

Table 13.1 Step 1 Medications Used to Treat Mild Pain

Medication	Indications	Dosing	Side effects affecting rehab	Other side effects or considerations	Drug interactions
Acetaminophen					
Acetaminophen (Tylenol)	Reduces fever, relieves pain.	650 mg every 4-6 h. Maximum dose of 3000 mg/day.	Cog: 0 S: 0 A: 0 Motor: 0 D: 0 Com: 0 F: 0	Hepatotoxicity with daily doses >3000 mg/day. Chronic overuse or overdose can cause hepatic necrosis with associated abdominal pain, jaundice, coagulopathy, encephalopathy, nausea, vomiting, renal failure, or death.	Avoid use in patients with hepatic disease. Do not take with combination products containing acetaminophen (Percocet, Lortab, Norco, Ultracet).
NSAID nonselective inhibitors of cyclo-oxygenase 1 and 2					
Diclofenac (Voltaren, Cataflam EC, Voltaren XR) Combined with misoprostol to protect gastrointestinal tract. Arthrotec: 50/200 mg, 75/200 mg	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	Adults and children ≥ 12 yr: 25-75 mg in 1-2 divided doses. XR: 100 mg/day. Children <12 yr: 2-3 mg/kg by mouth/day in 2-4 divided doses.	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Diflunisal (Dolobid)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	500 mg twice/day.	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Etodolac (Lodine, Lodine XL)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	200-500 mg 2-3 times/day.	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Fenoprofen (Nalfon)	Reduces fever and inflammation, relieves pain. Reversible inhibition of	200-600 mg 4 times/day.	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin.

From L. Carl, J. Gallo, and P. Johnson, 2014, *Practical Pharmacology in Rehabilitation: Effect of Medication on Therapy* (Champaign, IL: Human Kinetics).

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	platelet aggregation with NSAIDs lasts 1-3 days.		F: +	retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Antagonizes effects of antihypertensives.
Flurbiprofen (Ansaid)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	50-100 mg in 1-2 divided doses.	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Ibuprofen (Motrin, Advil)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	Adults: 200-800 mg up to 4 times/day. Children: 30-50 mg/kg by mouth/day in 4 divided doses; maximum dose of 2.4 g/day.	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Indomethacin (Indocin, Indocin SR)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	Adults: 25-50 mg twice/day. SR: 75 mg once/day. Children: 1-2 mg/kg by mouth/day in 2-4 divided doses; maximum dose of 4 mg/kg/day or 150-200 mg/day.	Cog: ++ S: 0 A: 0 Motor: 0 D: ++ Com: + F: ++	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Ketoprofen (Orudis)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	12.5-75 2-3 times/day.	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Ketorolac (Toradol)	Reduces fever and inflammation, relieves pain.	Oral: 10 mg every 6 h for a maximum of 5 days.	Cog: + S: 0 A: 0 Motor: 0	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin).

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Medication	Indications	Dosing	Side effects affecting rehab	Other side effects or considerations	Drug interactions
	Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	Intravenous or intramuscular: 15-30 mg every 6 h for maximum of 5 days.	D: ++ Com: + F: +	hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Do not combine with aspirin. Antagonizes effects of antihypertensives.
Meclofenamate (Meclomen)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	50-100 mg 4 times/day.	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Mefenamic acid (Ponstel)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	250 mg 2-3 times/day.	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Meloxicam (Mobic)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	Adults: 7.5 mg once or twice/day. Children ≥ 2 yr: 0.125 mg/kg by mouth/day; maximum dose of 7.5 mg/day.	Cog: + S: 0 A: 0 Motor: 0 D: + Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Nabumetone (Relafen)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	500-750 mg 2-3 times/day.	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Naproxen (Aleve, Naprosyn) Naproxen sodium (Anaprox,	Reduces fever and inflammation, relieves pain. Reversible inhibition of	Adults: 375-500 mg every 8 h. Children: 7-20 mg/kg by mouth/day in	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin.

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Naprelan—sustained release)	platelet aggregation with NSAIDs lasts 1-3 days.	2-3 divided doses; maximum dose of 1 g/day.	F: +	retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Antagonizes effects of antihypertensives.
Oxaprozin (Daypro)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	600 mg once/day.	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Piroxicam (Feldene)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	10-20 mg once/day.	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Sulindac (Clinoril)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	150-200 mg 2-3 times/day.	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.
Tolmetin (Tolectin)	Reduces fever and inflammation, relieves pain. Reversible inhibition of platelet aggregation with NSAIDs lasts 1-3 days.	Adults: 600-1800 mg/day in 3 divided doses. Children <2 yr: Not established. Children ≥2 yr: Start at 20 mg/kg by mouth/day in 3-4 divided doses and increase to 15-	Cog: + S: 0 A: 0 Motor: 0 D: ++ Com: + F: +	Gastrointestinal upset, dyspepsia, xerostomia, oral ulceration, glossitis, gastrointestinal mucosal hemorrhage, abrupt acute renal insufficiency, fluid retention, worsening of congestive heart failure, memory loss, confusion, dizziness, headache.	Increased bleeding risk when used with oral anticoagulant warfarin (Coumadin). Do not combine with aspirin. Antagonizes effects of antihypertensives.

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		30 mg/kg/day; maximum dose of 30 mg/kg/day.			

Cog = cognition; S = sedation; A = agitation or mania; Motor = discoordination; D = dysphagia; Com = communication; F = falls; NSAID = nonsteroidal anti-inflammatory drug; EC = enteric coated.

The likelihood rating scale for encountering the side effects is as follows: 0 = Almost no probability of encountering side effects. + = Little likelihood of encountering side effects. +/+ = Low probability of encountering side effects; however, probability increases with increased dosage. ++ = Medium likelihood of encountering side effects. +++ = High likelihood of encountering side effects, particularly with high doses. ++++ = Highest likelihood of encountering side effects; best to avoid in at-risk patients.