

# Knee Pain

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## Osteoarthritis of the Knee Part 1: New Perspectives

The following information is from: Bennell, K et al (2015). Knee osteoarthritis. In Jull, G et al (eds). Grieve's Modern Musculoskeletal Physiotherapy (4<sup>th</sup> ed). Elsevier.

Traditionally, (knee) osteoarthritis (OA) has been a radiographic diagnosis based on:

1. X-ray evidence of joint space narrowing, intra- or extra-articular osteophytes, subchondral sclerosis or bone cysts.
2. MRI evidence of articular cartilage fissuring, fraying, increased water content, matrix degradation, and frank defects; subchondral bony oedema or cysts.

However such imaging findings are often poorly correlated with clinical symptoms. For example, MRI findings of cartilage damage, osteophytes and bone marrow damage are commonly found in asymptomatic individuals. OA is a condition that affects all tissues of the joint – cartilage, bone, synovium, ligaments & muscle. It involves a process of tissue break-down and repair that does not always restore the 'healthy' state of the tissues. The extent of OA changes differs between individuals, and the progressive time-course of the condition is highly variable.

While joint inflammation has been thought of only as a feature of inflammatory arthropathies, it is now known to be a feature of OA. Synovitis is common in both early and late stage OA, possibly due to cartilage degradation producing a viscous cycle of synovial irritation, enzyme formation, and further cartilage breakdown.

There is increasing recognition that knee OA needs to

be considered under a biopsychosocial framework, as there are dozens of factors that can potentially influence disease progression and its impact on function.

### Risk Factors

Potential risk factors for the development of OA include:

1. Being female. Women are more likely to develop and have more severe knee OA compared to men.
2. Race and genetics
3. Diet
4. Obesity
5. Previous knee injury
6. Occupations involving squatting and kneeling
7. Biomechanical / knee alignment & neuromuscular factors.
8. Joint laxity

There is mixed evidence regarding the influence of physical activity and sport on OA development. However there may be an effect of such pursuits on disease progression once established. Progression – either on imaging or as patient-reported functional decline, may also be influenced by such factors as:

1. Lack of physical activity
2. Increasing age
3. Varus / valgus knee alignment
4. Multiple joint OA
5. Obesity
6. Baseline severity of the disease
7. Poor general health & presence of co-

morbidities.

8. Poorer mental health state – anxiety, depression, poor self-efficacy
9. Lack of social support.

### **Diagnosis of Symptomatic Knee OA**

While imaging can be a useful tool to aid diagnosis, the clinical examination will give the most useful information. The following factors are particularly important:

1. Presence of notable risk factors (above)
2. Over 45 years of age
3. Persistent knee pain
4. Pain worsens with continued use
5. The presence of morning stiffness lasting for up to 30 minutes.
6. Persistent swelling
7. Coarse crepitus
8. Loss of knee flexion
9. Fixed flexion deformity (later stage).

Part 2 will cover Physiotherapy Management

### **Reference**

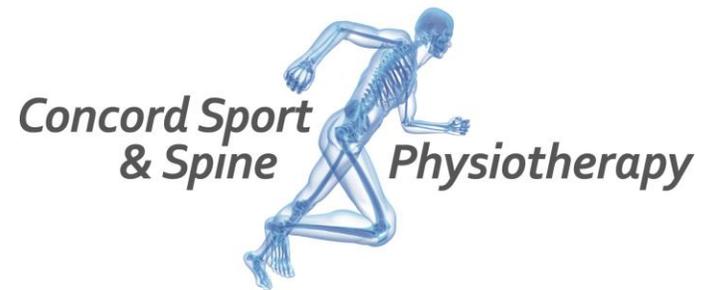
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