

# VA/DoD Clinical Practice Guideline

## Non-Surgical Management of Hip and Knee Osteoarthritis

### Medication Tables



VA/DoD CLINICAL PRACTICE GUIDELINE FOR THE NON-SURGICAL MANAGEMENT OF HIP & KNEE OSTEOARTHRITIS

**Considerations when initiating a NSAID (COX-2 selective inhibitor or Nonselective NSAID)**

Patient Characteristics	No/Low GI Complication Risk	High GI Complication Risk
No history or no sufficient risk for Cardiovascular or Cerebrovascular Disease (And not receiving low-dose ASA)	Nonselective NSAID (ibuprofen, naproxen, etc.)*	If possible, consider other treatment modalities. NSAID or salsalate <sup>a</sup> + PPI or misoprostol Hospital admission for UGI bleeding (Very high risk): Celecoxib + PPI
History of or sufficient risk for Cardiovascular or Cerebrovascular Disease (On ASA or consider adding ASA)	If possible, consider other treatment modalities. Nonselective NSAID (naproxen)	If possible, consider other treatment modalities. Nonselective NSAID (naproxen) plus a PPI or misoprostol

\*Generic nonselective NSAID, Adapted from Fendrick 2004, and Scheiman and Fendrick 2005.

**List of Pharmacologic Agents and their Selected Characteristics\*+**

Generic Name	Brand	Usual Starting Dose	Max Single Dose	Frequency	Notes
<b>COX-2 selective NSAIDs:<sup>a</sup></b>					
Celecoxib	CELEBREX	100-200 mg	200 mg	once or twice daily	Max 200 mg/day for OA
<b>Partially selective NSAIDs:<sup>a</sup></b>					
Etodolac	generic only/XR	200 mg	400 mg	2-4 times daily	XR up to 1200/daily
Meloxicam	MOBIC/generics	7.5 mg	15 mg	once daily	Max dose is 15 mg daily
Nabumetone	generic only	1000 mg	2000 mg	once daily	May divide twice daily. Max dose is 2000 mg daily
<b>Non-aspirin, nonselective NSAIDs:<sup>a</sup></b>					
Diclofenac potassium/sodium	generics	50 mg	75 mg	2-3 times daily	Max total daily dose is 150 mg. May divide up to 3 times daily
Diclofenac sodium	VOLTAREN XR	100 mg	100 mg	once daily	Max dose is 100 mg daily
Diflunisal	generic only	250 mg	750 mg	twice daily	Max dose is 1500 mg daily
Fenoprofen	NALFON/generics	300 mg	600 mg	3-4 times daily	Higher renal risk. Total daily dose should not exceed 3,200 mg
Flurbiprofen	ANSAID/generics	50-100 mg	100 mg	twice daily	Max daily dose is 300 mg
Ibuprofen	generics	400 mg	800 mg	3-4 times daily	Max dose in chronic pain is 2400 mg daily
Indomethacin	INDOCIN/SR/generics	25-50 mg (IR) 75 mg (SR)	50 mg 75 mg	2-3 times daily 1-2 times daily	May divide up to 4 times daily (IR). Max dose is 150 mg daily
Ketoprofen IR	generic only	50 mg	75 mg	3 or 4 times daily	Max dose is 300 mg daily
Ketoprofen ER	generic only	200 mg		once daily	
Meclofenamate sodium	generic only	50 mg	100 mg	4 times daily	May give 3 times daily. Max dose is 400 mg daily

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Generic Name	Brand	Usual Starting Dose	Max Single Dose	Frequency	Notes
Naproxen/-EC	NAPROSYN/generics	250 mg	500 mg	twice daily	Max dose in chronic pain is 1000 mg daily
Naproxen Sodium	ANAPROX/generics	275 mg	550 mg	twice daily	Max dose in chronic pain is 1100 mg daily
Oxaprozin	DAYPRO/generics	1200 mg	1800 mg	once daily	Max dose is 26 mg/kg up to 1800 mg, whichever is lower
Piroxicam	FELDENE/generics	10 mg	20 mg	once daily	Max dose is 20 mg daily. May divide twice daily
Sulindac	CLINORIL/generics	150 mg	200 mg	twice daily	Max dose is 400 mg daily
Tolmetin	generic only	400-600 mg	600 mg	3 times daily	Max dose is 1800 mg daily
<b>Aspirin and Salsalate</b>					
Aspirin	several	1000 mg	1000 mg	3 times daily	May increase to 4 times daily Max dose is 4000 mg daily
Salsalate	several	500 mg-750 mg	1000 mg	2-3 times daily	May increase to 3 times daily Max dose is 3000 mg daily
<b>Acetaminophen and Supplements</b>					
Acetaminophen	several	650 mg	1300 mg	3-4 times daily (Max dose 2-4 grams daily, depending upon the patient)	Max 3000-4000 mg/day Consider lower total daily doses (e.g., 2-3 grams) in elderly patients or in those with heavy use of alcohol The total daily dose of acetaminophen from all sources (single and multiple ingredient products) must not exceed 4000 mg/day
Chondroitin	several	400 mg		3 times daily	Large variation in delivered dose Not recommended due to lack of evidence showing benefit
Glucosamine	several	500 mg		3 times daily	Large variation in delivered dose Not recommended due to lack of evidence showing benefit
<b>Topical Therapies</b>					
Capsaicin	generics	--	--	Apply 3-4 times daily	Patients may experience burning/tingling sensation in the first few days of use. Instruct patients to wash their hands with soap and water after application.
Diclofenac	Pennsaid	40 drops	40 drops	4 times daily	Local skin irritation
Diclofenac	Flector	1 patch (180 mg)	1 patch (180mg)	twice daily	Not FDA approved for OA Local skin irritation
Diclofenac	Solaraze	--	--	twice daily	Local skin irritation
<b>Other Therapies</b>					

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Generic Name	Brand	Usual Starting Dose	Max Single Dose	Frequency	Notes
Duloxetine	Cymbalta/ generics	30 mg for 1 week, increase to 60 mg once daily	60 mg	Once daily	Max dose is 60 mg daily. Higher doses are not associated with improved outcomes but a higher rate of adverse events is reported Avoid in end-stage renal disease or CrCl <30 ml/min or in patients with substantial alcohol intake Refer to prescribing information for other details including contraindications, drug-drug interactions, warnings and precautions and adverse events.
Tramadol (IR)	generics	25-50 mg	100 mg	Every 4-6 hours Max daily dose 400 mg	For patients not requiring rapid onset of pain relief, initiate dosing at 25 mg 4 times daily, increasing by 25 mg every 3 days until reaching 25 mg 4 times daily, and so on. When combined with certain drugs or in those patients with a history of seizure disorder, tramadol may increase the risk of seizures.

Hyaluronate/Hylan Injections: Treatment Course (Each injection is given at weekly intervals)			
Hyaluronate/Hylan	Frequency	Volume	Notes
Euflexxa	3 weekly; repeat approved	2.0 ml	---
Gel-One	Single injection	3.0 ml	Caution in those with avian allergy
Hyalgan	3 or 5 weekly	2.0 ml	Caution in those with avian allergy
Orthovisc	3 to 4 weekly	2.0 ml	---
Supartz	3 or 5 weekly	2.5 ml	Caution in those with avian allergy
Synvisc	3 weekly	2.0 ml	Caution in those with avian allergy
Synvisc-One	Single injection	6.0 ml	Caution in those with avian allergy

\*Refer to VA or DoD formularies for availability of agents or comparable agents. The list of available formulations may not be all-inclusive or may change with time as will generic availability. +For additional details on warnings and precautions, drug-drug interactions, etc., refer to the prescribing information for the individual agents of interest.

<sup>a</sup>All NSAIDs have the potential to increase the risk for cardiovascular (CV) events and therefore should be used at the lowest effective dose for the shortest possible duration. Naproxen has a neutral or lowest risk for adverse CV events. Use with caution or avoid use of NSAIDs in patients with renal impairment, history of gastrointestinal bleeding, uncontrolled hypertension, congestive heart failure, advanced liver diseases, known cardiovascular disease, patients receiving anticoagulants, etc.