2019 WACEP Alternatives to Opioids (ALTO) Pathways

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 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. 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 concerned physicians with the aim of saving lives by limiting 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 Immediate Past President
2. Bobby Redwood, MD, MPH, FACEP—WACEP Past President
3. Jeff Pothof, MD, FACEP—WACEP President
4. Julianna Doniere, MD
5. Marielle Brenner, MD
6. Joe Halfpap Pharm D, BCPS
7. William J. Peppard Pharm D, BCPS, FCCM
8. Pharmacy Society of Wisconsin - Critical Care and Emergency Medicine Resident Collaborative

2019 WACEP ALTO Pathways

Renal Colic

1ST LINE

- Ketorolac 15-30 mg IV/IM
- Lidocaine PF 1.5 mg/kg IV over 10 minutes (MAX 200 mg)
- Acetaminophen 1000 mg PO/PR/IV
- Apply heat to abdomen and low back region

2ND LINE

- Desmopressin 40mcg intranasal

2019 WACEP ALTO Pathways

Musculoskeletal Pain

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

- Ibuprofen 600 mg PO or Ketorolac 15-30 mg IV/IM
- Acetaminophen 1000 mg PO/PR/IV
- Diclofenac 1% topical gel or 1.3% transdermal patch (MAX 1 patch)
- Cyclobenzaprine 5 mg PO or Diazepam 5 mg PO
- Lidocaine 4-5% transdermal patch (MAX 3 patches)
- Trigger Point Injection 1-2 mL of Bupivacaine 0.25-0.5% and/or Lidocaine 1-2%
- Gabapentin 300 mg PO (neuropathic component of pain)

2019 WACEP ALTO Pathways

Acute on Chronic Radicular LBP

(Opioid Tolerant)

- Ibuprofen 600 mg PO or Ketorolac 15-30 mg IV/IM
- Acetaminophen 1000 mg PO/PR/IV
- Cyclobenzaprine 5 mg PO or Tizanidine 2 mg PO
- Lidocaine 4-5% transdermal patch (MAX 3 patches)
- Dexamethasone 8 mg IV
- Trigger Point Injection 1-2 mL of Bupivacaine 0.25-0.5% and/or Lidocaine 1-2%
- Gabapentin 300 mg PO (neuropathic component of pain)
- Ketamine 0.2mg/kg IV (MAX 25 mg) +/- 0.1 mg/kg/hour infusion

2019 WACEP ALTO Pathways

Headache

1ST LINE

- Prochlorperazine 10 mg IV or Metoclopramide 10 mg IV
- 1 L 0.9% NS bolus (if dehydrated or emesis)
- Ibuprofen 600 mg PO or Ketorolac 15-30 mg IV/IM
- Acetaminophen 1000 mg PO/PR/IV
- Dexamethasone 10 mg IV (to prevent recurrence)

2ND LINE

- Caffeine 200 mg PO
- Magnesium 1 gm IV infusion
- Haloperidol 5 mg IM/IV or Chlorpromazine 25 mg IV
- Cervical or Trapezius Trigger Point Injection 1-2 mL of Bupivacaine 0.25-0.5% or Lidocaine 1-2%
- Lidocaine 4% IN Sphenopalatine Ganglion Block
- Sumatriptan 6 mg subQ (Migraine Hx)

3RD LINE

- Valproic acid 500 mg IV infusion

LAST LINE

- Dihydroergotamine 1 mg IV

2019 WACEP ALTO Pathways

Extremity Fracture or Joint Dislocation

(Medications while setting up for nerve block)

MILD TO MODERATE PAIN

- Ibuprofen 600 mg PO or Ketorolac 15-30 mg IV/IM
- Acetaminophen 1000 mg PO/PR/IV

MODERATE TO SEVERE PAIN

- Ketamine Intranasal 0.5 mg/kg (MAX 50 mg) or 0.2 mg/kg IV (MAX 25 mg)
- Nitrous Oxide titrate up to 50-70%

NERVE BLOCK

- Ultrasound Guided Regional Anesthesia
  - 5mL Lidocaine 1% and 5mL Bupivacaine 0.5% peri-neural infiltration
- Core ALTO Fracture / Dislocation Nerve Blocks
  - Hematoma block
  - Intra-articular shoulder injection (dislocation)
  - Fascia-iliaca block (hip fracture)
  - Digital block

2019 WACEP ALTO Pathways

Chronic Abdominal Pain

ALL TYPES

- Ibuprofen 600 mg PO or Ketorolac 15-30 mg IV/IM
- Acetaminophen 1000 mg PO/PR/IV

GASTROPARESIS TYPE

- Haloperidol 5 mg IM/IV or Metoclopramide 10 mg IV or both

CYCLIC VOMITING/ABDOMINAL MIGRAINE

- Sumatriptan 6 mg subQ or 20 mg Intranasal
- Ondansetron 4 mg IV or Metoclopramide 10 mg

SPASM / IBS TYPE

- Dicyclomine 20 mg PO/IM

REFRACTORY PAIN

- Ketamine 0.2 mg/kg IV (MAX 25 mg) +/- 0.1 mg/kg/hour infusion

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RENAL COLIC

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ACUTE ON CHRONIC RADICULAR LBP

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Appendix 1. Drug-specific Safety and Administration Tips

Acetaminophen[1-6]

- No clear benefit of IV route as opposed to oral. Rectal route peak concentrations are lower and effects are significantly delayed
- Maximum of 4000 mg of acetaminophen from all sources in 24 hours
- Additive effects when combined with NSAIDS for pain

Caffeine[3]

- Can also be given IV, however oral route has rapid onset of effect

Chlorpromazine[3]

- Give slow IV infusion, risk of hypotension during and after infusion. Recommend fluid bolus prior to administration and patient to remain supine for 30 minutes after administration.
- Avoid in patients with Parkinson's disease

Cyclobenzaprine[3,7]

- Consider 5mg for all patients especially patients >65 or <70kg OR concerns for somnolence. May increase initial dose to 10mg for patients >70kg OR <65 years old.
- 5mg doses appear as effective as 10mg for most individuals.

Dexamethasone[3,8]

- Give slow IV push to decrease perianal tingling and itching.
- IV formulation can be given orally.

Diazepam[9]

- Not recommended if patient concurrently on opioids

Diclofenac Topical[3]

- Systemic absorption is very limited can consider in patients with contraindications to oral NSAID therapy.
- Available as patch and gel

Dihydroergotamine[3,10]

- Pregnancy category X
- Contraindicated within 24 hours of Triptan use
- Pre-medicate with anti-emetics prior to administration

Gabapentin[11,12]

- Single doses of gabapentin have been shown to be possibly effective for acute post-operative pain, however the data supporting this is derived from unpublished studies from the manufacturer.

Haloperidol[3]

- Not recommended in patients with long QT
- Avoid in patients with Parkinson's disease

Ibuprofen[2,4,5,13]

- Studies suggest peak analgesic effects at doses of 400mg. Anti-inflammatory effects may increase at higher doses
- Additive effects when combined with acetaminophen for pain

Ketamine[14-21]

INTRAVENOUS (IV)

- Initial bolus for pain 0.1-0.3 mg/kg IV, higher doses and shorter infusions are associated with increased side effects.
- Recommend ideally giving over 10 minutes diluted, and capping doses at 25 mg.
- Dosing weight for low dose ketamine injection and infusion are also controversial. Recommend IBW if not using a maximum dose.
- If use ABW recommend bolus maximum of 25 mg and infusion maximum of 12 mg/hr

INTRANASAL (IN)

- Ketamine concentrations 100 mg/ml or 50 mg/ml can be used
- Maximum volume for IN is 1ml per nare
- Dosing is 0.5-0.75 mg/kg may need to reduce dose for small adults

Ketorolac[3,22]

- Max IV dose of 15 mg if patient > 65 years old, < 50 kg or CrCl < 50 mL/min
- Studies show peak analgesic effect at doses of 10mg. Anti-inflammatory effects may increase at higher doses

Lidocaine[3,23-25]

INTRAVENOUS

- May give as 1-2% preservative free undiluted injection slowly over 10 minutes or dilute in to 50-100ml

TRANSDERMAL PATCH

- To prevent tachyphylaxis instruct patient to remove after 12 hours
- 5% is RX and 4% available OTC, consider them interchangeable

Magnesium[3]

- Recommend infusion over 15-30 minutes

Metoclopramide[3,26]

- Diluting and administering slowly decreases risk of EPS (Dystonic reactions, akathesia, ect.)
- Avoid in patients with Parkinson's disease

Prochlorperazine[3,26]

- Diluting and administering slowly decreases risk of EPS (Dystonic reactions, akathesia, ect.)
- Avoid in patients with Parkinson's disease

Tizanidine[3]

- Can cause hypotension
- Contraindicated in patients taking ciprofloxacin

Sumatriptan[3]

- Contraindicated in patients with ischemic cardiovascular disease
- Contraindicated with 24 hours of Ergotamines

Valproic Acid[3,27]

- Pregnancy category D/X
- Infusion over 15 minutes

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Appendix 2. ALTO Prescribing Guide for Discharge

Headache

FOR ACUTE ATTACKS

- Sumatriptan 100 mg PO
- Acetaminophen/aspirin/caffeine (Excedrin Migraine) PO every 6 hours OR acetaminophen 1,000 mg every 6 hours
- Dihydroergotamine mesylate 2 mg nasal spray
- Naproxen 500-550 mg 2x/day OR ibuprofen 600 mg PO every 6 hours
- Metoclopramide 10 mg PO every 6 hours

FOR PREVENTION

- Propranolol 40 mg PO 2x/day
- Divalproex DR 250 mg PO 2x/day OR extended release 500 mg PO daily
- Topiramate 25 mg PO at bedtime
- Magnesium supplementation 600 mg PO daily

Sore Throat

- Ibuprofen 600 mg PO every 6 hours
- Acetaminophen 1,000 mg PO every 6 hours
- Dexamethasone 10 mg PO once
- Viscous lidocaine

Fibromyalgia

- Cardiovascular exercise
- Strength training
- Massage therapy
- Amitriptyline 10 mg PO at bedtime
- Cyclobenzaprine 10 mg PO every 8 hours
- Pregabalin 75 mg PO 2x/day

Uncomplicated Neck Pain

- Acetaminophen 1,000 mg PO every 6 hours
- Ibuprofen 600 mg PO every 6 hours
- Cyclobenzaprine 5 mg PO every 8 hours
- Physical therapy
- Lidocaine 5% transdermal patch every 24 hours (remove after 12 hours)

Uncomplicated Back Pain

- Acetaminophen 1,000 mg PO every 6 hours
- Ibuprofen 600 mg PO every 6 hours
- Lidocaine 5% transdermal patch every 24 hours (remove after 12 hours)
- Diclofenac 1.3% transdermal patch 2x/day OR diclofenac 1% gel 4 g 4x/day as needed
- Cyclobenzaprine 5 mg PO 3x/day
- Heat
- Physical therapy
- Exercise program

Simple Sprains

- Immobilization
- Ice
- Ibuprofen 600 mg PO every 6 hours
- Acetaminophen 1,000 mg PO every 6 hours
- Diclofenac 1.3% transdermal patch 2x/day OR diclofenac 1% gel 4 g 4x/day as needed

Contusions

- Compression
- Ice
- Ibuprofen 600 mg PO every 6 hours
- Acetaminophen 1,000 mg PO every 6 hours
- Lidoderm 5% patch transdermal patch every 24 hours (remove after 12 hours)

Nontraumatic Tooth Pain

- Ibuprofen 600 mg PO every 6 hours PLUS acetaminophen 1,000 mg PO every 6 hours

Osteoarthritis

- Diclofenac 50 mg PO every 8 hours OR naproxen 500 mg PO 2x/day OR celecoxib 200 mg daily
- Diclofenac 1.3% transdermal patch 2x/day OR diclofenac 1% gel 4 g 4x/day as needed

Undifferentiated Abdominal Pain

- Dicyclomine 20 mg PO every 6 hours
- Ibuprofen 600 mg PO every 6 hours
- Acetaminophen 1,000 mg PO every 6 hours
- Metoclopramide 10 mg PO every 6 hours
- Prochlorperazine 10 mg PO every 6 hours

Neuropathic Pain

- Gabapentin 300 mg PO at bedtime
- Amitriptyline 25 mg PO at bedtime
- Pregabalin 75 mg PO 2x/day

Appendix 3. Medical Directors: Is Your ED ALTO-Ready?

Pathways

- Clearly define ketamine sedation as ≥ 1 mg/kg slow IVP. ALTO doses are considered analgesia.
- Nitrous oxide administration should not be considered a sedation.

Computerized physician order entry (CPOE)

- Creation of pain treatment order set
- Create order strings for unique entries – clearly label "for pain"
- Create ALTO discharge medication order sets per appendix 2.

Supplies

- High-quality, portable ultrasound machine
- Demand-valve mask with 50-50 % O2-NO2
- Pre-pack "block bags" that contain all supplies required for regional nerve blocks

Education

- Consider ALTO webinars or online modules for clinicians
- Consider regional or train-the-trainer ultrasound and nerve block training workshops

Internal quality metrics (preparation for CMS)

- # of ED opioid administrations (measured in morphine equivalent units / 1000 ED visits)
- # of ED ALTO administrations