:		Implant type:			Y/N
1	Infection	Clinical		ESR ( )	Asp. WBC(<2500)	C&S	
		Drainage:					
		Erythema:		CRP ( )	Asp. Diff (<50%)	subcult.	
		Swelling:			% PMN		
2	Extensor Mech. Rupt.	Extensor lag:	PalpDefect	InsallSalvati	Avulsed	PatFract	QuadsRupt.
3	Stiff	ext-flexion	ipsi-hip OK?	CT Tibia	CT Femur	tibial slope:	
						femoral size:	
						fem flex/ext:	
						pat thick:	
4	Tibial-femoral instability	Clinical		CT Tibia	CT Femur	Loose	Y / N
		VarusValgus arc:				Breakage	Y / N
		AP (in flexion):				Mech axis:	
		Recurvatum:					deg. Var/Val
5	Patella & malrotation	Maltrack Y/N	Tilt degrees	Displacement	Pat. Comp	CT Femur	CT Femur
6	Loose	Subside?	Radioluc.?	BoneScan	Fluoro	Mech axis:	
						deg. Var/Val	
						CT- osteolysis	
7	Fracture	XR tib:		XR fem:			
8	Breakage	Instab: Y/N		X-Ray: Y/N			
9	No diagnosis	AP pelvis	LS-Spine	BoneScan	RSD	Pre TKR XR	

Vince KG, Bone Joint J 2014;96-B(11 Suppl A):105–11

