Colorado ALTO Project

ED Nurse Training

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Nursing Training Learning Objectives

- Review the Colorado Chapter of the American College of Emergency Physicians *2017 Opioid Prescribing & Treatment Guidelines*
- Review the Colorado Opioid Safety Pilot objectives and result
- Outline how to use alternative medications, procedures and pain pathways for the treatment of pain
- Discuss potential barriers to implementation of the Colorado ALTO Project
- Outline strategies to address pain and risk assessment, patient and nurse satisfaction and communicating with the patient and family

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ALTO Pilot – Colorado ACEP Guidelines

- Non-opioid medications first
- Opioids as rescue therapy
- Multi-modal and holistic pain management
- Pathways:
  - Kidney stones
  - Low back pain
  - Fractures
  - Headache
  - Chronic abdominal pain

www.coacep.org

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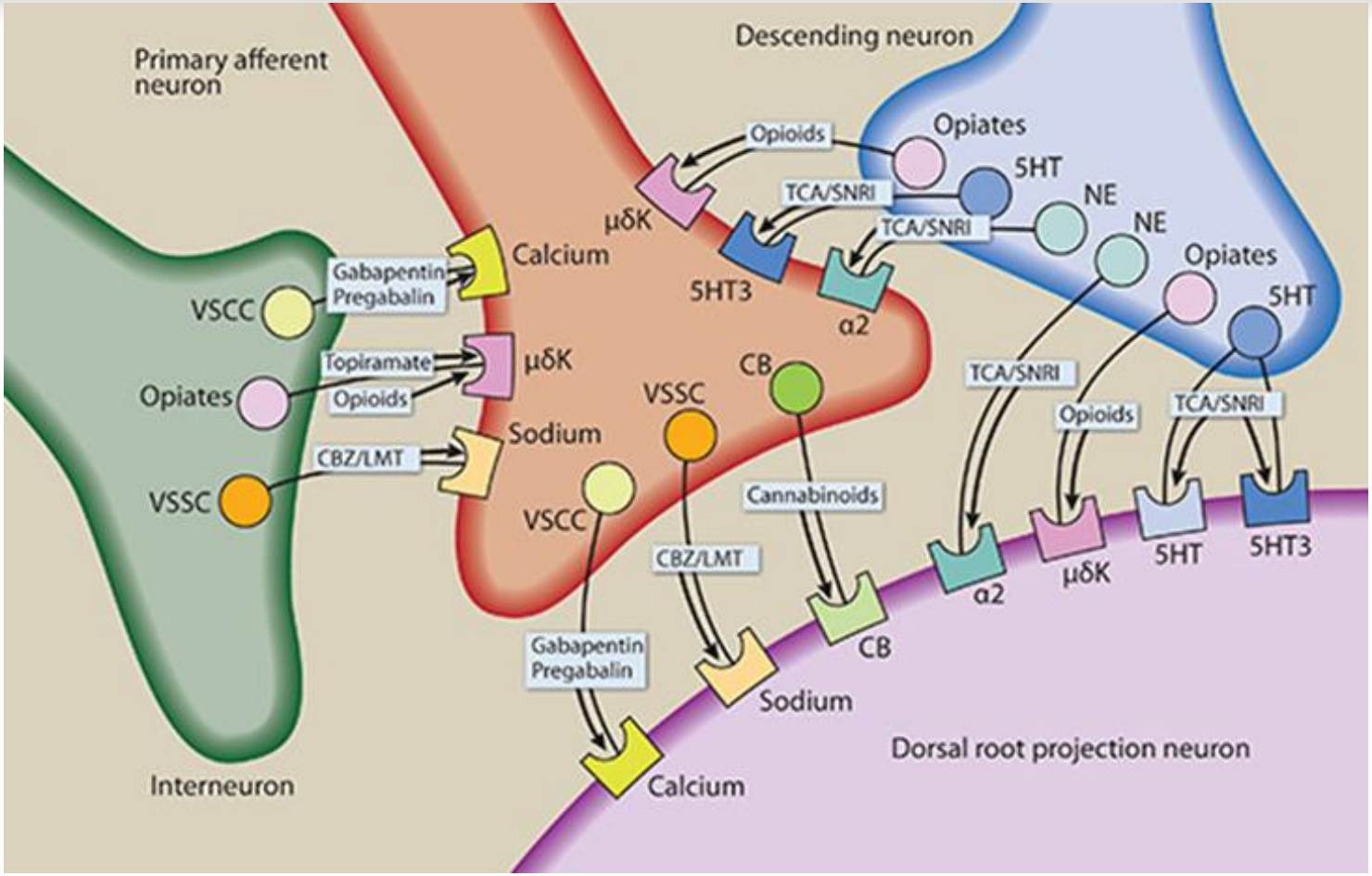
ALTO Approach

- Multi-modal non-opioid approach to analgesia for specific conditions
- **Goals:** To utilize non-opioid approaches as first-line therapy and educate our patients:
  - Opioids will be second-line treatment
  - Opioids can be given as rescue medication
  - Discuss realistic pain management goals
  - Discuss addiction potential and side effects of opioids

CERTA Approach



http://www.propofology.com/infographs/certa-concept-of-analgesia

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Examples

- **C**hannels:
  - Sodium (Lidocaine)
  - Calcium (Gabapentin)
- **E**nzymes:
  - COX 1,2,3 (NSAIDS)
- **R**eceptors:
  - MOP/DOP/KOP (Opioids)
  - NMDA (Ketamine/Magnesium)
  - GABA(Gabapentin/Sodium Valproate)
  - 5HT1-4(Haloperidol/Ondansetron/Metoclopramide)
  - D1-2(Haloperidol/Chlorpromazine/Prochlorperazine)

Discussion Point

How can using medications from different pathways be effective?

Example: Headache

- Decadron- enzymes
- Promethazine - receptors
- Lidocaine trigger point injection- sodium channel blocker

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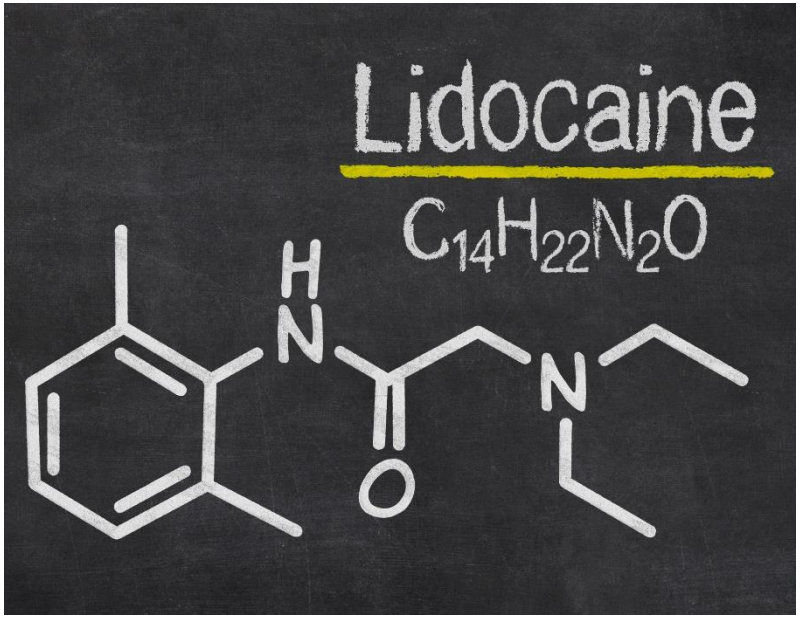
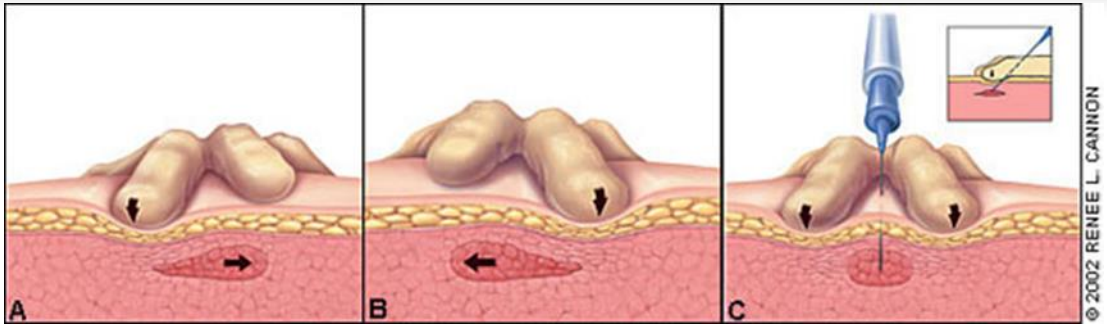
Lidocaine

- Acts on central and peripheral voltage dependent sodium channels, G protein-coupled receptors and NMDA receptors
- Used **topically**, **intravenously** or as **trigger point injections**
  - When used at low doses, IV lidocaine is generally benign
  - **Caution** should be used when giving IV to patients with a severe cardiac history
- MSK, migraines, renal colic, abdominal, neuropathic
- Lidocaine patches are great for pain!
- Lidocaine IV doses ≤ 1.5 mg/kg over 10-60 min may be given in non-ICU areas (max 200 mg/dose)

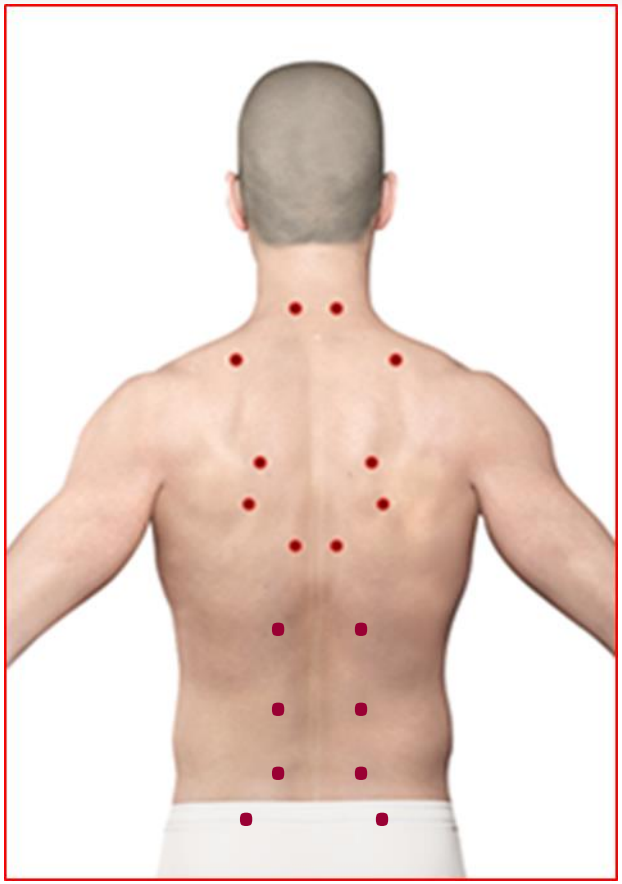


Trigger Point Injections



Indications:
- Myofascial Pain Syndrome
- Headaches - tension and migraines
- Musculoskeletal back pain
- Torticollis
- Trapezius strain

Concerns:
- Infection
- Hematoma
- Arterial injection (Bupivacaine)
- PTX on chest



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Ketamine

Action: antagonizes NMDA receptors; reduces hyperanalgesia and opioid tolerance

Uses: MSK pain, joint dislocations, fractures

Route: IV or intranasal

Dose: analgesia= 0.2 mg/kg **slow** IVP over 10 minutes (use 50 mg/5 mL dilute product – see below)

- 0.1 mg/kg/hr gtt continuous infusion
- Suitable for inpatient units

- Intranasal: 50 mg (use 100 mg/1 mL product)

Benign in low doses

Cautions: do not use in cases with PTSD

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Other Options

- Ketorolac
  - 15 mg for everyone (IV or IM)
    - No difference in pain reduction with 30 vs. 15 mg
  - Great for many pain indications including musculoskeletal pain and renal colic

- Haloperidol
  - Low dose (2.5 - 5 mg IV)
  - Great for nausea
    - Cannabinoid induced hyperemesis

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Other Options

- Dicyclomine
  - Antispasmodic and anticholinergic agent that acts to alleviate smooth muscle spasms in the GI tract
  - 20 mg PO/IM (NOT IV!)
  - Great for abdominal pain
  - Caution in elderly

Photo Source: Medcialook

Other Options

Metoclopramide/Sumatriptan/Dexamethasone

- For headache

Gabapentin/Valproate

- 5HT1-4 and GABA receptors modulate pain in the spinal cord

DDAVP

- Synthetic vasopressin

Nitrous oxide

- Effect is that of opioid and benzodiazepines
- Safe, short acting
- High potential for abuse

NSAIDs and APAP

ED Pain Pathways

Opioids are the last resort…

not the first option.

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ED Pain Pathways

Headache/Migraine

Immediate/First-Line Therapy

- 1 L 0.9% NS + high-flow oxygen
- Ketorolac 15 mg IV
- Metoclopramide 10 mg IV
- Dexamethasone 8 mg IV
- Trigger point injection with lidocaine 1%

Alternative Options

- APAP 1000 mg PO + ibuprofen 600 mg PO
- Sumatriptan 6 mg SC
- Promethazine 12.5 mg IV OR prochlorperazine 10 mg IV
- Haloperidol 5 mg IV
- Magnesium 1 g IV
- Valproic acid 500 mg IV
- Propofol 10-20 mg IV bolus every 10 min

If Tension Component

- Cyclobenzaprine 5 mg OR diazepam 5 mg PO/IV
- Lidoderm transdermal patch

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ED Pain Pathways

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

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ED Pain Pathways

Renal Colic

Immediate/1st Line Therapy

APAP 1000 mg PO
Ketorolac 15 mg IV
1 L 0.9% NS bolus

Second-Line IV Therapy

Lidocaine 1.5 mg/kg IV (max 200 mg)

Alternative Option

DDAVP 40 mcg IN

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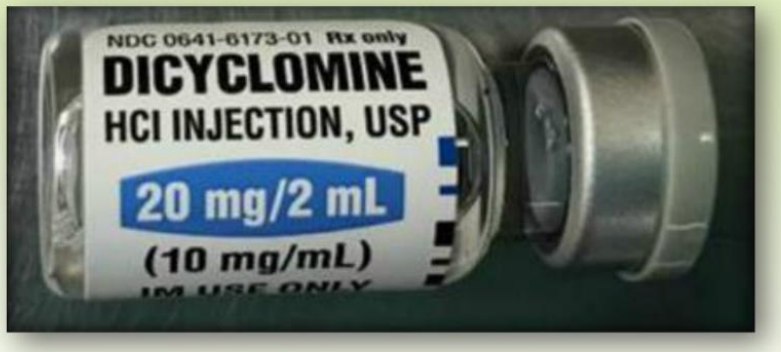
ED Pain Pathways

Chronic Abdominal Pain

Immediate/First-Line Therapy

- Metoclopramide 10 mg IV
- Prochlorperazine 10 mg IV
- Diphenhydramine 25 mg IV
- Dicyclomine 20 mg PO/IM



Second-Line Therapy

- Haloperidol 2.5-5 mg
- Ketamine 0.2 mg/kg ± 0.1 mg/kg hr gtt
- Lidocaine 1.5 mg/kg (max 200 mg)

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ED Pain Pathways

Extremity Fracture/Joint Dislocation

Immediate/First-Line Therapy

APAP 1000 mg PO
Ketamine 50 mg IN
Nitrous oxide (titrate up to 70%)

Ultrasound-Guided Regional Anesthesia

Lidocaine perineural infiltration (max 4 mg/kg)

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The Role for Nursing

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Education

Nursing education

- Learn about the new multi-modal, opioid-sparing pain management pathways
- Work with physicians to limit the use of opioids
- Be proactive with patient and family concerns
  - Begin conversation regarding best practices to manage pain
  - Manage pain management expectations
  - Provide educational resources
  - Talk about realistic pain goal
  - Scripting regarding “control” of pain versus “relief” of pain
  - Promote “increasing comfort”

Patient education

- Educate patients and families on how to use the pain assessment tools
- Provide non-pharmacologic alternatives to medication

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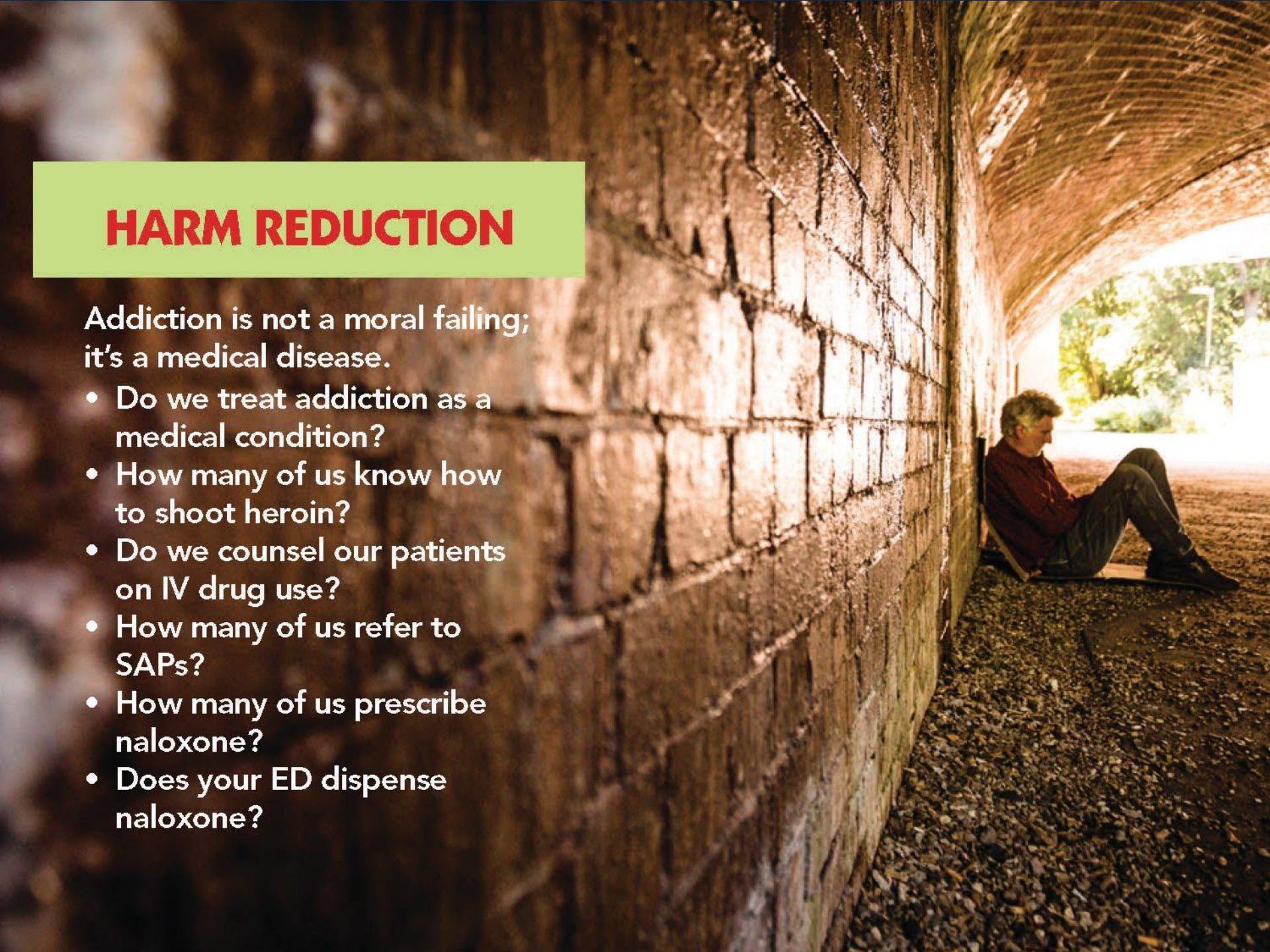
Scripting

How do we explain this to patients?

- We will try to “control” pain, not eliminate pain.
- We are trying to make patients more “comfortable,” not pain-free.
- Example: “This medication is called Toradol and will help control your pain by reducing inflammation.”



HARM REDUCTION

Addiction is not a moral failing; it's a medical disease.

- Do we treat addiction as a medical condition?
- How many of us know how to shoot heroin?
- Do we counsel our patients on IV drug use?
- How many of us refer to SAPs?
- How many of us prescribe naloxone?
- Does your ED dispense naloxone?

Pain Assessment

- Assess patient prior to administration of any pain intervention
  - Standardized pain assessment tools
  - Use scripting that medication will help "***control*** your pain and improve your comfort"
- Reassessment within a reasonable time frame
  - Standardized pain assessment tools
  - If pain is not "controlled," suggest alternatives

Nursing Satisfaction

From a survey of pilot nurses:

- "I support the program and its efforts to reduce opioid use in the ED" – 93 percent
- Which pathway is MOST effective? Headache – 45 percent
- Which pathway is LEAST effective? Extremity fracture/ joint dislocation – 52 percent
- How have patients responded to ALTO? Accepting and supportive – 54 percent
- Was scripting helpful? Yes – 68 percent

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Assessing Risk of Addiction

Risk for abuse:

- Personal or familial history of substance abuse
- Age between 16 and 45 years
- Mental health history
- History of sexual abuse

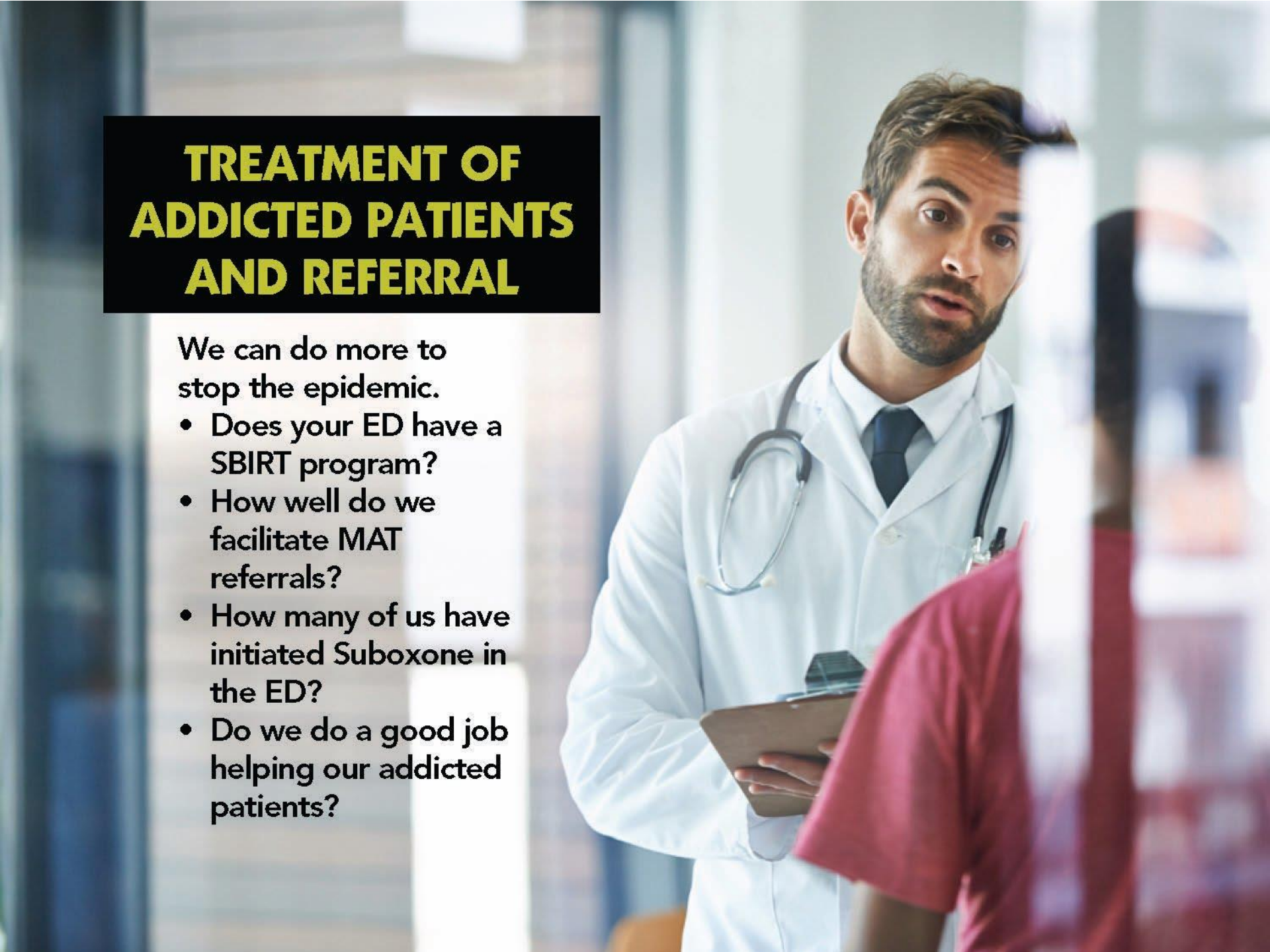
Comorbidities:

- Pulmonary disease
- Cardiac disease
- Renal or hepatic failure
- Elderly

TREATMENT OF ADDICTED PATIENTS AND REFERRAL

We can do more to stop the epidemic.

- Does your ED have a SBIRT program?
- How well do we facilitate MAT referrals?
- How many of us have initiated Suboxone in the ED?
- Do we do a good job helping our addicted patients?



Implementation: Is this possible?

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Project Champions

- ED Nursing
  - Director, charge RNs, staff
- ED Physicians
  - Director, staff
- Hospital Leadership
  - CEO, CNO, CMO
- Other Support
  - Quality improvement
  - IT/data support
  - Pharmacy
  - Communications/marketing

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Policy Changes

- Procedural Sedation
  - Ketamine dosing – clearly define analgesia vs sedation doses
    - < 0.25 mg/kg slow IVP = analgesia
    - ≥ 1 mg/kg slow IVP = sedation = “timeout”
- High-Risk Medication Administration
  - Lidocaine administration
    - 1.5 mg/kg bolus over 10-60 min = non-ICU areas
    - Cardiac lidocaine = ICU
  - Ketamine administration
    - < 0.25 mg/kg slow IVP $\pm$ 0.1 mg/kg/hr x 48 hrs max = non-ICU areas
    - 1-2 mg/kg IV + 5-30 mg/hr = ICU

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Pharmacy/IT Support

- Education
  - Nurses, physicians, pharmacists
- CPOE
  - Creation of pain treatment order set
  - Create order strings for unique entries – clearly label “for pain”

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Pharmacy/IT Support

- Smart Pumps
  - Addition of new medications – clearly label “for pain”
    - Lidocaine
      - Bolus = 1.5 mg/kg in 100 mL NS over 10 min
    - Ketamine
      - Bolus = 50 mg/5 mL prefilled syringe entry to infuse over 10 min
      - Gtt = 100 mg/50 mL NS max 0.1 mg/kg/hr

Data Collection

- **Primary outcome:** Change in ED opioid use pre- and post- implementation
  - Measured in morphine dosing equivalents
  - Per ED patient visit
- **Secondary outcome: patient satisfaction**
  - How likely are you to recommend this facility?
  - How well was your pain controlled?

**All data organized by month*

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Partners

COLORADO CHAPTER
American College of Emergency Physicians
ADVANCING EMERGENCY CARE

Questions?

Resources

www.cha.com/ALTO

Nursing Contact Information

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You save lives every day … Thank you.

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