

5 Minute Consult: Adjuvant Pain Medications

Daniel Markwalter, MD; Reviewed by Tatianna Pollak, PharmD



Anti-Inflammatories

- NSAIDs (standard precautions apply)
- Ibuprofen 400-800 mg PO q6-8h
 - Ketorolac 15-30 mg IM/IV (avoid PO)
 - Naproxen 200-500 mg PO q6-12h
 - Celecoxib 200 mg PO BID
- Steroids (bone mets, ↑ ICP, nerve impingement, visceral inflammation)
- Dexamethasone 4-16+ mg PO/SC/IV per day (regimens vary)

Analgesic Adjuvants by Class



PalliEM

5 Minute Consult



Anti-Depressants

- TCAs
- Nortriptyline 10 mg PO qhs to start; fewer side effects than amitriptyline
 - Amitriptyline 10 mg PO qhs to start
- SNRIs
- Duloxetine 30-60 mg PO qd
 - Venlafaxine 37.5 mg PO qd to start (usually need >75-150 mg/d for effect)



Topical/Local Agents

- 4-5% lidocaine patches, gel, etc.
- 1% diclofenac gel QID (ketoprofen as alternative topical NSAID)
- 0.025-0.1% capsaicin TID
- 1-3% menthol
- Baclofen 10 mg, amitriptyline 40 mg, and ketamine 20 mg in a pluronic lecithin organogel (BAK-PLO)



Muscle Relaxants

- Most studied for low back pain; at best, short term relief with side effects; at worst, no benefit with side effects^{1,2}
- Cyclobenzaprine 5-10 mg PO TID
 - Tizanidine 2-4 mg PO q8-12h
 - Methocarbamol 1.5 g PO TID-QID; 1 g IM/SC/IV q8h
 - Baclofen 5-10 mg PO TID (withdraw risk)
 - Diazepam 2-5 mg PO/SC/IV qd-TID



Variable/Other Classes

- Acetaminophen 1000 mg PO q8h (max 2000 mg/d in liver disease); no known advantage to IV acetaminophen³
- Aspirin 325-1000 mg PO q4-6h (max 4000 mg/d)
- Gabapentin 100-300 mg PO qd-TID to begin; neuropathic agent
- Pregabalin 25 mg PO qd-TID to begin; neuropathic agent
- Several anti-epileptics have shown efficacy for specific indications (e.g. topiramate for migraine and carbamazepine or lamotrigine for trigeminal neuralgia)
- Bisphosphonates for cancer-related bone pain: zoledronate 4 mg IV over 15 min or pamidronate 90 mg IV over 2 hr; effect typically on the order of weeks; repeated q3-4wk; denosumab as alternative
- Ketamine 0.1-0.3 mg/kg IV is typical pain dose; infusion as option; PO, IN, topical, and nebulized options, among others
- Lidocaine 1-2 mg/kg IV as bolus loading dose; often infusion to follow; monitor for side effects; check local protocols

Pearls

- Pain is complex; **consider non-pharmacologic options** such as TENS, nerve blocks, trigger point injections, PT, heat/ice, repositioning/bracing, massage, relaxation, CBT, biofeedback, deep brain/spinal cord stimulators, and ablation
- Avoid tramadol due to innumerable side effects as well as risk of dependence⁴
- Anti-depressants are classically given in the setting of neuropathic pain but not limited to this
- Decision to start a muscle relaxant should be based on careful assessment of indications and patient risk (e.g. sedation)
- For cancer-related pain, radiation and chemotherapy may also provide relief

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1. Chou R, Deyo R, Friedly J, Skelly A, Weimer M, Fu R, Dana T, Kraegel P, Griffin J, Grusing S. Systemic pharmacologic therapies for low back pain: a systematic review for an American College of Physicians clinical practice guideline. *Annals of Internal Medicine*. 2017 Apr 4;166(7):480-92.
2. Friedman BW, Irizarry E, Solorzano C, Zias E, Pearlman S, Wollowitz A, Jones MP, Shah PD, Gallagher EJ. A randomized, placebo-controlled trial of ibuprofen plus metaxalone, tizanidine, or baclofen for acute low back pain. *Annals of Emergency Medicine*. 2019 Oct 1;74(4):512-20.
3. Furyk J, Levas D, Close B, Laspina K, Fitzpatrick M, Robinson K, Vangaveti VN, and Ray R. Intravenous versus oral paracetamol for acute pain in adults in the emergency department setting: a prospective, double-blind, double-dummy, randomised controlled trial. *Emergency Medicine Journal*. 2018 Mar;35(3):179-184.
4. Thiels CA, Habermann EB, Hooten WM, Jeffery MM. Chronic use of tramadol after acute pain episode: cohort study. *BMJ*. 2019 May 14;365.
5. Adapted from Gabbard J and Brooten J. *Adjuvant Pain Treatments*. 2019. Winston-Salem, NC.
6. Bodtke A and Ligon K. *Hospice and Palliative Medicine Handbook: A Clinical Guide*. 2016.
7. Icons from Saktianto Adhi Pambudi, IconMark, Greg Pabst, Bernar Novalyi, Grégory Montigny, and dDara of the Noun Project.