

Non-Opioid Pain Management Tool by Jeremy Biggs MD MSPH

Area/Type of Pain	Treatment Options (Strongest Recommendations listed first)	When to Initiate	Population	Duration/Indication of Treatment	Cautions/MISC
Back Pain <4 weeks	Directed Exercise Program 1, 2, 3, 4, 5, 6	Within 7-10 days of injury	All ages	Life long	Consider co morbidities
	Controlled Weight Loss 2	Immediately	All ages	Life long	Consider co morbidities
	Ice/Heat 2, 4, 6, 7	During the first 1-4 days	All ages	Most effective in first 1-3 days	Consider co morbidities
	Acetaminophen up to 4 g/day 1, 2, 4, 6, 8, 9	Immediately	Adults	Can be long term	Consider co morbidities
	Physical therapy 4, 6, 10, 11	After 3 weeks of conservative therapy	Adults	1-2 visits	Consider co morbidities
	NSAIDs 2, 4, 6, 9, 12	Immediately (recommended to try Acetaminophen first)	Younger adults, without any CV, Renal or GI risk factors	Short term treatment	Consider co morbidities, no CV, renal or GI risk factors
	Muscle Relaxers 4, 9, 13	Immediately	Adults	Short term treatment	Significant side effects profile, use cautions in prescribing
	Cox-2 Inhibitors 1, 2	If unable to tolerate NSAIDs and failed Acetaminophen therapy	Adults , not to be used in people with any CV risk factors	Short term treatment	Consider co morbidities, no CV risk factors
	Back School 14, 15	After 1-2 weeks of conservative therapy	Adults	For length of program	This has shown to speed return to work, but not any significance in lowering of pain scores or duration of pain.
	Tramadol/acetaminophen 2	After failing acetaminophen for 1-2 weeks	Adults	Can be long term	Consider co morbidities
	Tramadol 2	After initial acetaminophen trial	Adults	Can be long term	Consider co morbidities
Back Pain >4 weeks	Manipulation 1, 4, 6, 16, 17, 18, 19	Most effective when used for pain <6 weeks of duration without radiculopathy	Adults	3-4 weeks of treatment has been studied. Up to 8 treatments.	Consider co morbidities, not shown to be better than other therapies. Not to be used with herniated disks
	Directed Exercise Program 1, 2, 3, 4, 5, 8, 18, 19	Immediately	Adults	Life Long	Consider co morbidities
	Yoga exercises (viniyoga) 20	Immediately	Adults	Life Long, studies for 12 weekly sessions	Has been shown to be as or more beneficial than exercise in some studies.
	Controlled Weight Loss 2	Immediately	Adults	Life Long	Consider co morbidities
	Acetaminophen up to 4 g/day 1, 2, 4, 8	Immediately	Adults	Can be long term	Consider co morbidities
NSAIDs 2, 4, 12	Immediately, recommend acetaminophen trial first. Some evidence that NSAIDs are equal with acetaminophen in chronic low back pain (21) Some	Adults with no CV, Renal or GI risk factors	Short term	Consider co morbidities, no CV, renal or GI risk factors	

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		evidence that it is superior at pain control. (22)			
	Muscle Relaxers 4, 13	Immediately	Adults	Short term treatment	Significant side effects profile, use cautions in prescribing, some studies did not show any benefit after 3-4 weeks of injury
	Cox-2 Inhibitors 1, 2	If unable to tolerate NSAIDs and no CV risk factors	Adults with no CV risk factors	Short term	Consider co morbidities, no CV risk factors
	Back School 14, 15, 18	After 1-2 weeks of conservative therapy	Adults	For length of program	This has shown to speed return to work, but not any significance in lowering of pain scores or duration of pain. Swedish Back School program was studied.
	Tricyclic antidepressants 9, 23	After 3-4 weeks and failing conservative therapy, acetaminophen	Adults	As long as deemed beneficial	Have significant side effects profile, consider co morbidities
	Tramadol/acetaminophen 2	After failing acetaminophen for 1-2 weeks	Adults	Can be long term	Consider co morbidities
	Tramadol 2	After failing acetaminophen trial, co administration with acetaminophen has been shown to have more favorable results	Adults	Can be long term	Consider co morbidities
	Injections, epidural/facet joints 24, 25	After failing conservative treatment	Adults	As long as beneficial, if effective often last 1-4 months in duration, can be used to help diagnosis and evaluate for additional treatment options	Choose population according to guidelines. There are conflicting opinions on efficacy
	Physical Therapy 10, 11	Recommend starting immediately	Adults	1-2 visits	Consider co morbidities
	Massage Therapy 26, 27, 28	Recommended in conjunction exercise and education	Adults	As long as beneficial has been shown to effective for up to one year, >5 visits shows better results, most studies showed results in 6-10 treatments	Some disagreement in literature, but done by licensed therapist found to be more effective
	Neuroreflexotherapy 29	Only in Chronic LBP	Adults	Undetermined	Preliminarily this has shown some effect. Requires lengthy training of practitioner to be considered effective
Neck Pain	Directed Exercise Program 1, 2, 3, 6, 30	Within 7-10 days of injury	All ages	Life long	Consider co morbidities, can add mechanical manipulation to an exercise program
	Acetaminophen 4g/day maximum 2, 6, 31	Immediately	Adults	Can be long term	Consider co morbidities

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	NSAIDs 6, 12, 31	Immediately (recommended to try Acetaminophen first)	Younger adults, without any CV, Renal or GI risk factors	Short term treatment	Consider co morbidities, no CV, renal or GI risk factors
	Physical Therapy 6	After 2 weeks of conservative treatment	Adults	1-2 visits for education, counseling of home exercise	Consider co morbidities
	Manipulation 6	Once more conservative measures fail	Adults	Best when combined with exercise	Consider co morbidities, rare instances of CVA
	IV methylprednisolone 31	Within 8 hours of injury for acute whiplash	Adults	One time treatment	Any contraindications to IV steroids.
	IM Lidocaine 31	Chronic neck pain with arm symptoms	Adults	Only a few treatments indicated	Consider co morbidities
	Muscle Relaxers 31	Immediately	Adults	Short term	Consider co morbidities
	Acupuncture 32	After failing exercise and/or acetaminophen/NSAIDs	Adults	Ideally 6 or more treatments, effects have been shown for short-term pain relief	Consider co morbidities
Headache	Directed exercise program 33	Immediately	Adults	When the HA is a result of a mechanical neck disorder	Consider co morbidities
	Acetaminophen 4g/day maximum 34	Immediately	Adults	Long term, has not been shown to be effective in migraines	Consider co morbidities
	NSAIDs 12, 35, 36	Immediately	Adults	Short term, shown to be effective in both migraine and non-migraine HAs	Consider co morbidities, not to be used with CV, renal or GI risk factors
	Triptans 36, 37	Use if unable to control HA with NSAIDs and or acetaminophen	Adults	Beneficial for migraine headaches. IM has been shown to be more effective than oral, but both are superior to placebo. Sumatriptan most studied	Consider co morbidities
	Excedrin 36	Immediately	Adults	Shown to be beneficial in Acute migraines	Consider co morbidities
	Amitriptyline 35	Immediately	Adults	Best for migraine headaches, can be started immediately	Monitor for side effects and complications of medication, can cause drowsiness
	Antidepressants (other TCAs, SNRIs, SSRIs) 38, 39	After failing conservative therapy	Adults	Migraine, tension, and mixed. Studies lasted 4-27 weeks	Independent of depression, SSRI least effective
	Antiemetics 36	With migraine associated nausea	Adults	Has been shown to help with pain and nausea with migraines	Consider co morbidities
	Anticonvulsants 40	After failing other therapies, for prevention	Adults	For prevention of migraine headache	Sodium valproate/divalproex sodium and topiramate are the best studied
	NSAIDs combined with metoclopramide 41	After failing acetaminophen	Adults	Migraine	Consider co morbidities, metoclopramide can cause dystonia. NNT 3.5
	DHE IM/SC/IV 36	After failing more conservative therapies	Adults	Have shown to help migraines, more effective in combination with antiemetics	Consider co morbidities
	Isometheptene 36	After failing more conservative	Adults	Found effective for mild-	Consider co morbidities

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		therapies		moderate migraine	
	Normal barometric oxygen therapy 42	Immediately	Adults	For use in Cluster Headaches	Unknown
	TENS 35	Immediately	Adults	Best for cervical tension headaches, mildly affective in some migraine headaches	Do not use in patients with pacemakers, cardiac conduction abnormalities, or over the carotid body or sinus
	Manipulation 35	Immediately	Adults	Best for tension, post-traumatic headache. Can be helpful in some migraine headaches	Choose population according to literature
	Acupuncture 43	As adjuvant treatment	Adults	Shown to be effective for both tension and migraine	Choose population according to literature, not effective for all
Osteoarthritis	Directed Exercise Program1, 2, 3, 6, 44	Within 7-10 days of injury	All ages	Life long	Consider co morbidities
	Controlled Weight Loss 2	Immediately	All ages	Life long	Consider co morbidities
	Acetaminophen 4g/day maximum 2, 8	Immediately first line	Adults	Can be long term	Consider co morbidities
	NSAIDs 2, 12	Immediately	Younger adults, without any CV, Renal or GI risk factors	Short term	Consider co morbidities, no CV, renal or GI risk factors
	Non-acetylated salicylates 2	Immediately	Adults	Short term	Consider co morbidities, watch for ototoxicity
	Topical capsaicin 2	Immediately	Adults	Short term	Consider co morbidities
	Intra-articular steroid injection 2, 45	Immediately	Adults	Can be long term, but if too long can consider joint replacement.	This should be considered first-line therapeutic intervention if OA is confined to a single joint.
	Cox-2 Inhibitors 1, 2	If unable to tolerate NSAIDs and failed Acetaminophen therapy	Adults , not to be used in people with any CV risk factors	Short term treatment	Consider co morbidities, no CV risk factors
	Diacerein 46, 47	After failing other therapies	Adults	Studies lasted 2 months to 3 years	Consider co morbidities, shown to have minimal pain relief
Acute Sports Injury	Ice/Heat 2	Immediately for first 1-4 days	All ages	For first 1-4 days	Instruct on timing to not cause tissue damage
	Acetaminophen 4g/day maximum 2	Immediately	Adults	Can be long term	Consider co morbidities
	NSAIDs 2, 12	Immediately, recommended to try acetaminophen first	Adults	Short term	Consider co morbidities
Neuropathic Pain	Acetaminophen 4g/day maximum 48	Immediately	Adults	Can be long term	Consider co morbidities
	Anticonvulsants 49, 50	After failing acetaminophen	Adults	Can be long term	Have a side effect profile that must be monitored. Carbamazepine and gabapentin found to most effective, some showing carbamazepine to be more

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					effective with lower NNT and higher NNH
	Systemic administration of local anesthetics 51	After failing acetaminophen	Adults	Undetermined	Can be as effective as anticonvulsants. Monitor for side effects
	Antidepressants 34, 52	After failing acetaminophen.	Adults	Can be long term, TCAs (amitriptyline) and Venlafaxine shown to be most effective. Not shown to be effective in HIV neuropathies	Monitor for side effects, follow black box warnings. Newer SSRIs have less evidence supporting their use in neuropathic pain
Post-Herpetic Pain	Anticonvulsants 49	Immediately	Adults	While symptoms last	Can cause drowsiness
Fibromyalgia	Supervised Aerobic/Strength training exercise 53, 54, 55	Immediately, for at least 20 minutes a day 3 times a week	All ages	Life long, most studies were conducted on average for 12 weeks, 3-24 weeks.	Consider co morbidities
	Cognitive Behavioral Therapy 54, 56	Immediately	Adults	Data showed results from 6-30 months	Works best as a multidisciplinary approach
	Amitriptyline 54, 57, 58	Immediately	Adults	While beneficial	Does have side effect profile, tolerance to effect can occur
	Cyclobenzaprine 54, 57	Typically is after exercise, acetaminophen and amitriptyline	Adults	While beneficial	Significant side effects
	Acupuncture 54, 59, 60	After exercise and amitriptyline	Adults	While beneficial	Mild/weak evidence
	Deep tissue massage 54	Immediately	Adults	While beneficial	Mild/weak evidence
	Fluoxetine 54	Typically start with exercise, acetaminophen, and amitriptyline first	Adults	While beneficial	Secondary to amitriptyline, can be used in conjunction with tricyclics
	Dual-reuptake inhibitors (SNRIs): 54	Immediately	Adults	While beneficial	Weaker evidence than previous medications
	Gabapentin 61	Immediately	Adults	While beneficial, studied over a 12 week period	Consider co morbidities
	Pregabalin 54, 62, 63	Immediately	Adults	While beneficial	Still under investigation, one study showing positive results
Dental Pain	Acetaminophen 64, 65	Immediately	All ages	As needed	Consider co morbidities
	NSAIDs 65	Immediately	Adults	As needed	Consider co morbidities
	Acupuncture 57, 66	Immediately postop	Adults	1-4 sessions	
Pelvic Pain (dysmenorrheal)	Directed exercise program 67	Immediately	All ages	Life long	Consider co morbidities
	Acetaminophen 68	During first 3 days of menstruation	Adults	While beneficial	Consider co morbidities
	NSAIDs 68, 69	During first 3 days of menstruation	Adults	While beneficial	Consider co morbidities
	Oral contraceptives 70	Immediately	Adults/Adolescents	While beneficial	Consider co morbidities, can be traditional or extended continuous cycle
	Acupuncture 71	Immediately	Adults	10 visits over 3 months	Consider co morbidities
	Chinese herbal medication 72	After other interventions	Adults	While beneficial	Not all interactions known

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					with other medications
Pelvic Pain (chronic pelvic pain)	Directed exercise program 73	Immediately	All ages	Life long	Consider co morbidities
	Medroxyprogesterone acetate 73	Immediately	Adults	Not found to be effected after 9 months	Consider co morbidities
	Goserelin 73	After failing more conservative therapies	Adults	As long as beneficial, cannot be taken longer than six months	Consider co morbidities, extensive side effects
Pelvic Pain (Endometriosis)	Danazol 74	After failing conservative therapy	Adults	For up to 6 months	Consider co morbidities, extensive side effects
	OCPs 75	Immediately	Adults	While beneficial	Consider co morbidities
	Goserelin 75	After failing more conservative therapies	Adults	While beneficial, cannot be taken for longer than six months	Consider co morbidities, extensive side effects

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