# Medical Management of Adults with Osteoarthritis

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

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<th>Eligible Population</th>
<th>Key Components</th>
<th>Recommendation and Level of Evidence</th>
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| 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 |

| 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. |

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<th>Pharmacologic Therapy</th>
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| Initial drug of choice should be individualized based on age, comorbidities and affected joints.  
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 toxicity (hepatic toxicity risk factors, aspirin, warfarin)¹. Warn patients that many over-the-counter products and prescription analgesics contain acetaminophen and to monitor total dose carefully.  
Other alternatives:  
- Nonacetylated salicylate, intra-articular drugs (glucocorticoids, anesthetics), pain-modulating SSRI (venlafaxine, duloxetine), topical preparations (methyl salicylate, diclofenac, or capsaicin). Prescription topicals are costly.  
Consider NSAID, based on risk. Add proton-pump inhibitor² if on aspirin.  
If high GI risk:  
- NSAID plus PPI². 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 inhibitor². [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. |

¹Maximum recommended acetaminophen dose from all sources 2-4 g/d.  
²Misoprostol at full dose (200 µg four times a day) may be substituted for proton-pump inhibitor.

### 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. Individual patient considerations and advances in medical science may supersede or modify these recommendations.