



Alternatives to Opioids (ALTO®)

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Acute Pain Protocols

Renal Colic^{7,11,15,17-19}

Intravenous lidocaine is indicated for the management of pain associated with suspected renal colic.

Contraindications-

Pregnancy

History of seizures, including isolated single seizure, and alcohol withdrawal seizure

History of severe cardiac disease- recent stent placement, severe structural or valvular heart disease, or significant arrhythmia

1. Ketorolac 15 mg IV x 1 if no prior NSAID use within 6 hours or other contraindications
2. Cardiac Lidocaine 1.5 mg/kg IV (MAX 200 mg) infused over 10 minutes via smart pump
3. Acetaminophen 1000 mg PO or IV if available
4. 1 L NS bolus if indicated as per physician

*The above medications should be administered together. Cardiac monitoring is recommended during and for 30 minutes post administration.

Musculoskeletal Pain (sprains, strains, or opiate naïve lower back pain)^{5,8,13,18,20-24}

1. Acetaminophen 1000 mg PO
2. Ibuprofen 400 mg PO OR Ketorolac 15 mg IV/IM
 - a. -OR- Flector patch 1.3% 1 patch to affected area
3. Muscle Relaxant (choose one of the following)
 - a. Cyclobenzaprine 5 mg PO (patients >65 years old OR <70 kg OR concerns for somnolence)
 - b. Cyclobenzaprine 10 mg PO (patients >70 kg)
 - c. Diazepam 5 mg PO
4. Lidoderm patch to most painful area, MAX 3 patches instruct patient to remove after 12 hours
 - a. For discharge prescribe Lidocaine 5% cream or ointment, apply TID
5. Trigger Point Injection with 1-2 mL of Bupivacaine 0.5% or Lidocaine 1%

*The above medications can be given together; trigger point injection is indicated for focal painful areas of muscle spasm.

Acute on Chronic Radicular LBP (opioid tolerant)^{1,5,13,18,20,21,25-29}

1. Acetaminophen 1000 mg PO
2. Ibuprofen 400 mg PO OR Ketorolac 15 mg IV/IM
 - a. -OR- Flector patch 1.3% apply to affected area if cannot tolerate PO/IV NSAIDs
3. Muscle Relaxant (choose one of the following)
 - a. Cyclobenzaprine 5 mg PO (patients >65 years old OR concerns for somnolence/fall risk)
 - b. Cyclobenzaprine 10 mg PO
 - c. Diazepam 5 mg PO (if patient is already taking cyclobenzaprine)
 - i. Do not discharge patient with Rx
4. Gabapentin (neuropathic component of pain)
 - a. 150 mg PO (reserved for frail or elderly patients with fall risk)
 - b. 300 mg PO
5. Lidoderm patch to most painful area, MAX 3 patches instruct patient to remove after 12 hours
 - a. For discharge prescribe Lidocaine 5% cream or ointment, apply TID or recommend OTC 4% patches
6. Trigger Point Injection with Bupivacaine 0.5% or Lidocaine 1% 1-2 mL
 - a. For focal areas of reproducible muscle spasm

*For severe or refractory pain consider

7. Ketamine 0.3 mg/kg IV infusion over 10 minutes (ketamine 100 mg/100 mL NS) on the pump
 - a. Ketamine 0.1 mg/kg/hour IV drip

*Medications can all be given together however, combining gabapentin and muscle relaxants may cause significant sedation, if combining use lowest dose of each, or choose one that most addresses pain.

Headache/Migraine^{3,4,6,9,12,1}

*****Start with-**

1. Metoclopramide 10 mg PO/IV
2. 1 L 0.9% NS bolus
3. Ibuprofen 400 mg PO Or Ketorolac 15 mg IM/IV
4. Acetaminophen 1000 mg PO
5. Cervical or Trapezius Trigger Point Injection with 1-2 mL Bupivacaine 0.5% or Lidocaine 1%

*****If <50% pain relief then**

6. Magnesium 1 gm IV over 60 minutes
7. Valproic Acid 500 mg IV over 20 mins
8. Dexamethasone 8 mg IV

*****If <50% pain relief then**

9. Haloperidol 2.5 -5 mg IM

OR at any point you can perform ***Sphenopalantine Ganglion Block***

1. Lidocaine 4% solution 0.5 mL per naris via mucosal atomizing device

Extremity Fracture or Joint Dislocation^{2,10,30-33}

1. Ketamine Intranasal 0.5 mg/kg (concentration 50 mg/mL)
 - a. MAX dose 50 mg; MAX volume per nare 1 mL
2. Nitrous Oxide titrate up to 70%
3. Acetaminophen 1000 mg PO
4. Ketorolac 15 mg IV x 1 if no prior NSAID use within 6 hours or other contraindications
5. Ultrasound Guided Regional Anesthesia
 - a. Joint Dislocation
 - i. Lidocaine 0.5 % peri-neural infiltration (MAX 5 mg/kg)
 - b. Extremity Fracture
 - i. Ropivacaine 0.5% peri-neural infiltration (MAX 3 mg/kg)

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