

WACEP Alternatives To Opioids Program

Statement of Purpose

A State in Crisis

The opioid epidemic in Wisconsin is unprecedented in scale and scope. 20,590 Wisconsinites suffered from opioid use disorder in 2016 (triple the rate observed in 2005). 1,074 Wisconsinites died from an opioid overdose in 2016 (double the rate observed in 2005). Wisconsin led the nation in ED opioid overdose visits between 2016-2017 with an increase of 109%. Nationwide, 42,249 Americans died of an opioid overdose in 2016 and the death rate from all opioids (including heroin) now exceeds the death rate from motor vehicle accidents. One of every 550 patients started on opioid therapy died of opioid-related causes a median of 2.6 years after the first dose.

A Plan to Save Lives and Curb an Epidemic

The ED is actually a minor source of opioid prescriptions (4% of all opioid prescriptions originate from the ED); however, initial exposure to opioids is common in the ED setting since patients routinely present in acute pain. In an effort to do our part, proactive emergency physicians have developed a four-fold strategy to address the opioid epidemic from the ED: (1) Reduce the amount of opioids used in the ED, (2) Reduce the amount of opioids prescribed from the ED, (3) Offer patients harm reduction interventions from the ED if appropriate (i.e. naloxone prescriptions), (4) Treat addicted/withdrawing patients and refer them to treatment.

A Duty to the Individual Patient

The Alternatives to Opioids (ALTO) pathways address the need to reduce opioid use and prescriptions in the ED, while respecting the need to provide analgesia to patients in acute pain. ALTO interventions are not one-size-fits-all and should always be administered with the individual patient's risk profile in mind (age, allergies, weight, etc)

Balancing Evidence-based Practice with the Urgency of this Historical Moment

ALTO interventions are based on the evidence that is available, but have not been as rigorously investigated to the extent that we, as emergency physicians, are accustomed to in our usual practice. At WACEP, we recognize the importance of this moment in history and have made a conscious decision to prioritize opioid harm reduction over the potential harm of using alternative therapies that (in some cases) have only a low level

of evidence to support their efficacy. That being said, most of the ALTO interventions will be recognizable to seasoned physicians as common off-label practice (migraine cocktail, etc). WACEP members can expect multiple iterations of these pathways, updated as the evidence evolves.

Expectations from Our Patients, Colleagues, and Community Partners

These materials are being put forth in good faith by a group of concerned physicians with the aim of saving lives by limiting our patients' exposure to opioids. The ALTO pathways are not intended to substitute professional, medical or legal judgment/advice. WACEP disclaims all liability and responsibility arising from any reliance placed on these materials.

WACEP ALTO Pathways Team:

1. Lisa Maurer, MD, FACEP –WACEP President
2. Bobby Redwood, MD, MPH, FACEP—WACEP Immediate Past President
3. Jeff Pothof, MD, FACEP—WACEP President-elect
4. Julianna Doniere, MD
5. Marielle Brenner, MD



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General Recommendations for Pain Management in the ED

1. Emergency departments should integrate ALTO into their computerized physician order entry systems to facilitate a seamless adoption by clinicians.
2. For musculoskeletal pain, consider a multimodal treatment approach using acetaminophen, NSAIDs, steroids, topical medications, trigger-point injections, and (for severe pain) ketamine.
3. For headache and migraine, consider a multimodal treatment approach that includes the administration of antiemetic agents, NSAIDs, steroids, valproic acid, magnesium, and triptans. Strongly consider cervical trigger- point injection.
4. For pain with a neuropathic component, consider gabapentin.
5. For pain with a tension component, consider a muscle relaxant.
6. For pain caused by renal colic, consider an NSAID, lidocaine infusion, and desmopressin nasal spray.
7. For chronic abdominal pain, consider low doses of haloperidol, diphenhydramine, and lidocaine infusion.
8. For extremity fracture or joint dislocation, consider the immediate use of nitrous oxide and low-dose ketamine while setting up for ultrasound-guided regional anesthesia.
9. For arthritic or tendinitis pain, consider an intra-articular steroid/anesthetic injection.
10. Outpatient prescribing patterns should follow ALTO principles by minimizing opioids and utilizing a multimodal approach to adequately control pain.

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Renal Colic

1. Bundle

- a. Ketorolac 15 mg IV (repeat once if necessary)
- b. Lidocaine 1.5 mg/kg IV in 100 mL NS over 10 minutes (MAX 200 mg)
- c. Acetaminophen 1000 mg PO
- d. 1 L 0.9% NS bolus

2. If treatment failure, then Desmopressin 40 mcg intranasal

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1. Soleimanpour H, Hassanzadeh K, Vaezi H, Golzari SE, Esfanjani RM, Soleimanpour M. Effectiveness of intravenous lidocaine versus intravenous morphine for patients with renal colic in the emergency department. *BMC Urol.* 2012 May 4;12:13.
2. Motov, Sergey, et al. "Comparison of intravenous ketorolac at three single-dose regimens for treating acute pain in the emergency department: a randomized controlled trial." *Annals of emergency medicine* 70.2 (2017): 177-184.

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Musculoskeletal Pain

(Sprains, strains, or Opioid Naïve Lower Back Pain)

Start with Acetaminophen and combine therapies as needed

1. Acetaminophen 1000 mg PO
2. Ibuprofen 600 mg PO OR Ketorolac 30 mg IV/IM
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. Lidocaine 5% patch to most painful area, MAX 3 patches
instruct patient to remove after 12 hours
5. Gabapentin 300 mg PO (neuropathic component of pain)
6. Trigger Point Injection with 1-2 mL of Bupivacaine 0.5% or Lidocaine 1%

1. Friedman BW, Dym AA, Davitt M, Holden L, Solorzano C, Esses D, Bijur PE, Gallagher EJ. Naproxen With Cyclobenzaprine, Oxycodone/Acetaminophen, or Placebo for Treating Acute Low Back Pain: A Randomized Clinical Trial. *JAMA*. 2015 Oct 20;314(15):1572-80.
2. Galer BS, Gammaitoni AR, Oleka N, Jensen MP, Argoff CE. Use of the lidocaine patch 5% in reducing intensity of various pain qualities reported by patients with low-back pain. *Curr Med Res Opin*. 2004;20 Suppl 2:S5-12.
3. Moore RA, Derry S, Wiffen PJ, Straube S, Aldington DJ. Overview review: Comparative efficacy of oral ibuprofen and paracetamol (acetaminophen) across acute and chronic pain conditions. *Eur J Pain*. 2015 Oct;19(9):1213-23

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Acute on Chronic Radicular LBP

(Opioid Tolerant)

1. Acetaminophen 1000 mg PO
2. Ibuprofen 600 mg PO OR Ketorolac 30 mg IV/IM
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. Gabapentin 300mg PO (neuropathic component of pain)
5. Dexamethasone 8 mg IV
6. Lidocaine 5% patch to most painful area, MAX 3 patches
instruct patient to remove after 12 hours
7. Trigger Point Injection with Bupivacaine 0.5% or Lidocaine
1% 1-2 mL
8. Ketamine 0.1-0.3 mg/kg in 50 mL NS over 10 minutes
 - a. Ketamine 0.1 mg/kg/hour until pain is tolerable
 - b. Or Ketamine IN 0.5 mg/kg [50 mg/mL], max 50mg

1. Moore RA, Derry S, Wiffen PJ, Straube S, Aldington DJ. Overview review: Comparative efficacy of oral ibuprofen and paracetamol (acetaminophen) across acute and chronic pain conditions. Eur J Pain. 2015 Oct;19(9):1213-23

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Headache

1. Bundle

- a. Metoclopramide 10 mg PO/IV
- b. 1 L 0.9% NS bolus (if dehydrated or emesis)
- c. Ibuprofen 600 mg PO Or Ketorolac 30 mg IM/IV
- d. Acetaminophen 1000 mg PO

2. Cervical or Trapezius Trigger Point Injection with Bupivacaine 0.5% or Lidocaine 1%

If <50% pain relief then choose 1 or more from

- a. Magnesium 1 gm IV over 60 minutes
- b. Valproic Acid 500 mg/50 mL NS over 20 mins
- c. Dexamethasone 4-8 mg IV
- d. Sumatriptan 6mg SC

If <50% pain relief then

- a. Haloperidol 5 mg IV

If <50% pain relief then observe with Neuro consult

1. Colman I, et al. Parenteral dexamethasone for acute severe migraine headache: meta-analysis of randomised controlled trials for preventing recurrence. *BMJ*. 2008 Jun 14;336(7657):1359-61.
2. Fahmida Ghaderibarmi, Nader Tavakkoli, Mansoureh Togha. Intravenous Valproate versus Subcutaneous Sumatriptan in Acute Migraine Attack. *Acta Medica Iranica* 2015. 53(10):633-636
3. Gelfand AA, Goadsby PJ. A Neurologist's Guide to Acute Migraine Therapy in the Emergency Room. *The Neurohospitalist*. 2012;2(2):51-59.
4. Linde M, Mulleners WM, Chronicle EP, McCrory DC. Valproate (valproic acid or sodium valproate or a combination of the two) for the prophylaxis of episodic migraine in adults. *Cochrane Syst Rev*. 2003

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Extremity Fracture or Joint Dislocation

(Steps 1-3 done while setting up for block)

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. 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)

1. Blaivas M, Adhikari S, Lander L. A prospective comparison of procedural sedation and ultrasound-guided interscalene nerve block for shoulder reduction in the emergency department. *Acad Emerg Med.* 2011 Sep;18(9):922-7.
2. Herres J, Chudnofsky CR, Manur R, Damiron K, Deitch K. The use of inhaled nitrous oxide for analgesia in adult ED patients: a pilot study. *Am J Emerg Med.* 2016 Feb;34(2):269-73.

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Chronic Abdominal Pain/ **Gastroparesis**

1. “Abdominal Migraine Cocktail”
 - a. Prochlorperazine 5mg IV or Metoclopramide 10 mg IV or Prochlorperazine 10 mg IV
 - b. Diphenhydramine 25 mg IV
 - c. Ketorolac 30 mg IV
 2. OR (non-IV option) Dicyclomine 20 mg PO/IM
- If the above fails...
3. Haloperidol 2.5-5 mg IV
 4. Ketamine 0.2 mg/kg + 0.1 mg/kg hr gtt
 5. Lidocaine 1.5 mg/kg (max 200 mg)

1. Grillage MG, Nankani JN, Atkinson SN, et al. A randomised, double-blind, study of mebeverine versus dicyclomine in the treatment of functional abdominal pain in young adults. *Br J Clin Pract.* 1990;44(5):176-0.
2. Rosen JM, Alioto A, Saps M. Advances in pain-predominant functional gastrointestinal disorders in the adolescent. *Adolesc Med State Art Rev.* 2016; 27(1): 34-56.
3. Chiou E, Nurko S. Management of functional abdominal pain and irritable bowel syndrome in children and adolescents. *Expert Rev Gastroenterol Hepatol* 2010; 4(3): 293-304.

Supplement for Administrators

Is Your ED ALTO-Ready?

1. Pathways
 - a. Clearly define ketamine sedation as ≥ 1 mg/kg slow IVP. ALTO doses are considered analgesia.
2. Computerized physician order entry (CPOE)
 - a. Creation of pain treatment order set
 - b. Create order strings for unique entries – clearly label “for pain”
3. Supplies
 - a. High-quality, portable ultrasound machine
 - b. Demand-valve mask with 50-50 % O₂-N₂O
4. Education
 - a. Consider online modules for clinicians
 - b. Ultrasound and procedure training workshops
5. Internal quality metrics (preparation for CMS)
 - a. # of ED opioid administrations (measured in morphine equivalent units / 1000 ED visits)
 - b. # of ED ALTO administrations