Treating Common Pain Conditions: Treatment Algorithm for Osteoarthritis of the Hand

**Hand – Case 1**

- Clinical diagnosis of OA based on history and examination*
- Non-pharmacological interventions
  - Self-Management Program, Community physical activity program/Community exercise program/Home exercise program
- If in the clinicians’ judgment the patient is weak, stiff or has other functional deficits
  - Offer referral to PT/OT (if available)
  - Therapist Consultation
  - If ADL is impaired:
    - Orthoses
    - Splint for trapeziometacarpal OA
    - Individualised exercise program aiming for personalised goals for strength, ROM and function
- Pharmacological interventions
  - 1) Continue topical NSAIDs
  - 2) Offer oral anti-inflammatory (NSAID/COX2 + PPI for gastroprotection)
  - If disabling symptoms at base of thumb and if already exhausted all other options including pharmacological and non-pharmacological interventions
    - Offer referral to specialist hand surgeon for surgical opinion
- If necessary: Surgical repair for base of thumb
  - Post-operative program
    - Long term: Individualised exercise program aiming for personalised goals for strength, ROM and function regarding the replaced joint and other joints at risk

*Signs and symptoms
- Joint pain
- Impaired activities of daily living, such as opening jars, turning keys, lifting saucepans and writing
- Diminished grip and pinch strength
- Wasting of the thenar muscles
- Stiffness
- Decreased joint mobility
- Joint swelling
- Crepitus
- Bony nodules
- Ulnar or radial deviation of the finger distal to a distal interphalangeal joint
- ‘Squaring’ at the first carpometacarpal joint in advanced hand OA

http://healthguides.mapofmedicine.com/choices/map/osteoarthritis1.html
Treating Common Pain Conditions: Treatment Algorithm for Osteoarthritis of the Hip

**Hip – Case 2**

Clinical diagnosis of OA based on history and examination*

- Non-pharmacological interventions
  - Community physical activity program/
    1) Community exercise program/ Home exercise program
  - 2) Self-management program and education
  - 3) Offer referral for psychological interventions (e.g., CBT) for assistance with pain coping or psychological symptoms if appropriate

- Check for co-morbidities e.g., cardiac disease; hypertension; obesity; multi-site joint pain and other chronic pain conditions and depression.

- If in the clinicians’ judgment the patient is weak, stiff or has other functional deficits
  - Offer referral to PT
  - Therapist Consultation
    - If ADL is impaired:
      - Assistive devices
      - Individualised exercise program aiming for personalised goals for strength, ROM and function

- Pharmacological interventions
  - 1) If not effective, offer referral to a practitioner able to provide invasive treatment options (e.g., intra-articular corticosteroids)
  - 2) If the patient has severe and disabling pain, offer opioids (e.g., oxycodone, tramadol) for short term use only and insist in non-pharmacological interventions

- If disabling symptoms and if already exhausted all other options including pharmacological and non-pharmacological interventions
  - Offer referral to specialist hip surgeon for surgical opinion
  - If necessary: Surgical intervention
    - Post-operative program
      - Long term: Individualised exercise program aiming for personalised goals for strength, ROM and function regarding the replaced joint and other joints at risk

*Signs and symptoms
- Joint pain typically felt maximally deep in the anterior groin, but may be referred over a wide area such as the upper buttock and anterior thigh
- Impaired activities of daily living, such as difficulty putting on shoes and socks, and getting in and out of cars
- Antalgic gait – a lurch towards the affected hip with less time spent weight bearing on that side; the pelvis is held normally
- Trendelenburg gait, due to wasting and weakness of the gluteal and anterior thigh muscles in later stages of OA
- Decreased joint mobility: painful restriction of internal rotation with the hip flexed is usually the first sign to develop, followed by reduced flexion
- Stiffness
- Crepitus

http://healthguides.mapofmedicine.com/choices/map/osteoarthritis1.html
Treating Common Pain Conditions: Treatment Algorithm for Osteoarthritis of the Knee

Knee 1 – Case 3

Clinical diagnosis of OA based on history and examination*

Non-pharmacological interventions

1) Weight loss program available in community
2) Community physical activity program/ Community exercise program/ Home exercise program
3) Self-management program and education
4) Offer referral for psychological interventions (e.g., CBT) for assistance with pain coping or psychological symptoms if appropriate

Pharmacological interventions

1) Offer topical NSAIDs
2) Offer COX-2 inhibitor and PPI
3) If not effective, offer referral to a practitioner able to provide invasive treatment options (e.g., intra-articular corticosteroids)
4) Offer intermittent acetaminophen
5) If the patient has severe and disabling pain, offer opioids (e.g., oxycodone, tramadol) for short term use only and insist in non-pharmacological interventions.

If in the clinician’s judgment the patient is weak, stiff or has other functional deficits

Offer referral to PT

If ADL is impaired:
- Assistive devices
If malalignment:
- Offer unloader brace
- Appropriate footwear
- Patellar taping (supported by assessment of the PF joint and by pain)
- Individualised exercise program aiming for personalised goals for strength, ROM and function

Therapist Consultation

If disabling symptoms and if already exhausted all other options including pharmacological and non-pharmacological interventions

Offer referral to specialist knee surgeon for surgical opinion

If necessary: Surgical intervention

Post-operative program

- Long term: Individualised exercise program aiming for personalised goals for strength, ROM and function regarding the replaced joint and other joints at risk

*Signs and symptoms

- Joint pain
- Impaired activities of daily living, such as difficulty climbing stairs, squatting, kneeling and collecting objects from the floor
- ‘Giving way’ and locking of the knee are common complaints
- Small-to-moderate effusions
- Reduced range of motion
- Stiffness
- Crepitus and tenderness along the joint line or with pressure on the patella
- Weakness and wasting of quadriceps muscle
- Joint malalignment

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Variations in Clinical Recommendations for Knee Osteoarthritis

The clinical algorithm for osteoarthritis represents one summary approach for managing this condition. Clinical guidelines for managing knee osteoarthritis have been developed by several organizations and some recommendations for treatment (compared with the sample clinical algorithm) lack consensus. Updated guidance from the American College of Rheumatology is expected sometime in Spring, 2019.

Some areas of disagreement regarding pharmacological and non-pharmacological interventions are listed below.

Pharmacological intervention disagreements include:

- The frequency of use of acetaminophen (intermittent versus more regular use); guidelines vary on recommending acetaminophen or topical NSAIDs as initial pharmacotherapy, in addition to other core treatments, before oral NSAIDs. Some studies or guidelines suggest acetaminophen has limited efficacy.
- Intermittent or longer cycle NSAID use and drug selection based on normal or increased gastrointestinal, cardiovascular, and renal risk (avoid use).
- Whether duloxetine should be considered, and where it fits in the progression among drug therapy choices.
- The role of intraarticular steroids.
- The relative value of oral glucosamine or chondroitin sulfate, as well as intraarticular hyaluronic acid.
- The appropriate positioning of opioid analgesics, and which opioids may be preferred for those with severe and disabling pain.

Non-pharmacological intervention disagreements include:

- The specific type of functional aerobic and strengthening exercise programs and settings that should be offered to ensure participation and accomplish goals.
- The relative value of a trial with acupuncture.
- Whether or not transcutaneous electrical nerve stimulation should be offered.
- The relative value of specific mind-body techniques incorporating movement, including yoga and Tai Chi.
- The relative value of manual therapies.
- The relative value of knee braces and heel wedges.
Citations


