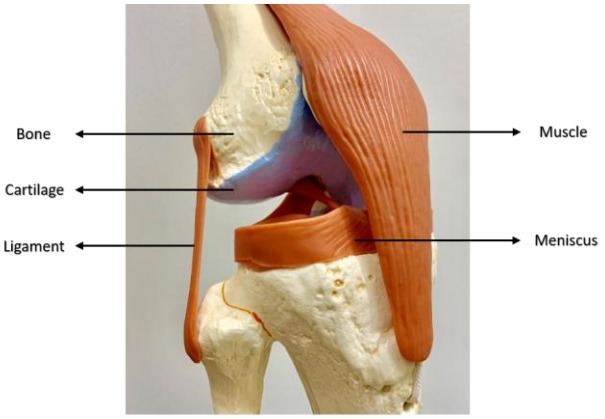
Singapore General Hospital
SingHealth

Department of Physiotherapy

# KNEE OSTEOARTHRITIS

Osteoarthritis (OA) is a joint problem that can cause chronic pain and difficulties with daily activities. It is an active process of your body responding to small injuries to your joint. Ultimately, it affects the whole joint including cartilage, bone, ligament and muscles.




Even though these changes have occurred, there are many things you can do to help your OA pain.

## WHERE DOES THE PAIN COME FROM?

Pain is influenced by changes that occur in the knee due to OA. Other psychological or social factors also affect the level of pain you may experience.

Low mood, poor sleep and feeling anxious may result in reduced activity and make you feel tired easily. This can make knee OA pain feel much worse. Staying positive and active is the key to doing well.

## CAN PHYSIOTHERAPY HELP?

- Provide individualised exercise programme
- Equip you with skills or knowledge to cope with knee pain
- Address any concerns and uncertainties about condition

## Signs and Symptoms

1. Joint pain with increased activity
2. Stiffness in the knee upon waking up for less than 30 minutes
3. Increased knee bone size, tender to touch
4. "Cracking" sounds during movement

## Common Misconceptions

⊗ My knee is so painful because X-rays show severe knee OA –> What you feel often has little to do with how it looks on the scans. (Only ⅓ people with joint changes seen on X-rays experience pain)

⊗ My knee pain will inevitably get worse with time – Pain caused by OA is often stable over many years, although there are times when pain flares up.

⊗ Physiotherapy, exercise and physical activity will increase knee pain. – You may experience pain the day after doing exercises but studies show that exercise improves knee pain and function among people with knee osteoarthritis.

## Prognosis

Most people's knee OA will not become severe enough to need a joint replacement. In fact, your pain may improve over time.

Major risk factors for worsening of pain and physical function include:

- Increasing age
- Increasing body mass index
- Increased number of comorbidities
- Depressive symptoms
- Muscle weakness

**MANAGEMENT/TREATMENT**

Knee osteoarthritis is best managed with exercise and weight loss. Some patients may benefit from painkillers, anti-inflammatory medication, walking aids or knee braces.

- **Exercise** (Two methods)
  Land-based activities have been proven to be particularly effective in improving knee pain and function.

**1. Increasing physical activity**

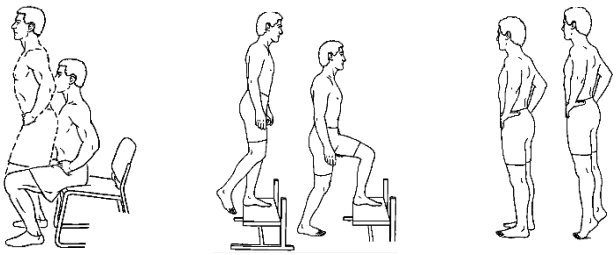
Most people with OA do not meet the recommended levels of physical activity. (at least 150 minutes of moderate-to-vigorous physical activity per week) To achieve that, you can:

- Take the stairs instead of elevator
- Do regular housework or gardening
- Use a step tracker and aim for 10,000 steps each day
- Take part in a new activity (Brisk walking, Taichi) or join a class (Dance, Zumba)

**2. Strengthening exercise programme**

Older adults lose strength at a rate of 2.5-4% per year. To prevent that, you can do:

1. Sit to stand 2. Step ups 3. Heel raises



Perform as many repetitions as possible until muscles tire or get sore. Mild aching pain is acceptable. Stop doing the exercises if you feel sharp or severe pain. See a physiotherapist if pain persists during exercise.

What to expect after exercise?

If you are not used to doing exercise, **there may be a slight increase in knee pain, stiffness or swelling temporarily.** This will improve over time if you do exercises consistently (exercise does not make your arthritis worse!)

- **Managing Pain** (after doing exercise or when pain flares up)
  a. Topical/Oral pain medication: Provides short-term benefits in pain reduction.
  b. Devices (e.g. walking aids/ knee braces): Allows continuation of function with modification
  c. Relaxation or mindfulness: May improve pain, function, mood and anxiety almost immediately

- **Weight Loss** (if indicated)
  Research has shown that 5-10% weight loss can improve knee pain and function.
  a. Balanced diet (Regulate intake of food and drinks)
  b. Regular physical activity

**TIPS TO HELP YOURSELF**

- Maintain **REGULAR** physical activity
- **REDUCE WEIGHT** if overweight
- **CLARIFY** any uncertainties or worries about your condition