HALEON

Adult Osteoarthritis (OA) Pain Protocol

#ListenToPain

PM-ZA-CALP-25-00073

HALEON

ADULT OSTEOARTHRITIS (OA) PROTOCOL

STEP 1: ASSESS OSTEOARTHRITIS (OA) PAIN

1. ASK PATIENT ABOUT OA PAIN SYMPTOMS[1,2]

Deep aching pain in the joint	Joint Stiffness	Tender, red swollen joint	Limited range of motion	Crepitus

2. IDENTIFY SYMPTOMS OR CIRCUMSTANCES REQUIRING REFERRAL[2,3]

- Recent significant trauma
- Rapid worsening of symptoms
- Fever or other signs of infection
- Inflammation of joints
- Prolonged morning stiffness lasting > 30 mins

- Presence of rash
- Muscle weakness
- Neuropathic pain
- Pain worse on resting, improved by activity

STEP 2: IDENTIFY TREATMENT CONSIDERATIONS

IDENTIFY ANY CONDITIONS OR MEDICATIONS LIMITING TREATMENT OPTIONS[4-8]

Medications limiting treatment	Medical conditions limiting treatment
• NSAIDs – risk of bleeding • NSAIDs – decreased antihypertensive efficacy • NSAIDs – increased drug levels of medicines like methotrexate • Increased risk of paracetamol toxicity • Opioids- risk of drug abuse	• Chronic kidney disease • Liver disease • Peptic ulcer disease • Cardiovascular disease

NSAIDs, non-steroidal anti-inflammatory drugs

IDENTIFY WHAT THE PATIENT HAS USED IN THE PAST TO TREAT OSTEOARTHRITIS PAIN

STEP 3: RECOMMEND TREATMENT FOR OSTEOARTHRITIS PAIN[1,9]

DOES THE CUSTOMER HAVE ANY PREFERENCE FOR TREATMENT BASED ON WHAT WAS USED IN THE PAST?

IF YES

Recommend non-pharmacological treatment

- Therapeutic exercises (Knee, Hip, Hand OA)
- Weight management (Knee, Hip, Hand OA)
- Devices (Knee, Hip OA)
- Self-efficacy and self-management programs (Knee, Hip, Hand OA)
- Tai chi (Knee, Hip OA)
- Hand orthoses (Hand OA)

AND

Recommend the patient's preference if possible, taking into consideration step 2

IF NO

Recommend non-pharmacological treatment

- Therapeutic exercises (Knee, Hip, Hand OA)
- Weight management (Knee, Hip, Hand OA)
- Devices (Knee, Hip OA)
- Self-efficacy and self-management programs (Knee, Hip, Hand OA)
- Tai chi (Knee, Hip OA)
- Hand orthoses (Hand OA)

AND

Recommend appropriate treatment for knee/hip/hand OA

- Topical NSAIDs (Diclofenac)
- Oral NSAIDs (Ibuprofen, Naproxen, Diclofenac, Meloxicam, Celecoxib)
- Paracetamol
- Duloxetine
- Tramadol

ADULT OSTEOARTHRITIS PAIN PROTOCOL

STEP 1

ASSESS SYMPTOMS

- Questions to ask (Table 1)
- Assess Type of OA (Table 2)
- Symptoms or circumstances requiring referral (Table 3)

STEP 2

IDENTIFY TREATMENT CONSIDERATIONS

- Questions to ask to customize headache treatment (Table 4)
- Conditions and medications (Tables 5 and 6)
- Assess previous treatment (Table 7)
- Questions to ask about previous treatment (Table 7)

STEP 3

RECOMMEND TREATMENT

- Non-pharmacological recommendations (Table 8)
- Pharmacological recommendations (Table 9)

STEP 1: ASSESS SYMPTOMS

TABLE 1

QUESTIONS TO ASK[1,2,9]
Can you tell me about your OA symptoms? • Where is the pain located? • Do you have activity related joint pain which is improved by rest? • Do you have morning joint-related stiffness? – if YES, does it last longer than 30 minutes • Is there a grinding, creaking, cracking, that occurs while moving the joint (crepitus) • How severe is the pain on a scale from 0-10? (0 being no pain and 10 being the most severe)
DO you have any other symptoms?[2] • Patients may experience a variety of additional symptoms as a result of the pain and functional limitations arising from OA and/or comorbidities – like mood disorders, such as depression and anxiety, altered sleep, chronic widespread pain, and impaired coping skills.

TABLE 2

Criteria for Classification of Osteoarthritis in Different Joints[10]

Knee	Hand	Hip
Knee pain Plus ≥5 of the following • Age >50 years • Joint stiffness <30 minutes • Crepitus • Bony tenderness • Bony enlargement • No palpable warmth • ESR <40 mm/hour • RF <1:40 • Synovial fluid clear, viscous, or white blood cell count <2,000/mm^3	Hand pain, aching, or stiffness Plus ≥3 of the following • Hard tissue enlargement of ≥2 of 10 selected joints* • Hard tissue enlargement of ≥2 distal interphalangeal joints • <3 swollen metacarpophalangeal joints • Deformity of ≥1 of 10 selected joints*	Hip pain Plus ≥2 of the following • ESR <20 mm/hour • Osteophytes (femoral or acetabular) • Joint space narrowing • (superior, axial, and/or medial)

* Selected joints include 1st carpometacarpal and 2nd and 3rd distal and proximal interphalangeal joints of each hand.

STEP 1: ASSESS SYMPTOMS CONT.

STEP 1: ASSESS SYMPTOMS

TABLE 3

SYMPTOMS OR CIRCUMSTANCES REQUIRING REFERRAL (RED FLAGS)[2,3]
Recent significant trauma
Acute severe pain
Rapid worsening of symptoms
Minor trauma in elderly or osteoporotic patients (possible fracture)
Fever or other signs of infection (hot swollen joint)
Presence of rash
Local or diffuse muscle weakness
Symptoms of burning, numbness or tingling (possible neurogenic pain)
Inflammation of the joints and/or morning stiffness lasting more than 30 minutes (possible rheumatoid arthritis)
Detect potentially problematic joint pain and refer for timely medical review, appropriate exercise (e.g. physiotherapists) and/or weight loss specialists (e.g. dietitians) and, where appropriate, refer to podiatrists for assistance with lower limb joint pain problems.

STEP 2:
IDENTIFY TREATMENT CONSIDERATIONS

TABLE 4

QUESTIONS TO ASK TO CUSTOMIZE OSTEOARTHRITIS TREATMENT
• Are you taking any medication, both prescribed and over the counter? If yes, what are those and what is the dose? • Do you have any medical conditions? • What have you used before for your OA pain? • What are the aggravating or relieving factors?

TABLE 5

MEDICATIONS TO USE WITH CAUTION WITH PARACETAMOL/ORAL NSAIDS[4,11,12]

Concern	Potential drug interaction
Increased risk of bleeding with oral NSAIDs	• Some Selective-Serotonin Reuptake Inhibitors (SSRI) • Some tricyclic antidepressants • Acetylsalicylic acid (ASA) • Corticosteroids • Warfarin • Ginkgo biloba
Decreased antihypertensive efficacy with oral NSAIDs	• Angiotensin converting enzyme (ACE) inhibitors • Angiotensin II receptor blockers (ARB) • Diuretics • Beta-blockers
Increased drug levels with oral NSAIDs	• Lithium • Methotrexate
Increased risk of paracetamol toxicity	• Epilepsy medications (e.g. carbamazepine) • Other P450 enzyme inducers (e.g. isoniazid, rifampin) • Alcohol

STEP 2:
IDENTIFY TREATMENT CONSIDERATIONS

TABLE 6

CONSIDERATIONS WHEN SELECTING ANALGESICS IN PATIENTS WITH COMORBIDITIES[4-8]

Comorbidity	Notes
Chronic kidney disease	• NSAIDs have proven nephrotoxic class effects and should be avoided where possible in patients with symptoms of renal impairment • Paracetamol is the preferred first-line analgesic for episodic treatment of mild pain in patients with renal dysfunction, CKD, and/or requiring dialysis. However, dose minimization may sometimes be warranted (maximum of 3 g/day has been recommended for patients with advanced kidney failure)
Liver disease	• NSAIDs- NSAIDs can cause acute liver injury with variable severity. • Paracetamol: Not contraindicated in liver disease. Can cause liver toxicity if taken in large amounts.
Peptic-ulcer disease	• Chronic NSAID drug use is associated with potentially serious upper gastrointestinal adverse drug reactions including peptic ulcer disease and gastrointestinal bleeding. • Paracetamol – Lesser risk of adverse effects compared to NSAIDs
Cardiovascular disease	• All non-aspirin NSAIDs may be associated with a potential increase in CV thrombotic risk. • NSAIDs are contraindicated in patients who have undergone coronary artery bypass graft surgery • Use of paracetamol at recommended doses is not associated with any additional risk of major CV events.

TABLE 7

QUESTIONS TO ASK TO ABOUT PREVIOUS TREATMENT

- What have you used before to treat your OA pain?
  - What dose did you use?
  - Was it effective?
  - Did you have any side effects from it?
- Do you have any preference for any specific treatment?

STEP 3: RECOMMEND TREATMENT

TABLE 8

NON-PHARMACOLOGICAL RECOMMENDATIONS FOR OSTEOARTHRITIS PAIN[1,9,13]	
Therapeutic exercise	For all people with osteoarthritis, offer therapeutic exercise tailored to their needs (for example, local muscle strengthening, walking as an aerobic exercise).

	• Consider supervised therapeutic exercise sessions for people with osteoarthritis. (e.g., supervised cycling)
	• Advise people with osteoarthritis that joint pain may increase when they start therapeutic exercise. Explain that:
	  ○ Doing regular and consistent exercise, even though this may initially cause pain or discomfort, will be beneficial for their joints
	  ○ Long-term adherence to an exercise plan increases its benefits by reducing pain and increasing functioning and quality of life.

Weight management (for overweight and obese individuals)	• Advise them that weight loss will improve their quality of life and physical function, and reduce pain • Support them to choose a weight loss goal (at least loss of ≥5% of body weight for clinical outcomes)
Devices	• Cane use is strongly recommended for patients with knee and/or hip OA in whom disease in 1 or more joints is causing a sufficiently large impact on ambulation, joint stability, or pain to warrant use of an assistive device. • Tibiofemoral knee braces are strongly recommended for patients with knee OA in whom disease in 1 or both knees is causing a sufficiently large impact on ambulation, joint stability, or pain to warrant use of an assistive device, and who are able to tolerate the associated inconvenience and burden associated with bracing. • For people with hip or knee OA, consider walking aids, appropriate footwear, assistive devices and adaptations at home and at work to reduce pain and increase participation.

TABLE 8 CONT.

STEP 3: RECOMMEND TREATMENT

→ TABLE 8 CONT.

NON-PHARMACOLOGICAL RECOMMENDATIONS FOR OSTEOARTHRITIS PAIN[1,9,13]	
Self-efficacy and self-management programs	Strongly recommended for patients with knee, hip, and/or hand OA. (Includes multidisciplinary group–based format combining sessions on skill-building (goal-setting, problem-solving, positive thinking), education about the disease and about medication effects and side effects, joint protection measures, and fitness and exercise goals and approaches)
Tai chi (Traditional Chinese mind-body practice that combines meditation with slow, gentle, graceful movements, deep diaphragmatic breathing, and relaxation)	Strongly recommended for patients with knee and/or hip OA.
Hand orthoses (Orthosis provides support and protection for joints or parts of the body.)	Strongly recommended for patients with first carpometacarpal (CMC) joint OA.

STEP 3: RECOMMEND TREATMENT

TABLE 9

RECOMMENDATIONS FOR THE PHARMACOLOGIC MANAGEMENT OF OSTEOARTHRITIS OF THE HAND, KNEE, AND HIP[1,9,14-16]

INTERVENTION	HAND	KNEE	HIP	COMMENTS
Topical NSAIDs (Diclofenac is applied topically 2-4 times/day and is available OTC as a 1% gel formulation and by prescription as a cream (2.5%) and solution (1.5%, 2%).	Conditionally recommended	Strongly recommended	-	Topical NSAIDs take a minimum of 1 to 2 weeks for action. Most common adverse events: Local skin reactions. (minor and transient)
Topical Capsaicin (3-4 times/day and may take 2 or more weeks to reach maximal efficacy)	-	Conditionally recommended	-	Predominant side effect is burning upon application and skin irritation, which may lead to discontinuation.
Oral non-steroidal anti-inflammatory drugs (NSAIDs) Ibuprofen Naproxen Diclofenac Meloxicam Celecoxib	Strongly recommended	Strongly recommended (For individuals with GI comorbidities, selective COX-2 inhibitors and non-selective NSAIDs in combination with a PPI are conditionally recommended)	Strongly recommended	Potential for gastrointestinal, renal, liver and cardiovascular toxicity limits their use in certain patient populations. Strong caution should be used when recommending oral NSAIDs for elderly patients and those with a history significant for reduced kidney function, impaired liver function, CV conditions (e.g., hypertension, stroke, heart failure, etc.), or GI ulcers, or those taking anticoagulant or antiplatelet medications

TABLE 9 CONT.

STEP 3: RECOMMEND TREATMENT

TABLE 9 CONT.

Paracetamol (325 – 650 mg) (Maximum dosage of 3-4gm daily in divided doses)	Conditionally recommended	Conditionally recommended	Conditionally recommended	Recommended by EUKAR guidelines as preferred long term oral analgesic.
				Drug of choice for patients unable to take NSAIDs. To be avoided in patients with acute or chronic liver disease
Duloxetine (To be initiated at 30 mg once daily for the first week, then increased to the maximum dosage of 60 mg once daily)	Conditionally recommended	Conditionally recommended	Conditionally recommended	Common side effects include headache, constipation, and dry mouth
Tramadol (25 to 50 mg every 6 hours as needed, to a maximum of 400mg daily.)	Conditionally recommended	Conditionally recommended	Conditionally recommended	Often accompanied by a number of intolerable side effects, such as constipation, dizziness, and headaches. Has abuse potential.
Glucosamine and Chondroitin (800 mg)	Chondroitin-conditionally recommended. Glucosamine not recommended	Both strongly not recommended	Both strongly not recommended	
Intraarticular glucocorticoid injection	Conditionally recommended	Strongly recommended	Strongly recommended	Generally reserved as last-line therapy options due to the invasive nature and side effects.
Intraarticular hyaluronic injection	-	-	-	
Intraarticular steroids	Conditionally recommended	Strongly recommended	Strongly recommended	

REFERENCES

1. Kolasinski SL, Neogi T, Hochberg MC et al. American College of Rheumatology/Arthritis Foundation Guideline for the Management of Osteoarthritis of the Hand, Hip, and Knee. Arthritis Care Res (Hoboken). 2020 Feb;72(2):149-162. doi: 10.1002/acr.24131
2. Kielly J, Davis EM, Marra C. Practice guidelines for pharmacists: The management of osteoarthritis. Can Pharm J (Ott). 2017 May 1;150(3):156-168. doi: 10.1177/1715163517702168.
3. Elizabeth Cottrell et al. Appropriate community pharmacy management of joint pain. The Pharmaceutical Journal. 26 August 2021.
4. Moore N, Pollack C, Butkerait P. Adverse drug reactions and drug-drug interactions with over-the-counter NSAIDs. Ther Clin Risk Manag. 2015 Jul 15; 11:1061-75
5. John Alchin, Arti Dhar, Kamran Siddiqui & Paul J. Christo (2022) Why paracetamol (acetaminophen) is a suitable first choice for treating mild to moderate acute pain in adults with liver, kidney or cardiovascular disease, gastrointestinal disorders, asthma, or who are older, Current Medical Research and Opinion, 38:5, 811-825, DOI: 10.1080/03007995.2022.2049551
6. Meunier L, Larrey D. Recent Advances in Hepatotoxicity of Non-Steroidal Anti-Inflammatory Drugs. Ann Hepatol. 2018 Mar 1;17(2):187-191.
7. McEvoy L, Carr DF, Pirmohamed M. Pharmacogenomics of NSAID-Induced Upper Gastrointestinal Toxicity. Front Pharmacol. 2021 Jun 21; 12:684162.
8. Ghlichloo I, Gerriets V. Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) [Updated 2023 May 1]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK547742/. Accessed December 2023
9. Osteoarthritis in over 16s: diagnosis and management. London: National Institute for Health and Care Excellence (NICE); 2022 Oct 19. (NICE Guideline, No. 226.) Available from: https://www.ncbi.nlm.nih.gov/books/NBK588843/. Accessed on 24th January 2024.
10. Scott, D. (2006). Osteoarthritis and rheumatoid arthritis- Clinical focus.
11. Vostinaru O. Adverse Effects and Drug Interactions of the Non-Steroidal Anti-Inflammatory Drugs [Internet]. Nonsteroidal Anti-Inflammatory Drugs. InTech; 2017. Available from: http://dx.doi.org/10.5772/intechopen.68198. Accessed December 2023.
12. Agrawal S, Khazaeni B. Acetaminophen Toxicity. [Updated 2023 Jun 9]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK441917/.
13. Moseng T, Vliet Vlieland TPM, Battista S, et al. EULAR recommendations for the non-pharmacological core management of hip and knee osteoarthritis: 2023 update. Ann Rheum Dis. 2024 Jan 11: ard-2023-225041. doi: 10.1136/ard-2023-225041.
14. Celeste VanAtta et al. Guiding Osteoarthritis Management. US Pharm. 2023;48(3):17-21.
15. Bannuru RR, Osani MC, Vaysbrot EE et al. OARSI guidelines for the non-surgical management of knee, hip, and polyarticular osteoarthritis. Osteoarthritis Cartilage. 2019 Nov;27(11):1578-1589. doi: 10.1016/j.joca.2019.06.011.
16. Zhang W, Doherty M. EULAR recommendations for knee and hip osteoarthritis: a critique of the methodology. Br J Sports Med. 2006 Aug;40(8):664-9. doi: 10.1136/bjsm.2004.016840.