

KNEE CASE STUDY

Chronic pain with exacerbation 68 year old social dancer



Introduction:

- John is a 68 year old retired teacher.
- He lives with his wife and enjoys gardening, walking and dancing on the weekends.
- He describes longstanding left knee pain which he manages intermittently with NSAIDs but has noticed a recent increase in severity which is beginning to impact on his enjoyment of social dancing.
- John attends your clinic, frustrated, in pain and wondering about his options.
- On examination, there is a mild knee joint effusion and medial joint line tenderness.

What are the possible causes of John's pain?

Given the background longstanding symptoms with recent exacerbation, the most likely diagnosis is osteoarthritis. The deterioration suggests either progression of the degenerative changes or perhaps a new superimposed problem such as meniscal tear.

Are there any specific questions that you would ask in the history?

The recent exacerbation implies an underlying change in pathology. A history of a more recent acute injury may favour a meniscal tear.

What specific examination findings would you try to demonstrate?

Specific clinical signs to search for include the following

1. Is there a joint effusion?
2. Assess for a meniscal tear. Is there specific joint line tenderness? Is there a positive McMurray's test?
3. Assess for ligamentous integrity.

What investigations, if any, would you suggest?

X-ray and MRI. Limited role for CT in this setting.

What are the advantages and disadvantages of the different imaging modalities?

The main indication for an x-ray in this clinical setting is to provide an overall assessment of the femoro-tibial and patellofemoral joint spaces. This should include an AP weight bearing view and a skyline or patellofemoral view, in addition to a lateral radiograph.

The joint space can be assessed for narrowing and other features of degenerative changes including osteophytes, subchondral sclerosis and cystic changes.

The lateral radiograph will help to assess the presence of a joint effusion.

X-rays cannot assess the menisci.

Ultrasound can demonstrate an effusion or Baker's cyst but otherwise does not contribute further. It cannot assess the cruciate ligaments, menisci or cartilage.

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Chronic pain with exacerbation: 68 year old social dancer



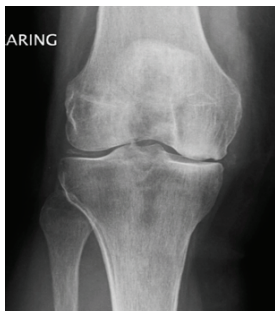
CT can demonstrate degenerative changes but generally has a limited role as it does not assess the menisci or directly image the articular cartilage.

The advantages of MRI are in the assessment of effusion which may be associated with synovitis or loose bodies, articular cartilage of all compartments while enabling assessment of associated meniscal pathology, bone marrow oedema &/or insufficiency fractures.

What does the x-ray show?

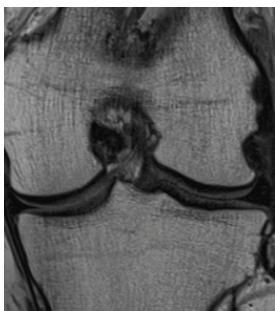
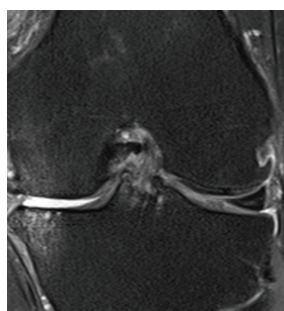
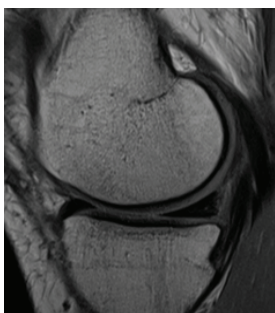
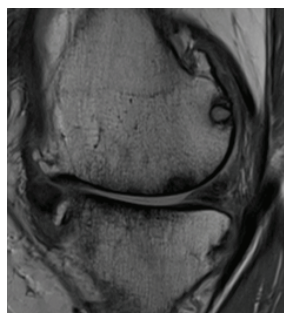
The x-ray shows a joint effusion and the hallmarks of osteoarthritis:

- Joint space narrowing
- Osteophyte formation
- Subchondral sclerosis
- Subchondral cysts



What does the MRI show?

The MRI also demonstrates the hallmarks of OA but enables direct evaluation of the articular cartilage thickness and to some extent quality. It also enables accurate assessment of the menisci for degeneration and tears.



What are the management options for osteoarthritis? What are the general principles in John's short term and long term management?

If John has mechanical symptoms - catching or locking in association with his arthritis, then arthroscopy can help. Otherwise research has shown questionable benefits of arthroscopy although there are always cases which do improve significantly.

Joint replacement - uni-compartment or total to be discussed by orthopaedic surgeon.

Further conservative options include various injections.

Degenerative medial meniscal tears are often associated with submeniscal synovitis which causes a lot of the pain. Therefore a subcapsular cortisone injection in this region can often improve the pain significantly. Alternatively synvisc one and more recently PRP can be considered. Stem cell therapy is still a few years away.

Other treatment includes weight loss if indicated, and low impact activities to improve quadriceps strength - cycling, gentle squats. Dona glucosamine was associated with the best research outcomes in the early papers. Krill and fish oil equivocal outcomes to date. Regular panadol osteo is preferable to anti-inflammatories and often as or more effective. Orthoses - knee braces with valgus force helpful in some.