

Background

Knee pain classifications:

- Acute knee pain is defined as knee pain lasting less than 6 weeks.
- Chronic knee pain last more than 6 weeks.

Kellgren & Lawrence Systems Severity Classification Box 1

Knee OA severity can be classified radiologically by using Kellgren & Lawrence systems into 4 grades:

- **Grade 0** : normal healthy knee
- **Grade 1** : questionable (patient is asymptomatic)
- **Grade 2 (mild)** : definite osteophytes and possible Joint Space Narrowing (JSP), (Patient will experience symptoms after prolonged walking and will feel joint stiffness).
- **Grade 3 (moderate)** : moderate multiple osteophytes, definite JSN, some sclerosis, and possible bony deformity (Frequent pain during movement, joint stiffness will also be more present, especially after sitting for long periods and in the morning).
- **Grade 4 (severe)** : large osteophytes, significant JSN, severe sclerosis, and definite bony deformity (This stage is normally associated with high levels pain and discomfort during walking or moving the joint and maybe at rest)

Patient present with chronic knee pain suggesting OA

Evidence of mechanical symptoms (e.g., catching, locking) or any red flag Box 2?

No

BMI > 25 Kg/m²

Yes

Advise for weight loss at least 5-10% to improve pain, disability and quality of life

No

- Please ask the patient to fill KOOS questionnaire
- Does the patient have a knee x-ray?

No

Proceed with knee x-ray

No

Yes

Further evaluation & management

Or consultation with appropriate health care provider

Yes

Classify using KL system into mild , moderate or severe OA Box 1

Does the patient have restriction of mobility or ADL?

Yes

Assistive device assessment & prescription e.g., walking aid

No

Patient had physical therapy done in the last 3 months
OR
Patient with mild pain and no functional limitation

Yes

Self Management Program

- Daily exercise activities performed by patient in his environment to improve symptoms & quality of life (Average 2-6 sessions/week).
- Provide patient with pamphlet that contain different type of exercises.

Box 2

Red flags:

- History of trauma
- Fever, palpable warmth, joint erythema
- Lumps or bumps around the knee
- Locking, catching or giving way
- Night pain
- History of cancer

KOOS questionnaire *

This tool is designed to:

- Assess five outcome measures (pain, symptoms, ADL, sport & recreation function and knee related quality of life)
- Evaluate the course of knee OA and treatment outcomes

Start patient on physical therapy (6 sessions)

Mild knee OA	Moderate to severe knee OA	Severe knee OA-TKR
Exercise	Exercise	Optional adjunct measures
<ul style="list-style-type: none"> • Strengthening exercise • Land-based exercise • Cardiovascular exercise 	<ul style="list-style-type: none"> • Strengthening exercise • Land-based exercise • Aerobic exercise • Manual therapy 	<ul style="list-style-type: none"> • Thermotherapy • Therapeutic ultrasound • Electrical stimulation • Knee taping • Shockwave Therapy <small>(The above measures can be combined with other proven exercise to achieve maximum benefit)</small>

After completion of the PT sessions , patient shall be reevaluated using KOOS questionnaire by physiotherapist

Is there a minimum of 8 points improvement on KOOS questionnaire?

Yes

- Continue 6 PT sessions if needed
- Monitor for progression of symptoms
- Then discharge on self management program

No

- Re-evaluate by referring physician (the previous management, compliance & weight loss)
- Start pharmacological treatment if not started
- Re-evaluate for alternative diagnosis

KOOS questionnaire forms:

https://www.worksafe.qld.gov.au/_data/assets/pdf_file/0022/24097/knee-injury-and-osteoarthritis-outcome-score-koops1.pdf ((English))
<http://www.koos.nu/koosarabicaudiarabia.pdf> ((Arabic))

Therapeutic process level of evidence : On the basis of the currently available evidence, the Guideline Development Committee

- (1) Exercise therapy for knee OA: recommends the use of exercise therapy to alleviate pain and improve physical performance (level 1).
- (2) Ultrasound for osteoarthritis of the knee: cannot recommend the use of ultrasound (level 2).
- (3) Taping for patellofemoral osteoarthritis: recommends taping the patella to alleviate the pain, preferably in combination with muscle strengthening and functional exercise therapy and patient education (level 2).
- (4) Electromagnetic field therapy for osteoarthritis of the knee : cannot recommend the use of electromagnetic field therapy (level 1).
- (5) Patient education and promoting effective self-management of osteoarthritis of the knee: On the basis of the currently available evidence and best practice, the Guideline Development Committee recommends a combination of exercise therapy and patient education / self-management interventions to improve the patient's mental and physical performance and alleviate pain (level 2).

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