7 YEAR OLD FELL FROM JUNGLE GYM
7 YEAR OLD FELL FROM JUNGLE GYM

Procedural Sedation
Reduced
Placed in Splint
Medications for home?

Formulation Dose
Frequency Duration
I chose to treat this child's pain with:

A. Tylenol
B. Motrin
C. Tylenol with Codeine
D. Oxycodone

E. Other
NJ LEGISLATION

Strictest in the nation

Feb 15, 2017

5 day limit on Rx

Arizona, Connecticut, Delaware, Maine, Massachusetts, New York, PA, Rhode Island, Vermont

Most have 7 day limit

Massachusetts – REQUIRING paramedic units to carry non opioid medications

  Ibuprofen PO, Acetaminophen PO, Ketorolac IV or IM

  Acetaminophen IV is optional
NJ LEGISLATION

Exemptions

Currently in active treatment for cancer
Receiving hospice care from a licensed hospice
Resident of long term care facility
Medication is being prescribed for treatment of substance abuse or opioid dependence
Receiving palliative care
Incurable progressive disease

Required to have 1 hour approved CME in this area as part of 2017- 2019 license renewal
NJ LEGISLATION

Applies to Acute AND Chronic pain

Acute pain

From disease, accidental or intentional trauma, or other cause the practitioner expects to last only a short time

Chronic pain

Persists for 3 or more consecutive months after efforts have been made to relieve pain
NJ LEGISLATION

❖ Initial Prescription – multiple steps & 5 day supply
❖ Second Prescription – consultation with patient & 30 day supply
❖ Third Prescription – requires signed pain management agreement
❖ Continuously Prescribed on setting of chronic pain – reassess every 3 months

NJ LEGISLATION

Initial Prescription
Requirements
Orders
Documentation
Discussion
NJ LEGISLATION

Order Requirements

Can NOT exceed 5 day supply

Lowest effective dose

Write “acute pain” on Rx

Immediate release formulations only

Never been prescribed drug OR > 1 year since last prescription for drug

NJ PMP (New Jersey Prescription Monitoring Program) data reviewed for previous Rxs

https://newjersey.pmpaware.net/login
NJ LEGISLATION

Documentation Requirements

- History of pain – nature, frequency, severity
- Hx of substance abuse/use
- Non-opioid meds & non-pharmacological treatments
- PE – coexisting disease/conditions
- Treatment plan – objectives used to evaluate treatment success
NJ LEGISLATION

Discussion Requirements

Must discuss with patient

If patient < 18 years old/not emancipated minor must discuss with parent or guardian

NJ you are not emancipated if you have child, only while you are pregnant with child

WHY using medication

ALTERNATIVES & RISKS including addiction, overdose

Proper storage & disposal
DISCARDING MEDICATIONS

University Pediatric Hospital - 2015

What happens to pain meds when kids go home?
187 kids, parents answered questions
87% of patients prescribed opioids
60% of opioids dispensed were unused
85% - 90% where never told/don’t know how to discard of Rx

DEA = toilet flush, EPA DON’T flush
5% actually discarded Rx
50% of patients had teenage siblings
DISCARDING MEDICATIONS

Take back days

Project Medicine Drop

1 (800) 242-5846

Dispose of unused and expired medications anonymously

Seven days a week, 365 days

Prescription drug drop boxes located within the headquarters of participating police departments

Drug Disposal Pouch
OPIOID EPIDEMIC & PAIN

In 2000 Joint Commission emphasis on pain control

Rx increased more than 300%

12.5 Million People Aged 12 or Older Who Misused Pain Relievers in the Past Year
PEDIATRIC PAIN

Pediatric pain is undertreated

PECARN Study 2014

Trauma compromised 28% of prehospital calls for children

Less than 1% of pediatric patients received pain medication

PEDIATRIC PAIN

Pediatric pain is undertreated

78% of ED visits have chief complaint pain related

27-42% of kids will have a fracture before 16yrs

Half of these patients rated their pain as moderate or severe pain

Only 35% received an analgesic of any kind


BARRIERS TO PAIN MANAGEMENT

Inability or difficulty assessing pediatric pain
Concerns about medication dosing
Lack of pediatric standing orders/order sets
Difficulty obtaining IV access
Short transport time – no need for pain meds
Concern about side effects
Drug seeking behavior
Concerns about masking pain/affecting assessment/diagnosis
Different beliefs about pediatric pain
Inability or difficulty assessing pediatric pain

*Most frequently cited barrier*

- Adults – pain scores 65%
- Pediatrics – pain scores
  - 5% adolescents
  - 2% children
Your poll will show here

1. Install the app from pollev.com/app
2. Make sure you are in Slide Show mode

Still not working? Get help at pollev.com/app/help or Open poll in your web browser
AGE SPECIFIC ASSESSMENT OF PAIN

Observational – Behavioral Scales
- Provider assesses/ranks patient on behaviors
- Used to assess the younger child
- Can not assess/report their own pain

FLACC Observational Scale
- Appropriate for use in children less than 4 years old
- Can be used in awake or sleeping patients

Yes sleeping patients can still have pain!
# Age Specific Assessment of Pain

<table>
<thead>
<tr>
<th>DATE/TIME</th>
</tr>
</thead>
</table>

## Face
- 0: No particular expression or smile
- 1: Occasional grimace or frown, withdrawn, disinterested
- 2: Frequent to constant quivering chin, clenched jaw

## Legs
- 0: Normal position or relaxed
- 1: Uneasy, restless, tense
- 2: Kicking, or legs drawn up

## Activity
- 0: Lying quietly, normal position, moves easily
- 1: Squirming, shifting back and forth, tense
- 2: Arched, rigid or jerking

## Cry
- 0: No cry (awake or asleep)
- 1: Moans or whimpers; occasional complaint
- 2: Crying steadily, screams or sobs, frequent complaints

## Consolability
- 0: Content, relaxed
- 1: Reassured by occasional touching, hugging or being talked to, distractible
- 2: Difficult to console or comfort

### Scoring:

- **0** = relaxed and comfortable
- **1-3** = mild discomfort
- **4-6** = moderate pain
- **7-10** = severe pain
AGE SPECIFIC ASSESSMENT OF PAIN

Self Report Scales

Appropriate for children 4 – 12 years old

Children asked to report their level of pain

Varying types of scales

- Cartoons/Faces
- Changing color schemes
- A number line
- Numeric reporting
CRAFFT SCREENING

Part A During the PAST 12 MONTHS, did you:

1. Drink any alcohol (more than a few sips)? (Do not count sips of alcohol taken during family or religious events.)

2. Smoke any marijuana or hashish?

3. Use anything else to get high? (“anything else” includes illegal drugs, over the counter and prescription drugs, and things that you sniff or “huff”)

If all three = NO then Ask CAR question only, then stop

If any = YES then Ask all 6 CRAFFT questions

Part B

1. Have you ever ridden in a CAR driven by someone (including yourself) who was “high” or had been using alcohol or drugs?

2. Do you ever use alcohol or drugs to RELAX, feel better about yourself, or fit in?

3. Do you ever use alcohol or drugs while you are by yourself, or ALONE?

4. Do you ever FORGET things you did while using alcohol or drugs?

5. Do your FAMILY or FRIENDS ever tell you that you should cut down on your drinking or drug use?

6. Have you ever gotten into TROUBLE while you were using alcohol or drugs?

SCORE OF 2 or HIGHER = POSITIVE
TREATMENT OF PEDIATRIC PAIN

Patient/Parent Preparation
Parental presence

Provider Preparation

Non Pharmacologic Interventions

Pharmacologic Interventions
PATIENT/PARENT PREPARATION

Effectiveness of parental presence

- Depends on parents anxiety level
- Parents are ideal coaches
  - Know their child’s interests
  - Gives them a “job”

Parents should not

- Restrain child
- Threaten the child – ex more shots if you don’t behave
PROVIDER PREPARATION

BE CALM!!

Preparation of equipment/meds
  Make a plan ahead!

You must control the situation
  Important the child has choices but you control those choices
    Rgt vs left arm for IV, but IV must be placed

Simple honest instructions to the patient about the process

Acceptable alternative to length based tape
NON PHARMACOLOGIC INTERVENTIONS

RICE - Rest, ICE, Compression, Elevation
Splinting
Dressing
Positioning - swaddling/pacifier
Spot Pressure or Counter irritation for Painful Procedures
Gate Theory of Pain
NON NARCOTIC TOPICAL

LIDOCAINE-PRILOCAINE CREAM

Intact skin
Onset 30 – 60 min
Duration 1 - 2 hours after removal
Needs a vaso-occlusive dressing
Dose 1g<5kg
  2g >5kg
  10g >10kg
  20g > 20 kg
Methemoglobinemia

LIDO-EPI-TETRACAINE GEL

Open wounds
Onset 20 - 30 min
Duration 2 - 3 hours after removal
Needs cotton then pressure dressing
Dose 7mg/kg
NON NARCOTIC

25% Sucrose solution

Response strongest in newborn period
Decreases over the first 6 months of life
2 ml in/on a pacifier or 1 ml in each cheek via syringe
Administer no more than 2 minutes before painful procedure
Endorphin release
Your poll will show here

1. Install the app from pollev.com/app
2. Make sure you are in Slide Show mode

Still not working? Get help at pollev.com/app/help
or
Open poll in your web browser
NON NARCOTIC

Acetaminophen

Mechanism: Inhibition of prostaglandin & cyclooxygenase 3
Analgesic and anti-pyretic

Routes: PO, PR, IV (IV approx. $36, Fentanyl/Morphine $2)

Dose: 15 mg/kg q 4 hours

Side effects: Hepatotoxicity in overdoses

Advantages: Good safety profile, Good pain reduction for mild pain

Disadvantages: PO – onset of action 30 min,
PR – bioavailability variable, IV – onset 15 min, expensive
NON NARCOTIC

NSAIDs
Mechanism: Inhibit cyclooxygenase-2 isoenzyme
Routes: PO, PR, IM, IV
Dose: Ibuprofen 10 mg/kg PO q6 hours
Ketorolac 0.5 mg/kg IV/IM q 6 hours
Side effects: GI upset, Renal toxicity, Hepatotoxicity, Inhibits platelet aggregation, Bronchospasm, Skin reactions
Advantages: Good pain reduction for mild/moderate pain
Disadvantages: PO – onset of action 30 min, PR – bioavailability, IV/IM – PLT aggregation/?
Your poll will show here

1. Install the app from pollev.com/app
2. Make sure you are in Slide Show mode

Still not working? Get help at pollev.com/app/help
or
Open poll in your web browser
Opioids in Neonates/Young infants

- Relative imbalance mu receptors
  - mu 1 = analgesia
  - mu 2 = respiratory depression
- Increased susceptibility to apnea

- Immature blood brain barrier
  - Higher drug concentrations in the brain
- Decreased plasma protein binding
  - Higher free fraction of drug in the blood
- Immature liver/kidneys
  - Metabolism and excretion is decreased

Lower doses & titrate to response
NARCOTIC

Codeine
Mechanism: activated to morphine
Routes: PO
Dose: 0.5 mg/kg PO q 4-6 hours
Side effects: ultra rapid metabolizers exaggerated sedation/respiratory depression
Advantages: Often combined with acetaminophen, moderate pain relief
Disadvantages: slow onset of action
NARCOTIC

Oxycodone
Mechanism: Mu receptors
Routes: PO – liquid & pill
Dose: 0.05 – 0.15 mg/kg PO q 4 – 6 hours, max dose 5-10mg
Side effects: Nausea/Vomiting, Hypotension, Respiratory Depression
Advantages: liquid, more safe than codeine
Disadvantages: onset 10-30 mins, difficult to titrate
NARCOTIC

Morphine
Mechanism: Mu receptors
Routes: PO, PR, IV, IM
Dose: 0.2 – 0.5 mg/kg PO q 4 – 6 hours
    0.05 – 0.1 mg/kg IV/IM q 2 – 4 hours
Side effects: Nausea/Vomiting, Hypotension, Respiratory Depression
Advantages: IV onset minutes
Disadvantages: IM/PO delayed onset (10min, 30min), difficult to titrate, IN Bioavailability only approx. 10%
NARCOTIC

Morphine – Preparing for Use

  Respiratory depression
    Reversed with Naloxone 0.1 mg/kg max 2 mg
  Basic airway – adjuncts, neck roll, BVM

Nausea/Vomiting
  Ondansetron 0.15 mg/KG max dose 4mg

Hypotension
  Fluid bolus
NARCOTIC

Fentanyl
Mechanism: Mu receptors, 100 more potent than Morphine
Routes: PO, IV, IM, IN, Transdermal
Dose: 1 - 2 mcg/kg IV/IM q 30-60 min
1.5 – 2 mcg/kg IN q 15-30 min
Side effects: less histamine release compared to morphine, less N/V, hypotension
Advantages: quick on/quick off, IN bioavailability 70-80%
Disadvantages: chest wall rigidity
NARCOTIC

Fentanyl – Preparing for use
Same prep as Morphine except

Chest wall rigidity

Rare
Related to fast push dosing
Less common with IN dosing
Not relieved by Naloxone
Prepare to paralyze and manage airway
NARCOTIC

Intranasal Use

Use mucosal atomizer to increase absorption

Keep volume per nostril less than 1 ml

Ideal volume 0.2 – 0.3 ml per nostril

Add 0.1 ml of drug to account for dead space

Use the most concentrated injectable form
Fentanyl – Intranasal Use

1.7 mg/kg dose IN = 0.1 mg/kg dose Morphine IV

Use both nostrils - doubles the absorptive surface

Remove mucous or blood first!

Head tilted back

Atomizer snugly against the nostril

Compress briskly
NARCOTIC VS NON NARCOTIC

Many studies comparing narcotic to non narcotic

Ibuprofen PO = Morphine PO
Ibuprofen > acetaminophen/codeine
Ibuprofen = Codeine
Ibuprofen = oxycodone
IV Paracetamol > IV Morphine (adults)


OTHER

Ketamine

Mechanism: NMDA antagonist, blocks peripheral pain receptors and prevents central sensitization

Routes: PO/IV/IM/IN

Dose: 0.3 – 1 mg/kg IV, 2 - 4 mg/kg IM, 1 mg/kg IN

Side effects: laryngospasm (esp. < 3 mos.), salivation, emergence hallucinations

Advantages: may increase BP

Disadvantages: emergence
Ketamine – Preparing for use
Laryngospasm & salivation
   Anticipate airway problems
   Suction, adjuncts, neck roll, BVM
   May consider atropine 0.01 mg/kg IV for secretions
   May need to paralyzed and manage airway
Emergence
   Prepare for some of these kids to be combative
   Sometimes improves with Benzo
PICHFORK trial compared IN fentanyl vs IN Ketamine
Limb injuries
Ketamine 1 mg/kg vs Fentanyl 1.5 mcg/kg
Pain reduction similar in both
Ketamine more side effects/adverse events
  Dizzy
  Drowsy

WHY THIS MATTERS

Alters Pain sensitivity

Infants circumcised without anesthesia showed increased distress during routine immunizations


Similar results with neonates with repeated heel sticks

WHY THIS MATTERS

Attitudes that influence health care behavior

Young adults surveyed about medical procedures

Correlation between

High childhood pain and fear

High adult fear, pain, and avoidance of health care

PEDIATRIC PAIN

WHAT YOU DO TODAY MATTERS