Colorado ALTO Project





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COLORADO CHAPTER
American College of Emergency Physicians
ADVANCING EMERGENCY CARE

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QUALITY & PATIENT SAFETY

Colorado ALTO Project

In 2017, Colorado Hospital Association (CHA) partnered with 10 hospital emergency departments (EDs) on a six-month pilot program with the goal of reducing the administration of opioids in the ED by 15 percent. This would be achieved by changing prescribing guidelines and using new protocols for alternatives to opioids (ALTOs) as first-line treatments for pain management, administering opioids sparingly or only as rescue medications.

The Colorado Opioid Safety Pilot demonstrated the feasibility and effectiveness of using an ALTO approach as a first-line treatment for acute pain in the ED before turning to opioids. Based on this success, CHA will roll out this program statewide in 2018 through the Colorado ALTO Project.

CHA partnered with key stakeholders to develop and roll out the pilot program:



All 10 EDs successfully completed the opioid pilot, achieving a reduction in opioid administration rates of more than double the 15 percent goal on average.



In addition, the 10 EDs increased their use of ALTOs by more than 31 percent, with ALTO administration surpassing opioid administration near the end of the six-month pilot.





Introduction: Colorado ALTO Project | Clinician Toolkit

Course Overview

Thank you for participating in the Colorado ALTO Project. The Colorado ALTO Project Clinician Toolkit provides information and resources to assist in the education of clinicians in the following areas:

□ Colorado's opioid crisis

- □ The Colorado Chapter of the American College of Emergency Physicians 2017 Opioid Prescribing & Treatment Guidelines
- □ Use of alternatives to opioids (ALTOs), procedures and pain pathways
- □ Harm reduction strategies
- □ Treatment of addicted patients and referrals

Clinician ALTO Training Curriculum

The clinician ALTO training curriculum has two main components: training sessions and podcast links.

Clinician ALTO Training Sessions

The clinician ALTO training session has three parts, generally presented in one-hour in-person sessions, PowerPoint presentations by your organization's identified trainer or recorded webinars.

Podcast Links

The clinician ALTO training kit offers a variety of podcasts from Emergency Medical Minute that can be accessed at the convenience of the clinician. For additional opioid-related podcasts, visit Emergency Medical Minute. *https://emergencymedicalminute.com/opioid-miniseries/*

Listen to Part I: Medicine's Greatest Folly from Emergency Medical Minute in Podcasts.

Dr. Don Stader describes how opioids became medicine's drug of choice for pain, documenting the dubious science and market forces that helped create the opioid epidemic.

https://itunes.apple.com/us/podcast/emergency-medical-minute/id1210879676?mt=2&i=1000386294042

Listen to Part II: Limiting Opioids in the Emergency Department from Emergency Medical Minute in Podcasts.

Dr. Don Stader and Dr. Erik Verzemniks discuss COACEP 2017 Opioid Prescribing & Treatment Guidelines recommendations to limiting opioids in the ED, including in-depth discussion of keys to limiting opioids and speaking with patients about opioids. https://itunes.apple.com/us/podcast/emergency-medical-minute/id1210879676?mt=2&i=1000386312411

Listen to Part III: Alternative to Opioids from Emergency Medical Minute in Podcasts.

Pharmacist Rachael Duncan reviews ALTO medications, how they are used and tips to using ALTOs safely and effectively. https://itunes.apple.com/us/podcast/emergency-medical-minute/id1210879676?mt=2&i=1000386312410

Listen to Part IV: Harm Reduction from Emergency Medical Minute in Podcasts.

Dr. Don Stader and Harm Reduction Action Center Executive Director Lisa Raville discuss harm reduction and keys to speaking with patients with opioid use disorder and IV drug use – emphasizing points on how to keep these patients safe. https://itunes.apple.com/us/podcast/emergency-medical-minute/id1210879676?mt=2&i=1000386331460

For more information on the Colorado ALTO Clinician Training toolkit, contact Diane Rossi MacKay at Diane.RossiMacKay@cha.com.

Multi-Media – Podcast Series

Introduction:

Thank you for joining us for the Colorado ALTO Project. The following podcasts go through a history of our opioid epidemic, then focus on three of the major topics of the Colorado Chapter of the American College of Emergency Physicians (CO-ACEP) 2017 Opioid Prescribing & Treatment Guidelines. Part III Alternative to Opioids from Emergency Medical Minute in Podcasts – discusses the use of alternatives to opioids (ALTOs) in the emergency department, the focus of the Colorado ALTO Project. These podcasts will help you begin to understand the why and how of the Colorado ALTO Project.

The podcasts are done through a Colorado based nonprofit called the Emergency Medical Minute.

Listen to Part I: Medicine's Greatest Folly from Emergency Medical Minute in Podcasts. https://itunes.apple.com/us/podcast/emergency-medical-minute/id1210879676?mt=2&i=1000386294042 (49 min)

Listen to Part II: Limiting Opioids in the Emergency Department from Emergency Medical Minute in Podcasts. https://itunes.apple.com/us/podcast/emergency-medical-minute/id1210879676?mt=2&i=1000386312411 (1 hr 8 min)

Listen to Part III: Alternative to Opioids from Emergency Medical Minute in Podcasts. https://itunes.apple.com/us/podcast/emergency-medical-minute/id1210879676?mt=2&i=1000386312410 (49 min)

Listen to Part IV: Harm Reduction from Emergency Medical Minute in Podcasts. https://itunes.apple.com/us/podcast/emergency-medical-minute/id1210879676?mt=2&i=1000386331460 (48 min)

YouTube Videos – Trigger Point Injections and Occipital Nerve Blocks

Introduction:

The following YouTube videos provide an overview on trigger point injections and occipital nerve blocks, two important procedures used by emergency department clinicians in the alternative treatments.

How to Do Them:

Trigger point injections are a highly effective, easy-to-perform procedure that are extremely effective for headache, low back pain, torticollis and trapezius pain. There are multiple studies about their efficacy when performed in the ED. Learning to do trigger point injections and becoming facile in their usage is a key ALTO technique.

1. Trigger Point Injections

A YouTube video on performing trigger point injections, done by Dr. Mellick, who championed trigger points in the ED. *https://youtu.be/0to5wzftpnM*

2. Occipital Nerve Blocks

A YouTube video on performing Good informational YouTube on occipital nerve blocks followed by a good "how to do an occipital nerve block." *https://www.youtube.com/watch?v=2zn_0xWSoKA https://www.youtube.com/watch?v=JGLOaZpZwqU*



Results:

Lower cervical paraspinous intramuscular injections with bupivacaine were performed in 417 patients. Complete headache relief occurred in 271 (65.1%) and partial headache relief in 85 patients (20.4%). No significant relief was reported in 57 patients (13.7%) and headache worsening was described in 4 patients (1%). Overall a therapeutic response was reported in 356 of 417 patients (85.4%). Headache relief was typically rapid with many patients reporting complete headache relief in 5 to 10 minutes. Associated signs and symptoms such as nausea, vomiting, photophobia, phonophobia, and allodynia were also commonly relieved.

Conclusion:

Our observations suggest that the intramuscular injection of small amounts of 0.5% bupivacaine bilateral to the sixth or seventh cervical spinous process appears to be an effective therapeutic intervention for the treatment of headache pain in the outpatient setting.

http://www.ncbi.nlm.nih.gov/pubmed/18351035

Treatment of acute orofacial pain with lower cervical intramuscular bupivacaine injections: a 1-year retrospective review of 114 patients.

Lower cervical paraspinous intramuscular injections with bupivacaine were performed in 118 adult patients. Four charts were excluded from review because of missing or inadequate documentation. Pain relief (complete or clinical) occurred in 75 patients (66%), and partial orofacial pain relief in 32 patients (28%). No significant relief was reported in 7 patients (6%). Overall, some therapeutic response was reported in 107 of 114 patients (94%). Orofacial pain relief was rapid, with many patients reporting complete relief within 5 to 15 minutes.

References:

Two best research papers discussing the these trigger point injections:

How to use Paraspinous Injections for Complex Headaches

http://epmonthly.com/article/how-to-use-paraspinous-injections-for-complex-headaches/

Treatment of headaches in the ED with lower cervical intramuscular bupivacaine injections: a one-year retrospective review of 417 patients.

http://www.ncbi.nlm.nih.gov/pubmed/17040341

ED Opioid-Free Pain Options by Indication in the ED

Musculoskeletal Pain:

- No IV access Intranasal ketamine 50 mg 100mg/mL product
- Acetaminophen 1000 mg PO
- Ibuprofen 600 mg PO or Ketorolac 15 mg IV/IM
- Trigger Point injection
- Lidocaine 1% 2-3 mL IM at each trigger point
- Cyclobenzaprine 5 mg PO or diazepam 5 mg PO/IV
- Dexamethasone 8 mg PO/IV
- Ketamine 0.2 mg/kg (50mg/5mL syringe) IVP over 10 min
 - ± 0.1 mg/kg/hr gtt (100 mg/50 mL) until pain is tolerable
- Lidoderm patch to most painful area, MAX 3 patches
- Gabapentin 300 mg PO (neuropathic component of paint)

Recurrent Primary Headache/Migraine:

- Acetaminophen 1000 mg PO
- Ibuprofen 600 mg PO or Ketorolac 15 mg IV/IM
- 1 L 0.9% NS bolus
- Sumatriptan 6 mg SC
- Cervical or Trapezius Trigger Point Injection with lidocaine 1% 1-2 mL IM
- Metoclopramide 10mg IV
- Promethazine 12.5 mg IV OR prochlorperazine 10 mg IV
- Magnesium 1 gm IV over 60 minutes
- Valproic Acid 500 mg/50 mL NS IV over 20 min
- Levetiracetam 1000 mg/100 mL NS IV over 15 min
- Dexamethasone 8 mg IV (Migraine only)
- Haloperidol 2.5-5 mg IV over 10 min
- Lidocaine 1.5 mg/kg in 100 mL NS over 10 min (max 200 mg)

If tension component:

• Cyclobenzaprine 5 mg OR Diazepam 5 mg PO/IV

Extremity Fracture or Joint Dislocation:

Consider regional anesthesia: e.g. nerve blocks: wrist, ankle, ulnar, radial, hip, femur, etc.

Immediate therapy (steps 1-3 while setting up for block)

- Ketamine intranasal 50 mg- concentration 100 mg/mL
- Nitrous Oxide titrate as needed (MAX 70%)
- Tylenol 1000 mg PO

Followed by setting up for:

- Ultrasound Guided Regional Anesthesia
 - Joint Dislocation and Extremity Fracture
 - Lidocaine 0.5-1% peri-neural infiltration (MAX 4 mg/kg)

If unable to do ultrasound guided regional anesthesia:

- Ketamine 0.2 mg/kg in (50mg/5mL syringe) IVP over 10 min
 - ± 0.1 mg/kg/hr gtt (100 mg/50mL) until pain is tolerable

Abdominal Pain:

Gastroparesis-associated or chronic functional abdominal pain:

- Metoclopramide 10 mg IV
- Diphenhydramine 25 mg IV
- Prochlorperazine 10 mg IV
- Dicyclomine 20 mg PO/IM
- Lidocaine 1.5 mg/kg in 100 mL NS over 10 min (max 200 mg)
- Haloperidol 2.5-5 mg IV
- Ketamine 0.2 mg/kg (50mg/5mL syringe) IVP over 10 min ± 0.1 mg/kg/hr gtt (100 mg/50 mL) until pain is tolerable
- Capsaicin 0.025% topical (cannabinoid hyperemesis syndrome)

- **Renal Colic:**
- Acetaminophen 1000 mg PO
- 1 L 0.9% NS
- Ketorolac 15 mg IV
- Lidocaine 1.5 mg/kg IV in 100 mL NS over 10 min (max 200 mg)
- Desmopressin 40 mcg IN
- Ketamine 50 mg IN (100 mg/mL product)

ED Opioid-Free Pain Options by Indication at Discharge from the ED

Headache:^{1,2}

For acute attacks:

- Sumatriptan 100 mg
- Acetaminophen/Aspirin/Caffeine (Excedrin Migraine)
- Acetaminophen 1000 mg every 6 hours
- DHE 2 mg nasal spray
- Naproxen 500-550 mg twice daily
- Metoclopramide 10 mg every 6 hours
- Ibuprofen 600 mg PO every 6 hours

For prevention:

- Propranolol 40 mg BID
- Divalproex DR 250 mg twice daily <u>OR</u> ER 500 mg daily
- Topiramate 25 mg at bedtime
- Magnesium supplementation 600 mg daily

Sore Throat:

- Ibuprofen 600 mg every 6 hours
- Acetaminophen 1000 mg every 6 hours
- Dexamethasone 10 mg once
- Viscous lidocaine

Fibromyalgia:^{3,4}

- Cardiovascular exercise
- Strength training
- Massage therapy
- Amitriptyline 10 mg at bedtime
- Cyclobenzaprine 10 mg every 8 hours
- Pregabalin 75 mg twice daily

Uncomplicated Neck Pain:5

- Acetaminophen 1000 mg every 6 hours
- Ibuprofen 600 mg every 6 hours
- Cyclobenzaprine 5 mg every 8 hours
- Physical therapy
- Lidocaine 5% patch Q12 hours

Uncomplicated Back Pain:^{6,7}

- Acetaminophen 1000 mg every 6 hours
- Ibuprofen 600 mg every 6 hours
- Lidocaine 5% patch Q12 hours
- Diclofenac 1.3% patch TD twice daily
- Diclofenac 1% gel 4 g four times daily PRN
- Cyclobenzaprine 5 mg PO three times daily
- Heat
- Physical therapy
- Exercise program

Simple Sprains:

- Immobilization
- Ice
- Ibuprofen 600 mg every 6 hours
- Acetaminophen 1000 mg every 6 hours
- Diclofenac 1.3% patch TD twice daily
- Diclofenac 1% gel 4 g four times daily PRN

Contusions:⁸

- Compression
- Ice
- Ibuprofen 600 mg every 6 hours
- Acetaminophen 1000 mg every 6 hours
- Lidoderm 5% patch

Non-Traumatic Tooth Pain:⁹

- Ibuprofen 600 mg every 6 hours AND
- Acetaminophen 1000 mg every 6 hours (clove oil, other topical anesthetics)
- Viscous Lidocaine topically

Osteoarthritis:¹⁰

- Diclofenac 50 mg every 8 hours
- Naproxen 500 mg twice daily
- Celecoxib 200 mg daily
- Diclofenac 1.3% patch TD twice daily
- Diclofenac 1% gel 4 g four times daily PRN (topical NSAIDs, capsaicin)

Undifferentiated Abdominal Pain:

- Dicyclomine 20 mg every 6 hours
- Acetaminophen 1000 mg every 6 hours
- Metoclopramide 10 mg every 6 hours
- Prochlorperazine 10 mg every 6 hours

Neuropathic Pain:

- Gabapentin 300mg every 8 hours
- Amitriptyline 25 mg at bedtime
- Pregabalin 75 mg twice daily
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Pain Pathways by Indication



Musculoskeletal Pain

Non-IV Therapies:

APAP 1000 mg PO + ibuprofen 600 mg PO Cyclobenzaprine 5 mg PO OR diazepam 5 mg PO Gabapentin 300 mg PO Lidoderm patch (max 3 patches) Ketamine 50 mg IN Trigger point injections with lidocaine 1%

IV Therapy Options:

Ketamine 0.2 mg/kg IV ± 0.1 mg/kg/hr gtt Ketorolac 15 mg IV Dexamethasone 8 mg IV Diazepam 5 mg IV



These treatment pathways are not intended to and should not replace clinician judgement or clinical expertise. They are a guide to possible treatment options that maybe considered, in the context of a patient's clinical condition and comorbidities, for the treatment of patients in pain.



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