March 2024

Michigan Quality Improvement Consortium Guideline

Medical Management of Adults with Osteoarthritis

The following guideline recommends initial evaluation, nonpharmacologic and pharmacologic interventions for the management of osteoarthritis.

Eligible Population	Key Components	Recommendation and Level of Evidence
Adults with clinical suspicion or confirmed diagnosis of osteoarthritis	Initial evaluation	Detailed history (aspirin and other anti-platelet use, pain control with over-the-counter medications, narcotic use, activity tolerance and limitations) Physical examination, with emphasis on musculoskeletal examination Assess gastrointestinal (GI) risk: - History of GI bleeding - History of peptic ulcer disease and/or non-steroidal induced GI symptoms - Concomitant use of corticosteroids and/or warfarin **[A]** - High dose, chronic, or multiple NSAIDs including aspirin - Age > 60 years Assess behavioral health status including depression, sleep disturbance, and/or chronic pain syndrome.Consider racial equity and social determinants of health impact.[1]
	Non-pharmacologic modalities	Multi-faceted individualized treatment plan should include: - Education and counseling regarding weight reduction and joint protection - Range-of-motion **[B]**, aerobic and muscle strengthening exercises, aquatic exercises - For patients with functional limitations, consider physical and occupational therapy, manual medicine - Self-management resources (e.g., American Arthritis Foundation self-help tools and resources) Improved sleep hygiene may decrease perception of pain. Assistive devices for ambulation and activities of daily living for select patients.
	Pharmacologic Therapy	
		Initial drug of choice should be individualized based on age, comorbidities and affected joints.[2] Avoid use of opioids including tramadol. If used, limit to 72 hours. Consider acetaminophen at minimum effective dose, lower dose for patients with risk factors for hepatic toxicity (alcohol, drug interactions). Warn patients that many over-the-counter products and prescription analgesics contain acetaminophen and to monitor total dose carefully. Maximum dose from all sources 3 g/d. Other alternatives: Nonacetylated salicylate, intra-articular drugs (glucocorticoids, anesthetics), pain-modulating SSRI (venlafaxine, duloxetine), topical preparations, e.g. NSAIDs (e.g. diclofenac), methyl salicylate, or capsaicin [with one or a few joints affected, especially knee[3] and/or hand]). Note: some prescription topicals may be costly. Consider NSAID, based on risk. Add proton-pump inhibitor[4] if on aspirin. **If high GI risk:** NSAID plus PPI[4]. If NSAID not tolerated, Cyclo-oxygenase-2 (COX-2) selective inhibitor. For those with prior GI bleed **avoid all NSAIDs/COX-2. If must use, then COX-2 plus proton-pump inhibitor[4]. [D]**
		NSAID analgesics: Use with caution in patients with HTN, CKD and stable CV disorders only when the individual clinical benefit outweighs the cardiovascular or renal risk. If aspirin is used daily, COX-2 offers no advantage over NSAID.
		Surgery is typically reserved for severe osteoarthritis (OA) that significantly limits activities and conservative therapies have failed to provide adequate pain relief. **Note:** Increased risk of unfavorable pain outcome after surgery if presence of preoperative levels of pain, presence of comorbidities and depression, and presence of concomitant pain at other joints.[5]

[1]Thirukumaran CP, Rosenthal MB. The Triple Aim for Payment Reform in Joint Replacement Surgery: Quality, Spending, and Disparity Reduction. JAMA. 2021;326(6):477–478. doi:10.1001/jama.2021.12070
[2]2019 American College of Rheumatology/Arthritis Foundation Guideline for the Management of Osteoarthritis of the Hand, Hip, and Knee
[3]Osteoarthritis Management: Updated Guidelines from the American College of Rheumatology and Arthritis Foundation - Practice Guidelines - American Family Physician (aafp.org)
[4]Misoprostol at full dose (200 µg four times a day) may be substituted for proton-pump inhibitor.
[5]UpToDate: Overview of the management of osteoarthritis. Last updated April 20, 2023

Levels of Evidence for the most significant recommendations: A = randomized controlled trials; B = controlled trials, no randomization; C = observational studies; D = opinion of expert panel

This guideline lists core management steps and is based on: VA/DoD Clinical Practice Guideline for the Non-Surgical Management of Hip and Knee Osteoarthritis, Version 1.0 - 2014; American Academy of Orthopaedic Surgeons clinical practice guideline on the treatment of osteoarthritis of the knee, 2nd ed. 2013 May 18. And 2019 American College of Rheumatology/Arthritis Foundation Guideline for the Management of Osteoarthritis of the Hand, Hip, and Knee - Kolasinski - 2020 Individual patient considerations and advances in medical science may supersede or modify these recommendations.