

Child Life 101 for EMS and Development of a Distraction Toolbox: *Using Nonpharmacologic Methods to Manage Pain and Anxiety*

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PI: Pain Assessment and Management Initiative (PAMI) and

Pediatric Emergency Care Safety Initiative (PECSI)



DISCLOSURES

Presentation includes materials from the Pain Assessment and Management Initiative (PAMI), a *free access* educational project. Funding provided by Florida Medical Malpractice Joint Underwriting Association, Alvin E. Smith Safety of Health Care Services Grant. All products are multidisciplinary and designed to be used or adapted by any health care facility, school, or agency.



FMMJUA
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Joint Underwriting Association*



<http://pami.emergency.med.jax.ufl.edu/>



Pain Assessment and Management Initiative



Pain Assessment and Management Initiative (PAMI)

PAMI is a free access online educational and patient safety project. The goal of PAMI is to improve pain recognition, assessment and management in patients of all ages, including special populations.

PAMI products are multidisciplinary and can be used by hospitals, EDs, EMS, and other providers. Resources and tools are designed to be used or adapted by any health care facility, school, or agency.

Collaborators include Florida College of Emergency Physicians, Florida Hospital Association, Society for Pediatric Sedation, and other state and national organizations.

Website: <http://pami.emergency.med.jax.ufl.edu/>



FREE

PAMI Topics & Modules *2 CME/CEU's per module

Basics of Pain Management	Nonpharmacological Pain Management
Acute Pain Management	Pediatric Pain Management
Procedural Sedation and Analgesia	Pharmacological Pain Management

Prehospital Pain Management for Adults, Children and Special Populations

Module Registration: <http://pami.emergency.med.jax.ufl.edu/course-registration/>

Learning Modules with FREE CME/CEUs

Distraction Toolkit for Pain and Anxiety

Newsbriefs, Case Scenarios and other Resources

FREE Downloadable Pain Management and Dosing Guide for Adults and Pediatrics



SCAN QR CODE TO DOWNLOAD DOSING GUIDE

Email us your feedback and how you improved patient care and safety!



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Nonpharmacologic, Child Life & Distraction Toolkit Techniques for Pain Management in Emergency Settings

The PAMI project has a new course and toolkit that focuses on nonpharmacologic pain management for ED and EMS providers. Topics include a stepwise approach to pain management that incorporates pharmacologic and nonpharmacologic measures, therapeutic language, comfort positioning, coaching, distraction, guided imagery, and other physical/psychosocial modalities. For free access course and toolkit materials visit:

<http://pami.emergency.med.jax.ufl.edu/resources/new-approaches-to-pain-course>.

Distraction Toolkit

A distraction toolkit can be a bag, backpack, toolbox, cart or room containing "tools" to distract or comfort patients during painful or stress provoking situations such as procedures, imaging, burns, or trauma.

Tools and techniques are based on the setting, situation and developmental stage of the patient. Be aware of small parts and infection control during transport.

Example of PAMI Distraction Toolbox



Toolkit Components

Choose a toolbox item appropriate for the situation and developmental age

- ◇ Hot or cold packs
- ◇ LED animal keychain
- ◇ Wikki Stix
- ◇ Bubbles
- ◇ Mad Libs
- ◇ Games/Videos
- ◇ I Spy wands
- ◇ Music/Apps
- ◇ Stress balls
- ◇ Pin Wheels
- ◇ Pacifier: with or without sucrose solution

Benefits of Nonpharmacologic Methods:

- * Used alone or in combination with medications to facilitate triage and management – may not be appropriate in cases of severe pain or high acuity
- * Often decreases dose or need for medications (ex. opioids)
- * Reduces procedure and treatment times
- * Decreases fear and anxiety for the patient, as well as caregivers and healthcare providers!
- * Always consider for children and cognitively impaired patients; however, most nonpharmacologic methods and "tools" can also benefit adult patients

Scan here to download toolkit information



For more information on PAMI, the Dosing Guide or to take our FREE CME/CEU learning modules visit: <http://pami.emergency.med.jax.ufl.edu>

PAMI Learning Modules *2 CME/CEU's per module

Basics of Pain Management	Nonpharmacologic Pain Management
Acute Pain Management	Pediatric Pain Management
Procedural Sedation and Analgesia	Pharmacologic Pain Management

or scan the QR Code



Questions or comments: Email: emresearch@jax.ufl.edu

Prehospital Pain Management for Adults & Children



Pain Assessment and
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PAMI Website



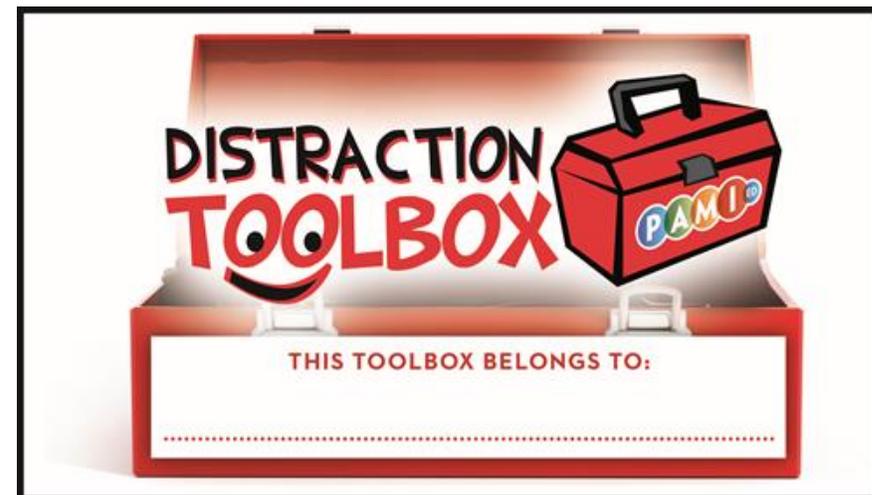
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**Pain Management &
Dosing Guide**



[pami.emergency.med.jax.ufl.edu/
dosing-guide](http://pami.emergency.med.jax.ufl.edu/dosing-guide)

Funded by the Florida Malpractice Joint Underwriting Association (FMMJUA)



Learning Objectives

- Discuss nonpharmacologic techniques and child life concepts for managing painful or anxiety provoking procedures and conditions including distraction, imagery, comfort positions and others
- Determine components of a “Distraction Toolbox” for pediatric and adult cases including safety precautions and resources for maintaining a stocked toolbox or bag
- Describe advantages of using nonpharmacologic pain management techniques to decrease opioid use, save time and improve patient safety

CLINCON Version of 3 Hour Pilot Course— New Approaches to Pain Agenda

8:30-9:00: Registration

9:00-10:00: Basics of ED and EMS Pain Management

- Opening Pediatric and Adolescent Case Scenarios
- Background of Pain Management in ED and EMS
- PAMI Stepwise Approach to Pain Management
- Responses to Pain by Developmental Stage
- Overview of Pharmacologic Pain Management
- Question & Answer

10:00-11:00: Nonpharmacologic Pain Management

- Conversation and Therapeutic Language
- Coaching and Preparation
- Psychological and Cognitive Behavioral

Interventions

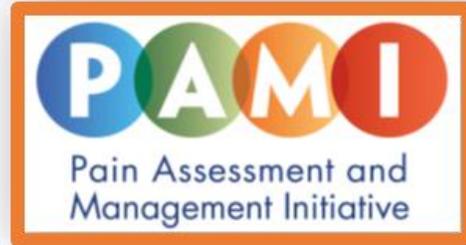
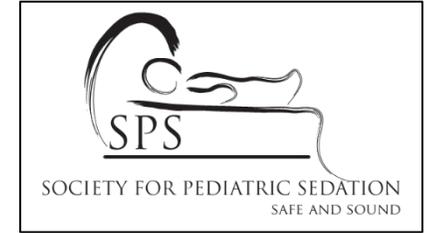
- Physical/Sensory Interventions
- Distraction Toolbox Development

11:00-11:15: Break and Distribution of Distraction Toolboxes

11:15-12:15: Putting It All Together-Program Implementation, Resources and Evaluation

- Case Scenario Discussion
- Educational Resources, Supplies and Videos
- Implementation in your Community
 - EMS Week
- Community Resources and Networking Opportunities
- Feedback and Questions
- Name This Course

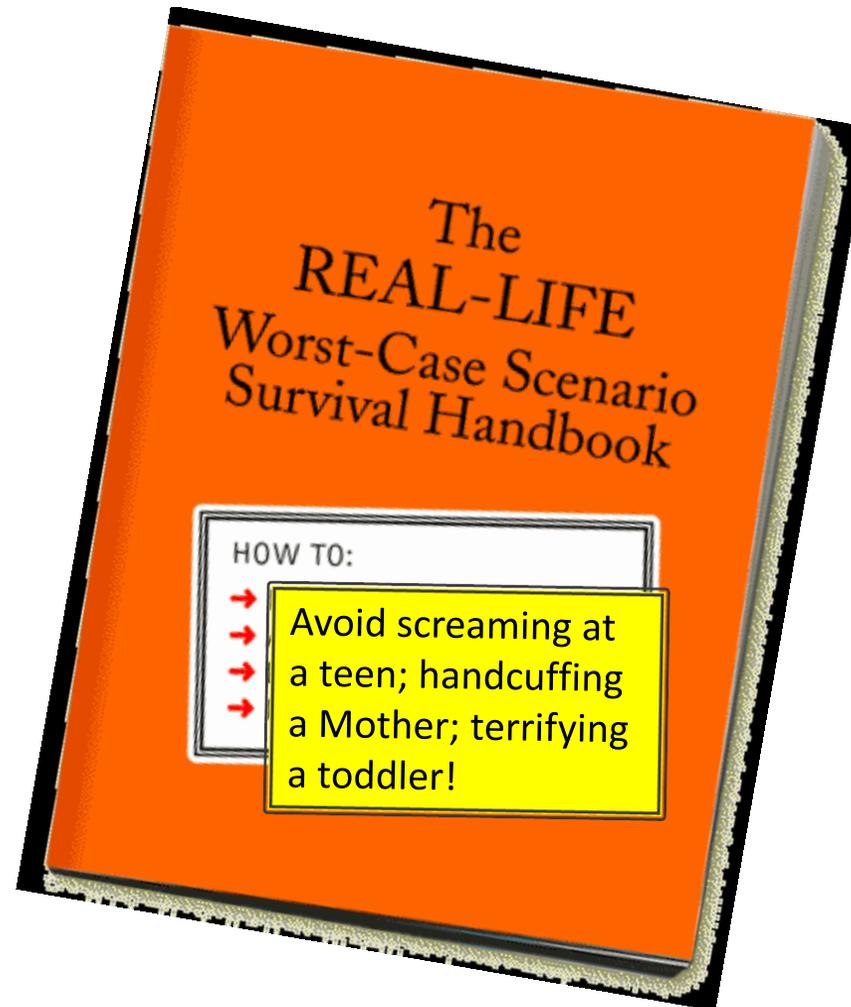
Stakeholders and Collaborators



EMS for Children Program



Case Scenarios To Ponder



Case Scenario: Head Trauma & Laceration

EMS called to the home of a 4 year old who cut his forehead after a fall while running. He had a brief LOC. Initially the boy was calmly sitting in his mother's lap but now begins to cry and throws his toy truck at your face. Blood is dripping down his face. His mother is crying and asks if you will "report her".



What can be done to help calm the child and mother in order to perform further evaluation of the injury?

Case Scenario: Laceration continued

Upon arrival to the ED a physician comments, *“That cut is pretty deep. It’s going to need stitches. Don’t worry, it will only hurt a little. You won’t remember any of it after we put you to sleep”*. He tells the nurse to start an IV and leaves the area.

***Is the physician’s language developmentally-sensitive?
What unintended consequences may occur?***

Case Scenario: Burn

- A 6 foot, 200 pound 18 year old with cerebral palsy and development delay was burned by boiling water. He is now crying and thrashing with obvious full-thickness burns to chest, arms, and hands.
- A 2 year old pulled a pot of boiling water and pasta off the stove. She has burns on her arms, chest and face. She is screaming and running away from you.

Would you handle these two cases the same?

Case Scenario: Past History

- 5 year old female with obviously deformed forearm S/P fall off playground equipment arrives via EMS from school. She is crying hysterically and saying “Please don’t tell my momma I was a bad girl”. Father arrives ten minutes later and appears quiet and exhausted. ED/EMS staff is concerned that he doesn’t seem to be doing anything to comfort his daughter. You ask if he has notified the child’s mother of the accident. The child’s eyes light up but he shakes his head. Finally you ask why he has not called the girl’s mother; he responds “She died 3 months ago”...

How do past experiences influence responses to pain and traumatic events?

Why Focus on ED/EMS Pain Management?

- Pain is the most common reason for seeking health care and as a presenting complaint accounts for up to 78% of ED visits
 - 50% + of EMS runs.
- Chronic pain alone affects more Americans than diabetes, cancer, and heart disease combined
- Limited pain education in professional health related schools
- EMS actions regarding pain set tone for entire hospital experience

Limited Research on Pain in ED and EMS Settings: Data Often Extrapolated from Other Settings

- Hospital, clinics, dentists
- Outpatient procedures
- Sedation services and pain clinics or consultations
- Hospice and palliative care programs
- Controlled or planned settings

Pain in the ED and EMS Settings

- Pain is often undertreated especially in **children**, women, African-Americans, and Hispanics
- Only half of EMS patients experience pain relief prior to ED arrival
- PECARN studies: trauma accounts for 28% of pediatric EMS calls but <1% received pain medications
- Why don't we treat pain like any other abnormal VS or disease?

Why Aren't We Managing Children's Pain? NY Times April 2016

“One of the best ways to address the epidemic of chronic pain in this country is to stop it before it starts.... If we could reduce painful experiences in childhood we might be able to reduce chronic pain in the next generation”

.....medical training in pain management is scant.
Veterinary schools require “at least five times more education on how to handle pain” than medical schools,
Nora D. Volkow, the director of the National Institute on Drug Abuse, said earlier this year in testimony before a Senate committee.



Why EMS & ED Pain Management?

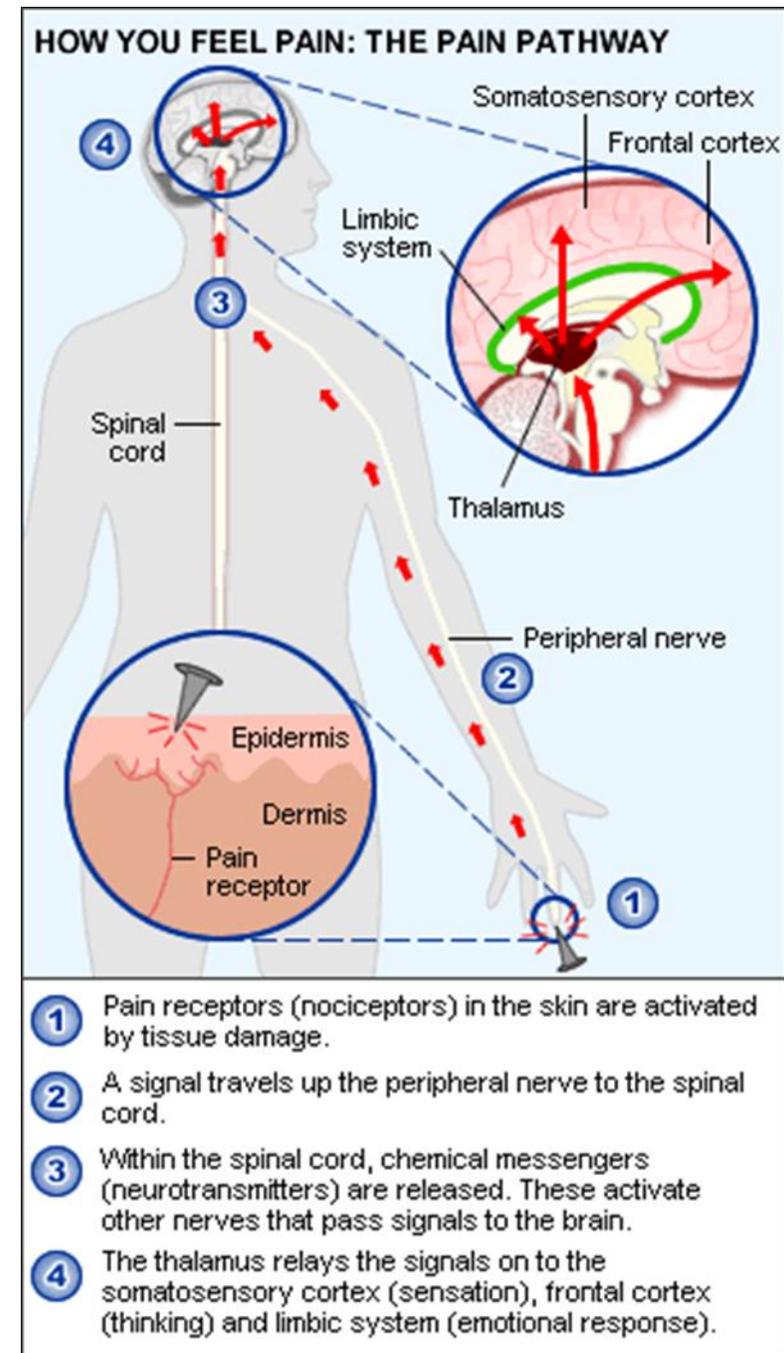
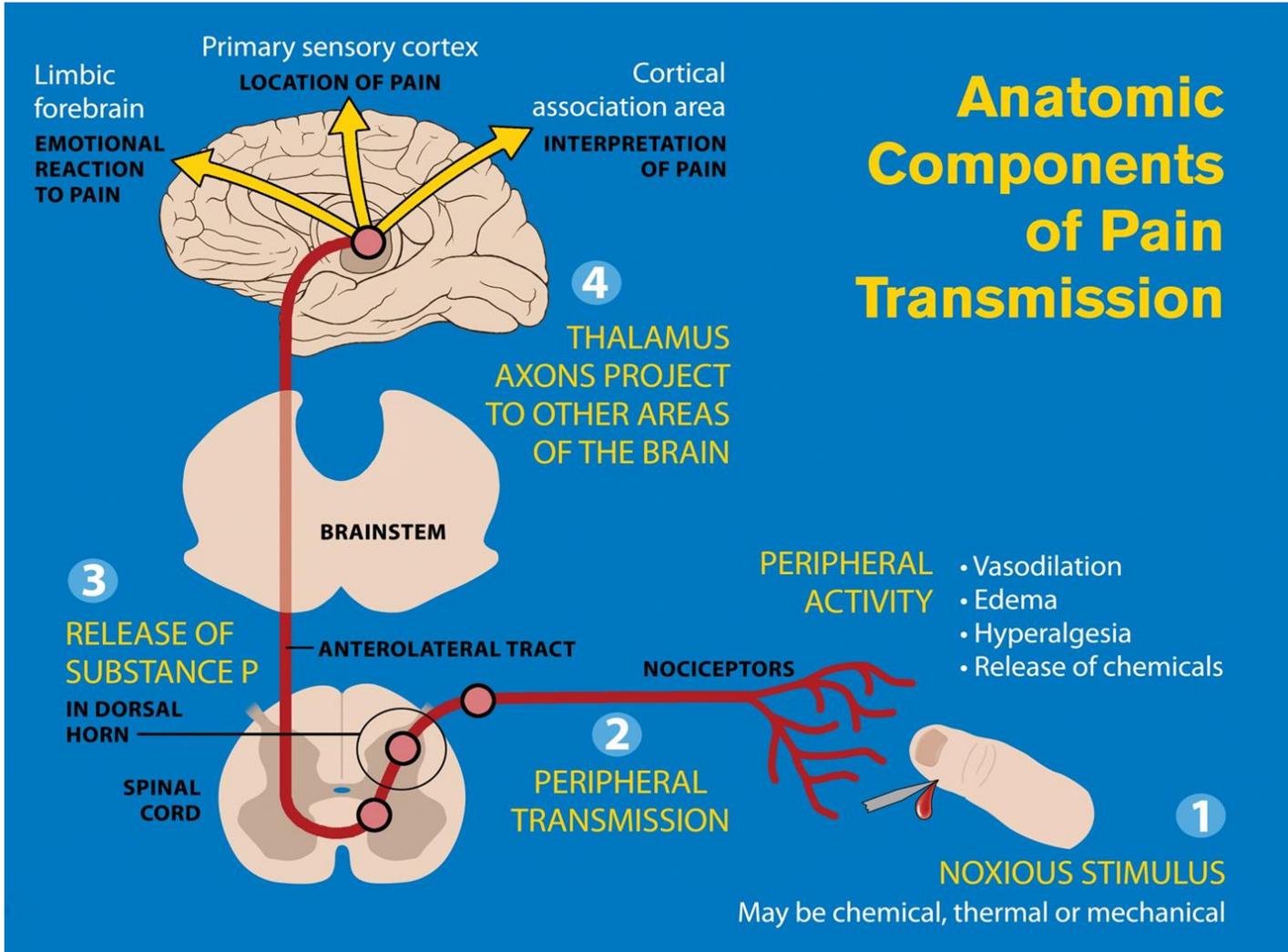
- Significantly decreases waiting times for pain reduction or relief.
- Pre-hospital pain management aids in improved ED triage, patient comfort, vital signs, and patient assessment.
 - Trauma patient example with tachycardia- shock vs. pain
- Early management provides long-term benefits:
 - decreased long-term sequela in children
 - ***prevention of chronic pain*** through the development of hypersensitized pain pathways
 - uncontrolled acute pain may have a link to PTSD and if inadequately treated can lead to chronic pain
 - prevents reduced response to appropriate analgesia dosages

Pain: Today



- Total upheaval in the world of pain management
 - New research regarding the neurobiological complexity of pain and long term consequences of untreated acute pain
 - Seeing different types of pain due to MVCs and distracted driving, sports, technology, ...
 - New methods of treating pain
 - Post op nerve blocks
 - Old drugs used in new ways
 - Growth of pain specialists and procedures

Pain 101



Pain: Today

- Opioid addiction epidemic has everyone pointing fingers and outcry for reducing opioids
 - CDC, The Joint Commission, HCHAPS survey scoring
- Focus shifting to adolescents and adults that abuse the system versus those in real pain- how to balance?
- State prescription drug monitoring programs
- **Pain MCI!**

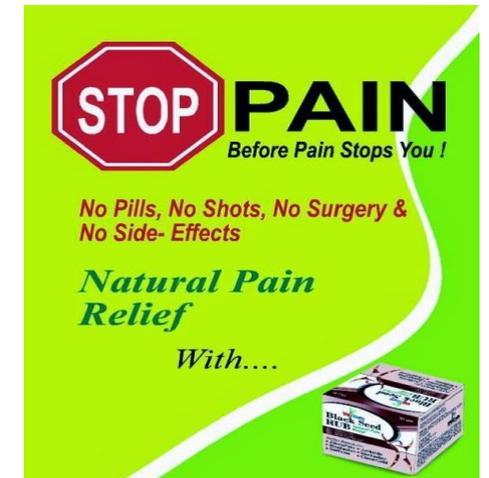
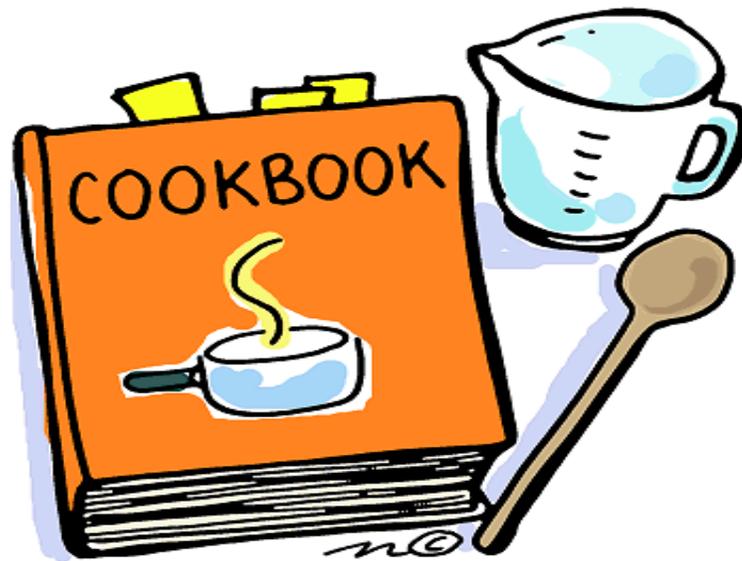
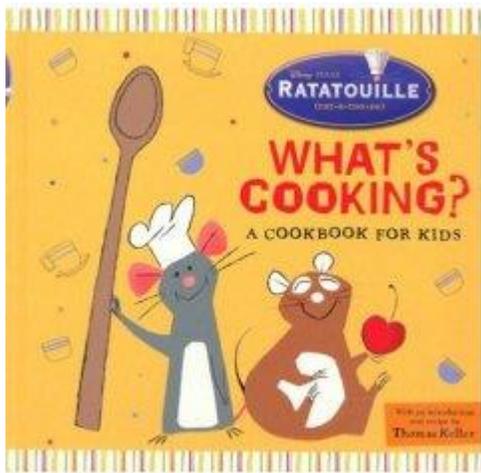




1. Information Management in EHRs
2. Unrecognized Patient Deterioration
3. Implementation and Use of Clinical Decision Support
4. Test Result Reporting and Follow-Up
5. Antimicrobial Stewardship
6. Patient Identification
- 7. Opioid Administration and Monitoring in Acute Care**
8. Behavioral Health Issues in Non-Behavioral-Health Settings
9. Management of New Oral Anticoagulants
10. Inadequate Organization Systems or Processes to Improve Safety and Quality

Pain Management: Putting it All Together

- No Perfect Recipe or “Cookbook”
- No Universal *Kid* Recipe



Overview of PAMI Stepwise Approach to Pain

(Adapted to Setting- ED, Hospital, EMS)
Ideal approach not always possible



Step 7. Monitoring & Discharge Checkpoint

Step 6. Management Checkpoint

Step 5. Patient Assessment Checkpoint

Step 4. Facility Checkpoint

Step 3. Family Dynamic Checkpoint

Step 2. Developmental or Cognitive Checkpoint

Step 1. Situation Checkpoint

Step 1: Determine the Situation: What are you trying to accomplish or manage?

Step 1. Situation Checkpoint

- Pain only
- Pain and anxiety or agitation
- Anxiety only
- Agitation only
- Procedure that will induce pain or anxiety- transport, IV,.....
- Chronic pain condition exacerbation

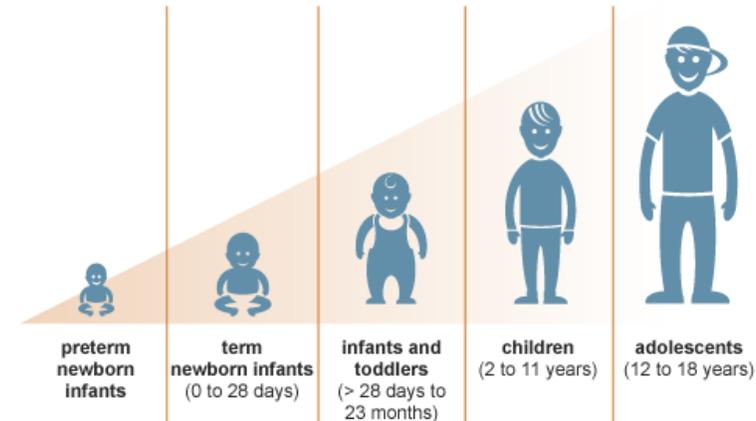
Determination accomplished after brief triage, history, exam



Step 2: Perform a Developmental Checkpoint

Step 2. Perform a Developmental or Cognitive Checkpoint

- What is the developmental stage of patient?
- Is development normal for age?
 - Developmental delay
 - Autism
 - Special health care needs
 - Mental health concerns
 - Recent traumatic events
- Regression to lower developmental stage



**What are characteristics of developmental stage in response to pain?
How do you adapt your approach based on developmental level?
Kids and teens don't always follow the charts!**

Responses to Pain by Age or Development

Age Group	Understanding of Pain	Behavioral Response	Verbal Description
		Preschoolers	
3–6 years (preoperational)	Pain is a hurt; Does not relate pain to illness; may relate pain to an injury; <i>Often believes pain is punishment</i> ; Unable to understand why a painful procedure will help them feel better or why an injection takes the pain away	Active physical resistance, directed aggressive behavior, strikes out physically and verbally when hurt, low frustration level	Has language skills to express pain on a sensory level; Can identify location and intensity of pain, denies pain, may believe his or her pain is obvious to others
		School-Age Children	
7–9 years (concrete operations)	Doesn't understand cause of pain; Understands simple relationships between pain and disease and need for painful procedures to treat disease ; May associate pain with feeling bad or angry; recognize psychologic pain related to grief and hurt feelings	Passive resistance, clenches fists, holds body rigidly still, suffers emotional withdrawal, engages in <i>plea bargaining</i>	Can specify location and intensity of pain and describes pain physical characteristics in relation to body parts
10–12 years (transitional)	Better understanding of relationship between an event and pain; More complex awareness of physical and psychologic pain,(moral dilemmas , mental pain)	May pretend comfort to project bravery, <i>may regress with stress and anxiety</i>	Able to describe intensity and location with more characteristics, able to describe psychologic pain
		Adolescents	
13–18 years (formal operations)	Has a capacity for sophisticated and complex under-standing of causes of physical and mental pain; Recognizes pain has qualitative and quantitative characteristics; <i>Can relate to pain experienced by others</i>	Want to behave in socially acceptable manner -like adults; controlled response; May not complain if given <i>cues</i> from other healthcare providers	More sophisticated descriptions with experience; may think nurses are in tune with their thoughts, so don't need to tell nurse about their pain

Step 3: Family Dynamic Checkpoint

Step 3. Family Dynamic Checkpoint

- Who is with the child?- parents, siblings...
- Who is the legal guardian?
- Who actually cares for the child?
- Who do you want to deal with?
- Culture, past experience
- What can they tolerate
- Other priorities- another injured child, etc.
- Family personality and stress level



Step 4: Facility (Agency/Community) Checkpoint

Step 4. Facility Checkpoint

- Staffing and setting
 - Community, rural, children's hospital
- Experience
 - Pediatric
 - Team capabilities and expertise
- Existing hospital/agency policies
- Acuity and overcrowding of the ED
- Other priorities- MCI, etc.
- Equipment, monitoring, backup



Step 5: Patient Assessment Checkpoint

Step 5. Patient Assessment Checkpoint

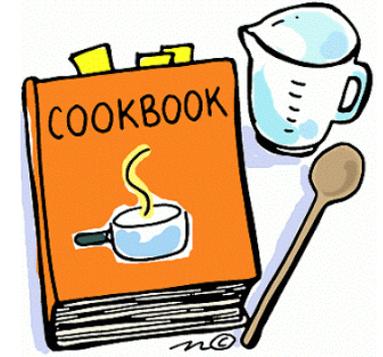
- Review history, assessment and risk factors
- Chronic illness-previous painful experiences, recent surgery
- Psychiatric and mental considerations
- Injury severity, +/- contraindications to opioids or sedation
- Body habitus
 - Weight- ideal or real? Obesity?

Factors Affecting Patient Response to Painful Stimuli

- Age, gender, ethnicity
- Socioeconomic and psychiatric factors
- Culture and religion
- **Genetics**
- Previous experiences
- Patient perceptions
- Patient expectations and perceived care by the treating provider(s)



Step 6: Management Checkpoint: Choose Your “Recipe”



Step 6. Management Checkpoint

- No magic recipe, must individualize and adjust “Ingredients”
- Pharmacologic “ingredients”
 - Route: oral, nasal, IV, nebulized, topical, nerve blocks
 - Type: sucrose, NSAID, opioids, anxiolytics, ketamine
- Nonpharmacologic “ingredients”
 - Everyone needs a little child life 101- distraction, music, swaddling
 - Engage caregivers and parents- coaching, therapeutic language

Always consider nonpharmacologic options +/- medications:

Will pain duration be short (removal of FB, laceration repair) or prolonged (burn)?

Pharmacologic Treatment of Pain



Pain Management and Dosing Guide

Updated November 2016

Pain Management and Dosing Guide Includes:

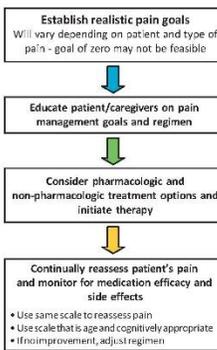
- Principles of Pain Management, Discharge and Patient Safety Considerations, Analgesic Ladder
- Non-opioid Analgesics, Opioid Prescribing Guidelines and Equianalgesic Chart, Opioid Cross-Sensitivities, Intranasal Medications
- Nerve Blocks, Neuropathic Pain Medications, muscle relaxer Medications, Ketamine Indications
- Topical and Transdermal Medications
- Procedural Sedation and Analgesia (PSA) Medications
- Stepwise Approach to Pain Management and PSA

<http://pami.emergency.medjax.ufl.edu/>
<https://goo.gl/4Yh1cB>

Send your feedback on all PAMI materials and how you use them to improve patient safety and clinical care. If you would like to adapt this guide for your institution or have recommendations contact PAMI at emresarch@jax.ufl.edu or 904-244-4986.

Disclaimer: The PAMI dosing guide, website, learning modules, and resources are for educational and informational purposes only and are not intended as a substitute for professional medical diagnosis or management by a qualified health care professional. PAMI is not responsible for any legal action taken by a person or organization as a result of information contained in or accessed through this website or guide whenever such information is provided by PAMI or by any party. As new research and clinical experience become available, patient safety standards will change. Therefore, a strongly recommended that physicians, nurses and other healthcare professionals remain current on medical literature and national standards of care and structure their treatment accordingly. As a result of ongoing medical advances and developments, information in this guide is provided on an "as is" and "as available" basis. Patient care must be individualized. The use of any product obtained or through this website, module, or product is at the user's sole discretion and risk.

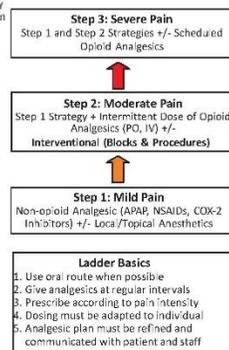
Principles of Pain Management



Pain Management Considerations

- Type of pain: nociceptive, neuropathic, inflammatory
 - Acute vs chronic, acute-on-chronic pain exacerbation
 - Pain medication history: OTC, Rx, and herbal
 - Patient factors: genetics, culture, age, previous pain experiences, comorbidities
 - Verify dosing for <6 mo and >65 yo
- Treatment Options**
- Pharmacotherapy: systemic, topical, transdermal - nerve blocks
 - Non-pharmacologic modalities
 - Refer to pain, palliative or other specialists for advanced treatment
- Non-pharmacologic modalities**
- Splitting, distraction, hot/cold therapy, exercise, massage, imagery, and others
- Discharge and Patient Safety Considerations**
- Assess and counsel regarding falls, driving, work safety, and medication interactions
 - Bowel regimen for medication induced constipation
 - Vital signs and oral intake before discharge
 - Document all pain medications administered and response at time of discharge or disposition
 - Consider OTC and non-pharmacologic options
 - Can patient implement pain management plan? - insurance coverage, transportation, etc.

Analgesic Ladder and Treatment Basics



Non-Opioid Analgesics*

Generic (Brand)	Adult	Pediatric (≥12y)
Acetaminophen (Tylenol®)	325-650 mg PO q 4-6h Max: 4g/24h	15 mg/kg PO q 4-6h Max: 75 mg/kg/24h
Acetaminophen/ Hydrocodone (Vicodin®)	1g/40mg PO q 4-6h Max: 4g/24h	15 mg/kg/40 mg/kg PO q 4-6h Max: 75 mg/kg/24h
Celecoxib (Celebrex®)	100-200 mg PO q 12h Max: 400 mg/24h	7.5 mg/kg PO BID Max: 150 mg/24h
Ibuprofen (Advil®)	400-800 mg PO q 4-6h Max: 3200 mg/24h	10 mg/kg PO q 4-6h Max: 40 mg/kg/24h
Intranasal Ketorolac (Sprinor®)	25-50 mg PO q 4-6h Max: 200 mg/24h	1 mg/kg PO q 4-6h Max: 10 mg/kg/24h
Ketorolac (Toradol®)	15-30 mg IV/IM q 4-6h Max: 120 mg/24h	0.5 mg/kg IV/IM q 4-6h Max: 15 mg/kg/24h
Naproxen (Aleve®)	250-500 mg PO q 8-12h Max: 1000 mg/24h	5 mg/kg PO q 8-12h Max: 100 mg/24h

Opioid Prescribing Guidelines and Equianalgesic Chart

Generic (Brand)	Onset (h)	Duration (h)	Approximate Equivalent Dose	Recommended STARTING dose for ADULTS	Recommended STARTING dose for CHILDREN (≥6 mo)
Morphine (MORPHINE)	0.30-0.60 (IV) 0.3-2 (PO)	3-6	30 mg	1-2 mg IV/PO q 4-6h	0.1 mg/kg IV/PO q 4-6h
Morphine extended release (MORPHINE ER)	0.30-0.60 (IV) 0.3-2 (PO)	3-6	30 mg	1-2 mg IV/PO q 4-6h	0.1 mg/kg IV/PO q 4-6h
Hydrocodone (DILAUDID®)	0.15-0.30 (IV) 0.15-0.30 (PO)	3-6	7.5 mg	1-2 mg IV/PO q 4-6h	0.06 mg/kg IV/PO q 4-6h
Hydrocodone/Acetylsalicylic Acid (DILAUDID/ASA)	0.15-0.30 (IV) 0.15-0.30 (PO)	3-6	7.5 mg	1-2 mg IV/PO q 4-6h	0.06 mg/kg IV/PO q 4-6h
Oxycodone (OXICONTIN®)	0.15-0.30 (IV) 0.15-0.30 (PO)	3-6	7.5 mg	1-2 mg IV/PO q 4-6h	0.06 mg/kg IV/PO q 4-6h
Oxycodone/Acetylsalicylic Acid (OXICONTIN/ASA)	0.15-0.30 (IV) 0.15-0.30 (PO)	3-6	7.5 mg	1-2 mg IV/PO q 4-6h	0.06 mg/kg IV/PO q 4-6h
Tramadol (ULTRAM®)	0.15-0.30 (IV) 0.15-0.30 (PO)	3-6	7.5 mg	1-2 mg IV/PO q 4-6h	0.06 mg/kg IV/PO q 4-6h

Intranasal Medications*

Generic	Dose	Max Dose	Comments
Fentanyl	1-2 mg/0.1-2.5 mL NS	5 mg/100 mg	Diarrhea occurs in 10-20% of patients
Morphine	2-4 mg/0.1-0.4 mL NS	20 mg/40 mg	Diarrhea occurs in 10-20% of patients
Hydrocodone	1-2 mg/0.1-0.4 mL NS	10 mg/20 mg	Diarrhea occurs in 10-20% of patients

NERVE BLOCKS

Type of Block	General Distribution of Anesthesia
Intercostal/Plexus Block	Shoulder, upper arm, elbow and forearm
Suprascapular/Plexus Block	Upper arm, elbow, wrist and hand
Infrascapular/Plexus Block	Upper arm, elbow, wrist and hand
Axillary/Plexus Block	Forearm, wrist and hand; Elbow if including musculocutaneous nerve
Median Nerve Block	Hand and Forearm
Radial Nerve Block	Hand and Forearm
Ulnar Nerve Block	Hand and Forearm
Femoral Nerve Block	Anterior thigh, femur, knee and distal over the medial aspect below the knee
Popliteal Nerve Block	Foot and ankle and skin over the posterior lateral portion of distal to the knee
Tibial Nerve Block	Foot and ankle
Dorsal/Plexus Block	Foot
Saphenous Nerve Block	Foot
Sural Nerve Block	Foot

Local Anesthetics*	Onset	Duration without Epi (h)	Duration with Epi (h)	Max Dose without Epi, mg/kg	Max Dose with Epi, mg/kg
Lidocaine (1%)	Rapid	0.5-2	1-6	4.5/300 mg	7/300 mg
Bupivacaine (0.5%)	Slow	2-4	4-8	2.5	3
Mepivacaine (1.5%)	Rapid	2-3	2-6	5	7
2-Chloroprocaine (1%)	Rapid	0.5-1	1.5-2	10	15
Ropivacaine (1.5%)	Medium	3	6	2.3	2.3

Neuropathic Pain Medications

Generic (Brand)	Beginning Dose	Max Dose
Gabapentin (Neurontin®)	300 mg PO QHS to TID	3600 mg/d
Pregabalin (Lyrica®)	50 mg PO BID	300 mg/d
SNRIs: Duloxetine (Cymbalta®)	30 mg PO daily	50 mg/d
Venlafaxine ER (Effexor XR®)	37.5 mg PO daily	225 mg/d
TCAs: Amitriptyline (Elavil®)	25 mg PO QHS	200 mg/d
Nortriptyline (Pamelor®)	25 mg PO QHS	150 mg/d

Muscle Relaxer Pain Medications

Generic (Brand)	Beginning Dose	Max Dose
Cyclobenzaprine (Flexeril®)	5 mg PO TID	60 mg/d
Methocarbamol (Robaxon®)	1-1.5 g PO TID to QID by 48-72 h, then 500-750 mg PO TID to QID	8 g/d
tizanidine (Zanaflex®)	2-4 mg PO BID	12 mg/d

Ketamine (Ketalar®) Indications

Indications	Starting Dose
Procedural Sedation	IV Adult: 0.5-1.0 mg/kg; Ped: 1-2 mg/kg
Sub-dissociative Anesthesia	IV 0.1 to 0.3 mg/kg; max initial dose < 10 mg
Refractory Delirium Syndrome	IV 1 mg/kg; IM 4-5 mg/kg

Topical and Transdermal Medications*

Generic (Brand)	Indications	Onset (D) and Duration (D)	Recommended STARTING dose for ADULTS	Recommended STARTING dose for CHILDREN	Maximum Dose
Diclofenac sodium (SUNIVA, 2% topical solution/Flexiban®)	Osteoarthritis	Variable	1.5% (ole) 42 mg/24h; 2% (sol) 2 patches (40mg) BID	—	1.5% (ole) 42 mg/24h; 2% (sol) 2 patches (40mg) BID
Diclofenac sodium (SUNIVA, 1% patch/Flector Patch®)	Acute pain from sprains, strains, contusions	Variable	1 patch (150 mg) BID	—	1 patch BID
Lidocaine 5% patch (Lidoderm patch®)	Postherpetic neuralgia	Variable	1-3 patches applied once daily, remove after 12 h	—	3 patches max 12 h period per day
Fentanyl (Duragesic®)	Persistent moderate to severe chronic pain	0.12-24 h D; 72h per patch	12-25 mcg/h q 72h	—	Variable
Capzasin cream (Targemid®, Zostrix®)	Strains, sprains, backache or arthritis	Variable	Apply a thin layer to the affected area and gently massage up to QD	—	Up to QD
Lidocaine (Lidocaine Patch®)	Minor cuts, scrapes, burns, sunburns, insect bites and minor irritations	0.20-30 min D; 60 min	—	Apply externally	1 externally 3-4 times per day. Apply in areas less than 100cm² for children less than 10kg. Apply in areas less than 600cm² for children less than 10 years old.
LET (Lidocaine Epi/gingivine Tetracaine) (gel or liquid)	Wound cover (non-mucosal)	0-10 min D; 30-60 min	4% Lidocaine, 1.2, 0.001 epinephrine, 0.5% Tetracaine	Topical	3 mL (into pre-cut maxillary liposine capsule 3 mL)
EMLA (2.5% lidocaine 2.5% Prilocaine) cream with occlusive dressing	Dermal analgesic (insect bite)	0-60 min D; 3-4 h	20 mg	3-12 mg (5-15 g); 2 gm (4 g) (Vial); 10 gm (21 g) (Patch); 20 gm	3-12 mg max area 20cm²; 2 g max area 100cm²; 2 g/2 cm max area 100cm²
Pain-Care® Vapocoolant Spray	Cooling analgesic for minor lacerations and lacerations	0-2 min D; 30-60 min	—	—	Stop when skin turns white and avoid frostbite
Lidocaine	Foley catheter and nasogastric tube insertion; arthroscopy; nasal packing; gingivostomatitis	0-1.5 min D; 30-60 min	2% topical (gel); 1% topical solution; 2% ointment; 4% topical solution	—	3 mg/kg

*Doses are guidelines to avoid systemic toxicity in patients with normal renal function and with normal renal and hepatic function.

Procedural Sedation and Analgesia Medications

Generic (Brand)	Adult	Pediatric	Comments
Midazolam (Versed®)	0.05-0.1 mg/kg IV/PO	0.05-0.1 mg/kg IV/PO	Risk of laryngospasm increases with active upper respiratory infection and procedures involving contact with pharynx; vomiting common. Consider premedication with Diphenhydramine (Benadryl®) 1-2 mg/kg. Not recommended in patients < 6 mo.
Fentanyl (Duragesic®)	1-2 mcg/kg IV/PO	1-2 mcg/kg IV/PO	Initial max dose 2 mg. Max total dose in < 60 yo is 0.2 mg/kg. Re-assess dose by 3-5 min when given with opioid.
Propofol (Diprivan®)	1-2 mg/kg IV/PO	1-2 mg/kg IV/PO	Risk of hypotension, respiratory depression, and apnea. Avoid in patients with severe hypotension, hypoxemia, or severe respiratory disease.
Etidimazine (Anectan®)	0.1-0.2 mg/kg IV/PO	0.1-0.2 mg/kg IV/PO	Risk of median lobe emphysema if used on patients with decreased lung capacity. Avoid in patients with severe hypotension, hypoxemia, or severe respiratory disease.
Remifentanyl (Ultiva®)	1-2 mcg/kg IV/PO	1-2 mcg/kg IV/PO	See fentanyl and propofol comments re: respiratory depression.
Desflurane (Suprane®)	1-2 MAC	1-2 MAC	Risk of bradycardia, hypotension, especially with loading doses or rapid induction. Avoid in patients with severe hypotension, hypoxemia, or severe respiratory disease.
Nitrous oxide	50% N2O/50% O2 (inhalation)	50% N2O/50% O2 (inhalation)	Do not use as sole anesthetic. Avoid in patients with severe hypotension, hypoxemia, or severe respiratory disease.
Morphine	0.1-0.2 mg/kg IV/PO	0.1-0.2 mg/kg IV/PO	100% oxygenation is essential. Monitor for respiratory depression. Avoid in patients with severe hypotension, hypoxemia, or severe respiratory disease.

Stepwise Approach to Pain Management and Procedural Sedation Analgesia (PSA)

- Situation Checkpoint**
What are you trying to accomplish? analgesia, anxiety, sedation, procedure, etc.
- Developmental/Cognitive Checkpoint**
What is the patient's developmental stage?
- Family Dynamic Checkpoint**
Who is caring for the patient? What are the family dynamics?
- Facility Checkpoint**
Type of staffing and setting, team experience, facility policies, etc.
- Patient Assessment Checkpoint**
Review patient's risk factors and history.
- Management Checkpoint**
Choose your "ingredients" for pharmacologic and non-pharmacologic "recipe."
- Monitoring & Discharge Checkpoint**
Final team standards, resources, team members, facility policies, discharge and transportation considerations.

PAMI Pain Management and Dosing Guide for adults and pediatric patients. Download as a pdf or save to your smart phone. The guide includes IV, intranasal and oral dosing routes.



New Emphasis on Nonpharmacologic Methods of Treating Pain

Painting Analogy

Think of nonpharmacologic management as your “base coat” or “primer” before applying additional coats of analgesic treatment. With the right base coat foundation, you have a better chance of painting a patient’s symptoms a more tolerable and long-lasting new color.

(PEM Playbook: <http://pemplaybook.org/podcast/pediatric-pain/>)



New Emphasis on Nonpharmacologic Methods of Treating Pain

- Nonpharmacologic pain management techniques should be considered along with pharmacologic techniques and may:
 - improve assessment
 - decrease or avoid the use of opioids or anxiolytics
 - decrease time and recovery for procedures
 - decrease adverse events

Laceration example- distraction, wound glue, fan +/- nasal midazolam

- Pediatric versus adult
 - Although mainly used in children, many nonpharmacologic techniques and tools are helpful in adult patients especially those with autism or developmental delay

Nonpharmacologic Management in Pediatric ED and EMS Patients

- 80% of US children are seen in general EDs that will not have child life and other pediatric specific resources
- Emergency care providers are more likely to be motivated to use and learn nonpharmacologic methods for children
- Pediatric Education for Prehospital Professionals (PEPP) recommends a Distraction Toolbox

So What is This Thing Called “Child Life”?

Certified Child Life
Specialist (CCLS)



Child Life Services

Professionals who provide developmental, educational and therapeutic interventions for children and their families.

- Employed by hospitals/clinics with significant pediatric focus.
- Psychosocial preparation for diagnosis, tests, surgeries and procedures.

With appropriate preparation, distraction, +/- topical or local analgesia, a child may be capable of remaining still for procedures with minimal medications or restraint.

The Need for Child Life Specialists

- 2014 American Academy of Pediatrics policy statement:
Child life Services (CLS) should be delivered as part of integrated patient- and family-centered model of care and included as a quality indicator in delivery of services for children and families in health care settings.
- Most EDs cannot provide CLS and certainly not 24/7
- Not available to EMS
- Solution:
“Child Life 101 for Emergency Care Providers Course and a Distraction Toolbox!”

WARNING!

- Completion of this course does not make you a child life specialist
 - Taking Stop the Bleed course \neq trauma surgeon
 - Taking first aid course \neq nurse or paramedic
- Contact your local Children's Hospital, Florida Association of Child Life Professionals (FACLP), or Association of Child Life Professionals



INFORMATION

- Pursue Certification
- Educate & Train Child Life Specialists
- Help Your Child
- Support Child Life
- Improve Healthcare

CLOSE



Infants, children, youth, and families benefit from help coping with the stress and uncertainty of illness, injury and treatment. Certified Child Life Specialists® provide evidence-based, developmentally appropriate interventions including therapeutic play, preparation and education that reduce fear, anxiety, and pain for infants, children, and youth. Certified Child Life Specialists are educated and trained in the developmental impact of illness and injury. Their role helps improve patient and family care, satisfaction and overall experience.



Nonpharmacologic Pain Management

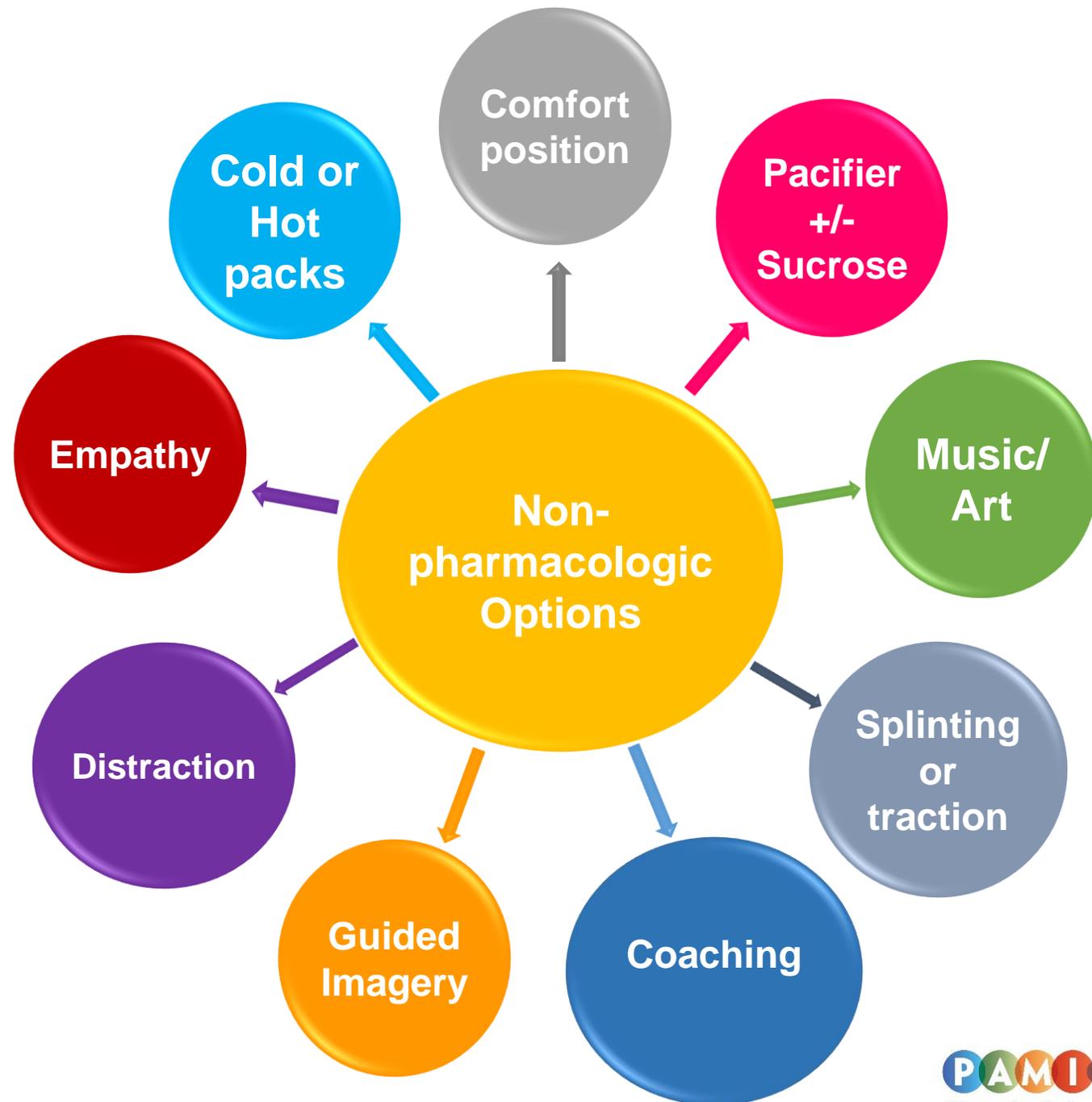
- Conversation and Therapeutic Language
- Coaching and Preparation
- Psychological and Cognitive Behavioral Interventions
- Physical/Sensory Interventions

Nonpharmacologic therapy refers to interventions that do not use medications but can be used alone or to augment pharmacologic pain management.

Most of these can be utilized for **children** and **adults**.

Some options are **not** appropriate for ED/EMS: aromatherapy, hypnosis, TENS but that is changing!

- acupuncture example



Conversation and Therapeutic Language

Therapeutic Language - 12 Tips

- Ask about and acknowledge the pain
- Recognize the value of listening
 - hard to do in a noisy ED or ambulance
- Pace the process respectfully
 - may be difficult in emergency situation
- Define pain by framing it with hope not doom
- Avoid negative words and those that conjure fear
- Reframe the child's distress

Adapted from: Lenora Kuttner, PhD.

A Child in Pain-What Health Professionals Can Do to Help. 2010

Therapeutic Language-12 Tips

- Replace pain-loaded words with more tolerable words
- Draw on language or words that have worked for you
- Note the parts of the body that are not in pain
- Use language that implies positive change
- Let patient know that what they are experiencing is normal and not life-threatening or result of a terrible disease (if true)
- Remind patient that pain will come to an end (if true)

Adapted from: Lenora Kuttner, PhD.

A Child in Pain-What Health Professionals Can Do to Help. 2010

Suggested language for caregivers, parents and healthcare providers

Language to Avoid	Language to Use
You will be fine; there is nothing to worry about (reassurance)	What did you do in school today? (distraction)
This is going to hurt/this won't hurt (vague; negative focus)	It might feel like a pinch (sensory information)
The nurse is going to take some blood (vague information)	First, the nurse will clean your arm, you will feel the cold alcohol pad, and next... (sensory and procedural information)
You are acting like a baby (criticism)	Let's get your mind off of it; tell me about that movie...(distraction)
It will feel like a bee sting (negative focus)	Tell me how it feels (information)
The procedure will last as long as... (negative focus)	The procedure will be shorter than... (television program or other familiar time for child); (procedural information; positive focus)
The medicine will burn (negative focus)	Some children say they feel a warm feeling (sensory information; positive focus)
Tell me when you are ready (too much control)	When I count to three, blow the feeling away from your body (coaching to cope; distraction limited control)
I am sorry (apologizing)	You are being very brave (praise; encouragement)
Don't cry (negative focus)	That was hard; I am proud of you (praise)
It is over (negative focus)	You did a great job doing the deep breathing, holding still... (labelled praise)

Adapted from Krauss et al. Current concepts in management of pain in children in the emergency department. The Lancet. 2015:1-10.
[http://dx.doi.org/10.1016/S0140-6736\(14\)61686-X](http://dx.doi.org/10.1016/S0140-6736(14)61686-X) and Cohen LL. Behavioral approaches to anxiety and pain management for pediatric venous access. Pediatrics 2008; 122 (suppl 3): S134–39.

Suggested Language

Language to Avoid	Language to Use
This is going to hurt/this won't hurt (vague; negative focus)	It might feel like a pinch (sensory information)
I am sorry (apologizing)	You are being very brave (praise; encouragement)
Tell me when you are ready (too much control)	When I count to three, blow the feeling away from your body (coaching to cope; distraction, limited control)
You are acting like a baby (criticism)	Let's get your mind off of it; tell me about that movie...(distraction)

Training and Coaching

- **Healthcare providers should:**
 - ✓ Coach and prepare parents & caregivers for procedure, exam, transport, etc.
 - ✓ Provide “orienting” information
 - ✓ Discuss how to assist in their loved one’s coping ability
 - ✓ Initially discuss away from child
 - often not possible in prehospital setting

Categorization of Nonpharmacologic Interventions

Cognitive-Behavioral Interventions

Psychologic preparation, education, information

Distraction (passive or active): Video games, TV, movies, phone, lighted or interactive toy

Relaxation techniques (breathing, meditation, etc.)

Music

Guided imagery

Training and coaching

Coping statements: "I can do this"

Physical (Sensory) Interventions

Positioning

Cutaneous stimulation

Nonnutritive sucking

Pressure

Hot or cold treatments

Others

Cognitive Development

- Because young children are cognitively immature, **physical comfort** measures and **distraction** activities are **more effective** than verbal reasoning.
- Children do not have sufficient cognitive development to understand strangers trying to reassure them until age 5-7 years.

Physical (Sensory) Interventions:

usually inhibit nociceptive input and pain perception

Physical (Sensory) Interventions
Positioning
Cutaneous stimulation
Nonnutritive sucking +/- sucrose solution
Pressure
Hot or cold treatments
Other

Comfort Positioning

- Why use positioning for comfort?
 - Sitting position **promotes sense of control** and reduces anxiety
 - Puts child in a secure, comforting hold
 - Promotes close contact with caregiver
 - **Provides caregiver with an active role**

May be prohibited in trauma patients requiring immobilization and transport.

Poster used with permission from Wolfson Children's Hospital Child Life Department

Get Comfy with comfort positions

- Bear Hug**
 - Best for small children who need distraction and prefer not to watch procedure
 - Allow the child to straddle parent or staff and have a secure "hug"
- Side Sitting**
 - Great for older children who may want to watch while feeling secure
 - Use when child can't straddle parent or staff
- Swaddle**
 - Best for infants and young toddlers
 - Provide TootSweet® if child is not NPO
 - Encourage parent to remain in eyesight of child
- Back to Chest**
 - Safe and comforting position with child's feet secure in parent's legs
 - Great for older children who want independence, but need to be held
- Back to Chest: Port Access**
 - Child remains secure and easily distracted
 - Use when child cannot sit still but wants to remain sitting up

Wolfson Children's Hospital
Changing Health Care for Good®

Nonnutritive Sucking

- Pacifier in conjunction with sucrose has analgesic effect in neonates undergoing venipuncture and reduces crying in infants < 6 months of age.
- Easy to use in ED and EMS settings
- Conflicting studies



Cutaneous Stimulation

- Vibrating palm-sized devices with removable ice wings available commercially. Studied for injections and IVs with relief similar to topical analgesic cream or spray.
 - Dentist jiggling the jaw before a block



Gate Control Theory of Pain

- In order to help control the “gate” of pain, other tools can be utilized to distract/“trick” the skin or body to focus on additional sensations, such as alternative focus, cold or vibration, to minimize the sensation of the pain.
- The proposed mechanism of action involves the gate control theory of pain whereby the sensation of touch competes with the sensation of pain for transmission to the brain, resulting in less pain.
- This technique is often referred to as providing “white noise.”

Cold Therapy for Musculoskeletal Injuries

Rest

Ice

Compression

Elevate

Splinting

Dressing

Positioning



Ice or cold packs reduce swelling and pain in strains, sprains and fractures. Do not put directly on bare skin.

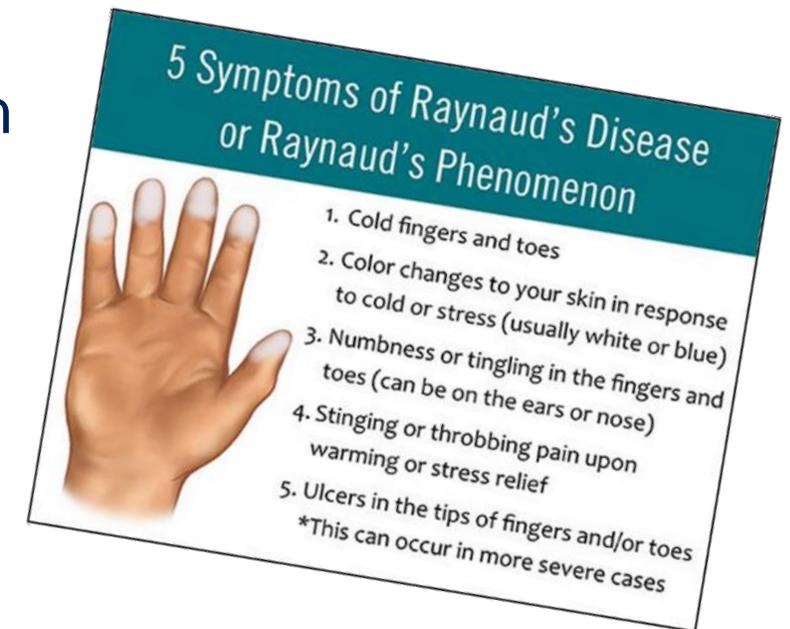
Heat Therapy

Active warming may reduce pain, anxiety, nausea, and heart rate in patients with pain related to mild trauma, cystitis, urolithiasis, cholelithiasis, appendicitis, and colitis.

- Beware of extreme heat and burns
- Heat acts by:
 1. increasing blood flow to skin;
 2. dilating blood vessels, increasing oxygen and nutrient delivery to local tissues; and
 3. decreasing joint stiffness by increasing muscle elasticity.

Benefits Of Keeping Patients Warm

- EDs and ambulances often are cold, drafty, and without blankets
- Cold exposure is especially detrimental in patients with Raynaud's syndrome or disease, collagen vascular diseases like Lupus and Scleroderma, and those on cardiovascular and blood thinning medications.
- 5-10% of the general population has primary or secondary Raynaud's Disease or symptoms.
- Consider warm blankets or warmed fluids.



Cognitive-Behavioral Techniques

Types of Cognitive-Behavioral Interventions

Psychologic preparation, education, information

Distraction (passive or active): Video games, TV, movies, phone

Relaxation techniques (breathing, meditation, etc.)

Music

Guided imagery

Training and coaching

Coping statements: “I can do this” or “this will be over soon”

Distraction

Distraction is the most common type of cognitive-behavioral method.

Used to guide attention away from painful stimuli. *It is most effective when adapted to the patient's developmental and cognitive level.*

Research indicates that distraction can lead to **reduction** in procedure times and number of staff required, especially in children. Researchers hypothesize that children **“cannot attend to more than one significant stimulus at a time.”**



Why use distraction?

Does not require advanced training for providers.
Works with all developmental levels.
Involves parents and caregivers during stressful times.



Tips

Distraction is most effective when pain is mild to moderate
(it is difficult to concentrate when pain is severe)

Two Types of Distraction

1 Passive Distraction - attention redirected to a pleasurable stimulus or object

- Storytelling
- Showing a toy



2 Active Distraction - encourage participation in activities during procedure

- Blowing bubbles
- Playing a game
- Interacting with electronic device



Can be used together or alone

Step 1- Assess patient and family for optimal coping

- Is parent's anxiety feeding into the child's?
- Will parent be a helpful, calm, supportive presence?

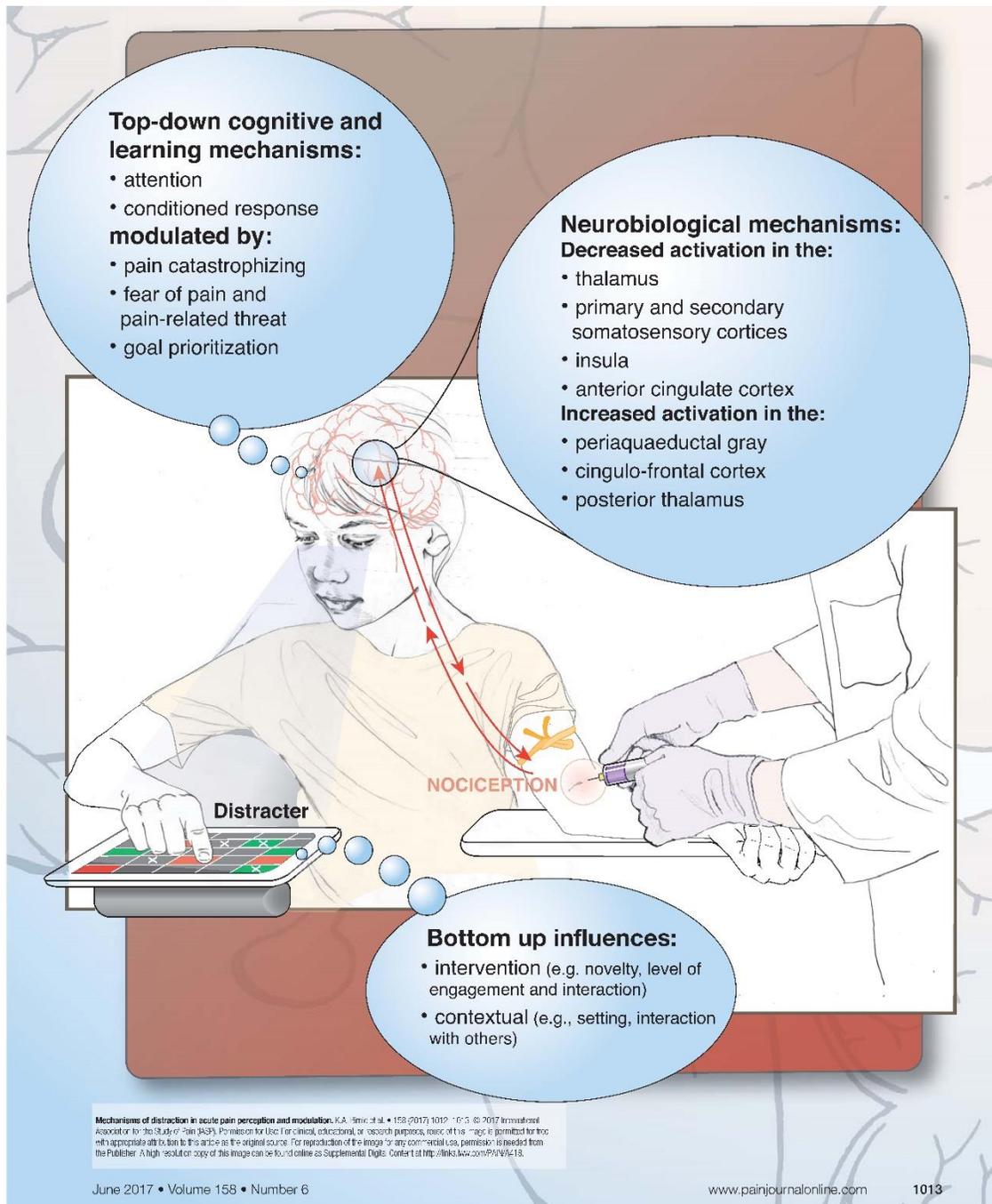
Step 2- Does patient need to have attention shifted from procedure or to take an active role.

“Would you like to watch the IV start or play ‘I-Spy’ instead?”

- Distraction example- Playing a game on iPad or talking about family pets or favorite movie.
- *Active Planned Alternative focus:* “Can you pick out your Band-Aid: Frozen or Star Wars?” “Can you please open this alcohol wipe and help me clean your arm?”

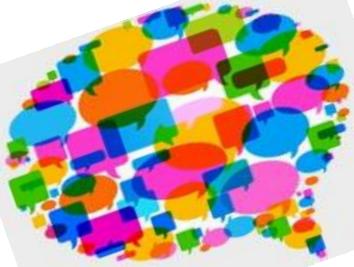
Distraction or Alternative Focus

- Should not be seen as “tricking” the child as this can result in a loss of trust
- Gives the patient a “job” and promotes sense of control over an appropriate aspect of the procedure
- Best if child is involved in choosing the form of distraction to be used



Mechanisms of distraction in acute pain perception and modulation. K.A. Birnie et al. • 158 (2017) 1012–1013 © 2017 International Association for the Study of Pain (IASP). Permission for Use: For clinical, educational, or research purposes, reuse of this image is permitted for free with appropriate attribution to this article as the original source. A high resolution copy of this image can be found online as Supplemental Digital Content at: <http://links.lww.com/PAIN/A418>. www.painjournalonline.com

Conversation and Distraction



Conversation is a proven method of patient management and helps reduce anxiety and pain through distraction. **Pain can be reduced by up to 25% by distraction alone.**

Distraction can change the physiological response of pain transmission in the spinal cord.

Interactive distraction is better for managing pain and anxiety than passive distraction.

Conversation topic ideas: family, hobbies, vacation, sports

To learn more visit

<http://www.jems.com/articles/print/volume-38/issue-7/patient-care/10-conversation-starters-alternative-pai.html>

The ABC's of Distraction

A – Assorted visuals

B – Breathing techniques

C – Comfort Positions

D – Diversional Talk

Give a choice only when choice exists

Limit number of voices

E – Encouragement and praise

Specific - “You’re doing a good job taking deep breaths”
instead of “Good boy”

Guided Imagery

- Helps patients use imagination to divert thoughts from the pain or procedure to a more pleasant experience.
- Helps patients use their imagination to create a descriptive story.
- Guided Imagery Options

Option 1- Visit a “relaxing” place and change image of pain or turn off pain with a “pain switch” in the brain. Ask patient to locate the pain switch and turn down level of pain to a more comfortable level.

Option 2- Identify a “pain” color and a “comfort” color. Ask patient to breathe in the “comfort” color and breathe out “pain” color OR ask patient to associate their pain with a color then view the painful part of their body in that color. Imagine shrinking, fading, or dispersing the painful color, or even sending it away in a balloon.

Option 3- Symbolic imagery can be used in adults and adolescents. If a patient with severe arthritis pain complains of pain in one joint, ask them to think about how the pain feels. Does it feel like a knife? Imagine pulling the knife out and throwing it away. Focusing on an affirmation can also help. “I am removing the knife and throwing it away”.

Relaxation Techniques

Goal is to produce the relaxation response, “a physical state of deep rest that changes physical and emotional responses to stress (e.g. decreased HR, BP, RR, and muscle tension.”

- Progressive muscle relaxation
- Diaphragmatic breathing

Progressive Muscle Relaxation (PMR)

- Helps patients recognize difference between tensed and relaxed muscle groups

How to use

- In a calm voice, instruct patient to tighten and relax muscles. Start with the forehead and gradually move down the muscle groups in the body. Example: Forehead, jaw, back, etc.

Diaphragmatic Breathing (Belly Breathing)

- Patient breathes through abdomen (belly) instead of chest and counts slowly with each breath in and out to a predetermined number. This works best with at least 8 breaths per minute.
- Instruct patient to place hands on abdomen and watch their hands rise and fall with each breath. Seeing hands move up and down provides instant feedback. Best to implement during an IV attempt or with an anxious child (or parent!) Young children can be taught “belly breathing” while blowing bubbles, pinwheels, or party blowers
- For deep breathing, have child pretend to blow out birthday candles on a cake or blow up a balloon. Talk about balloon color or how cake is decorated.

Music Therapy

Beneficial in reducing pain, anxiety and stress in EDs, waiting rooms, procedure rooms, and during transport.

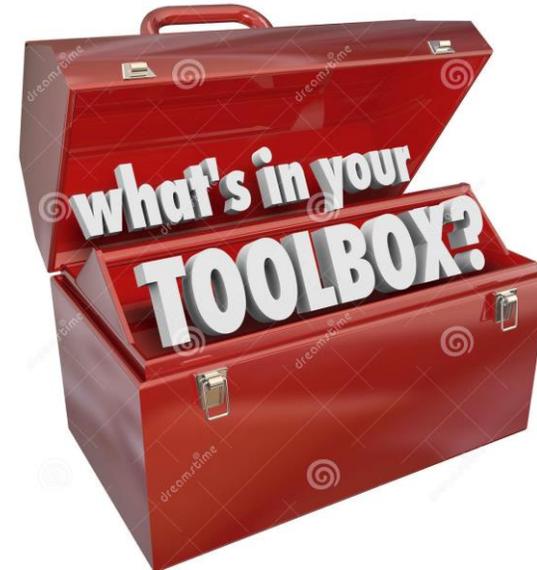
- Additionally benefits parents and health care providers caring for the anxious patient
- Many larger hospitals have music therapists or volunteers
- **Ways to implement:**
 - Have patient select music from available electronic devices or their own- keep supply of disposable headphones or earbuds

PAMI Distraction Toolbox Project: *Box, bag, backpack, or cart*





Parents/kids will remember the Wikki Stix or your conversation before they will remember your new monitor, truck, uniform, etc.



Designing Your Distraction Toolkit

- Components
- Safety
- Setting



Distraction Toolbox Components

LED keychains



Rubik's cube



Hot/cold packs



DistrACTION Cards



Glitter iSpy wand



Pacifier &
Sucrose
Water

Distraction Toolbox Components

Stress Balls



Stickers



Lighted & motion toy



Wikki Stix



Liquid-in-motion



Buzzy – cold, numbing, vibrating



Mad Libs



ED versus EMS Toolbox

- EMS:
 - Limited space for storage, regulations
 - Toolbox– small and heavy duty
 - Bag or backpack in a designated area
 - Short ambulance rides vs. longer interfacility transports
- ED's
 - Have more space: a designated room, closet, cart, or toolbox
 - Volunteers, patient care advocates, or other appropriate staff
 - Can incorporate many different options
 - ***Beware of siblings or other children in the room***

Patient Safety Considerations

- Infection Control
 - Individual use- child keeps or disposes of the item
(teddy bear, pacifiers, teethingers, Wikki Stix, ice packs)
 - Multiple use items: ensure item can be sanitized (local policies)
Sani-Cloth CHG 2% (chlorhexidine 2%/alcohol 70%)
- Choking Hazards
 - Make sure item is age appropriate
 - No small pieces or easily breakable toys
(<3 years or older if developmentally delayed)
 - Ensure items with gel or liquid ingredients are nontoxic

Special Safety Situations

- Extremely anxious parents
- Abusive behavior
- Patient with suicidal tendencies or mental illness
- Children with no caregiver present

Nonpharmacologic Therapies: Infants

- Swaddling
- Holding
- Rocking
- Sucking
 - Sucrose pacifier (Sweet-Ease 24% sucrose solution)
 - Non-nutritive sucking
- Dim lighting
- Music
- Toys
 - Key chains
 - Rattles
 - Blocks



Nonpharmacologic Measures: Preschoolers

- Provide calmest environment possible
- Cold or hot packs
- Allow position of comfort if safe
- Light touch or massage
- Music or video on phone or iPad
- Stress ball, pinwheels, bubbles
- Toys with lights and sounds
- Distraction cards, find objects
- Look at or read storybooks
- Singing or storytelling
- Distracting conversation
- Coach child through the process



Nonpharmacologic Measures: Adolescent

- Cold or hot packs
- Suggest repositioning or positions of comfort
- Encourage talking about favorite places or activities
- Light touch or massage
- Music or videos
- MadLibs
- Coach about EMS/ED process and procedures
- Discuss preferred relaxation techniques
- Demonstrate relaxation techniques, if unfamiliar
- Stress squeeze balls
- Encourage making choices
- Electronic games or tablets



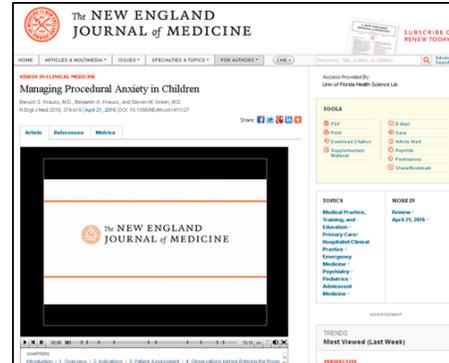
Nonpharmacologic Pain Management in Special Populations

- Nonpharmacologic measures are excellent adjuncts in other special populations including:
 - Patients with autism or developmental delay
 - see Nemours tip sheet in online toolkit
 - Chronically ill patients that have undergone numerous past painful experiences
 - Patients with anxiety or mental disorders
 - Chronic pain patients or patients already on high dosages of pain medications

Resources: Literature, Videos, Websites, Apps, Vendors and More!

- *Many excellent resources available*
- *PAMI website includes a list of resources and references*
- *Let us know if you have suggestions or see something new*

The Power of Videos and Cute Kids!



Managing Procedural Anxiety in Children

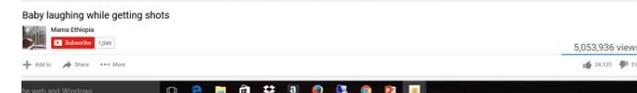
<http://www.nejm.org/doi/full/10.1056/NEJMvcm1411127>

It Doesn't Have to Hurt: Distraction

<https://www.youtube.com/watch?v=KgBwVSYqfps>

Baby Getting Shots

<https://www.youtube.com/watch?v=MOOxpT9q2mo>



Distraction Resources

- Apps
- Music
- Games

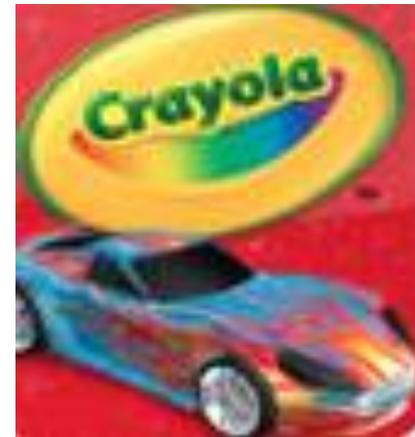
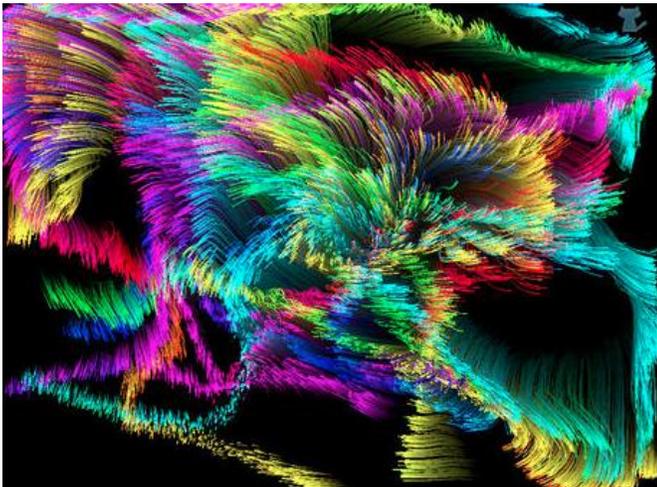


Need Ideas? Interactive Play-Kinesthetic Apps

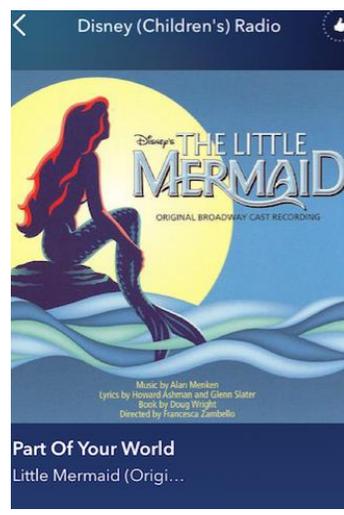
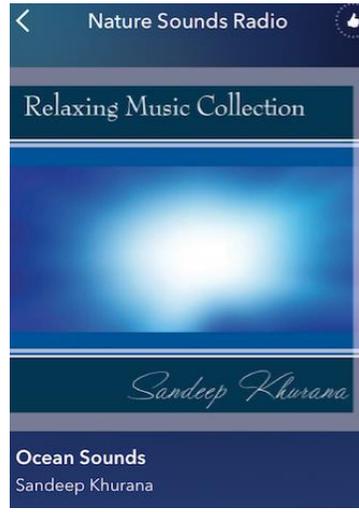
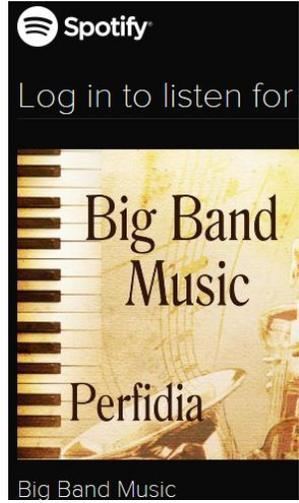
Name of App	Age/ Development	Tips for Use	Cost
Toca Pet Doctor & Toca Doctor Innovative Play	2-6 years	The pets need your help! Animal friends (15) want your love, care and help.	\$2.99
Doodle Bowl	3-100 years	Try to bowl a spare or a strike with this interactive game. An excellent choice for single players or engaging siblings or family members as well.	Free
Fruit Ninja	6-18 years	A popular tween favorite provides distraction while trying to slice fruits and avoid bombs	Free
Candy Pizza Maker	4-12 years	Who doesn't love pizza and chocolate? Kids will love to create their own recipes. Request sprinkles while they make it to build rapport!	Free



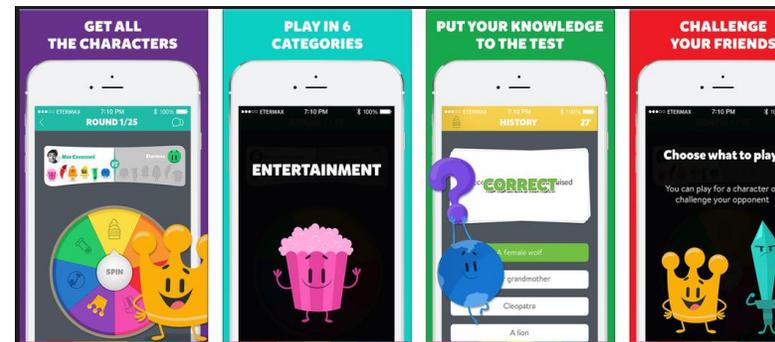
Art	Age/ Development	Tips for Use	Cost
Swirlicity Lite	All Ages	Great for patients with developmental delay and limited range of motion.	Free
Crayola	Toddler to Tweens	Many different apps with various themes to embrace the “inner artist.” Color, Draw, Sing (2.99) is a favorite.	Free with in app purchases
Glow Draw	Toddlers to Teens	A glowing chalkboard can be used for doodling or tic-tac-toe. Also have patient write fears or worries.	Free
Free Adult Coloring Book- Color Therapy for Anti- Stress Release	Tweens to 100	Color away worries and provides distraction while waiting for an older patient population. Choices of colors and designs provides a sense of control.	Free



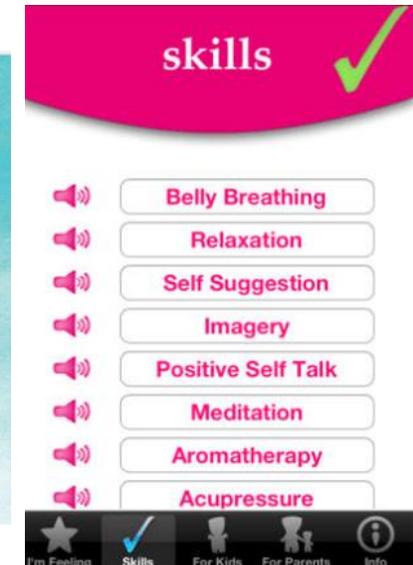
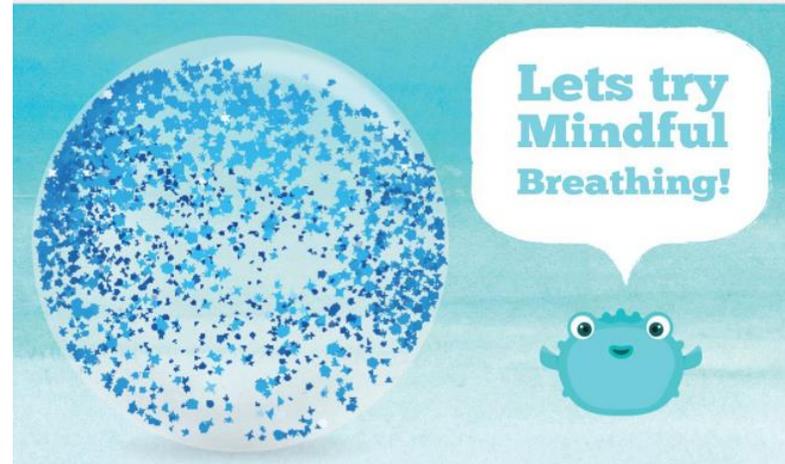
Music Programs	Age/ Development	Tips for Use	Cost
Spotify 	13-65 years	Kids Stations; Great for Adolescents - may already have a playlist, suggest they listen while in the ED, EMS so long does as not interfere with care. Older patients? Why not have some Sinatra or Jazz?	Free
Pandora	All ages	From Infants to Adults, customize stations to soothe and distract patients of all ages.	Free
Animal Piano	1-7 years	Excellent active participation for toddlers and early school age children who “play” the piano which has 9 different animal noises. Giggles are sure to occur!	Free
Talking Tom & Ben News	3-10 years Use Child Mode	Hilarious Voice Mutation with interactive cat and dog.	Free with Ads No Ads \$3.99



Games	Age/ Development	Tips for Use	Cost
Dominos	>7 years	Offer this classic game to patients of all ages. Excellent for seniors experiencing pain or anxiety.	Free
Board Game Collection	> 7 years	A collection of classic favorites from around the world including tic-tac-toe, checkers, and Connect-Four which will provide distraction for tween patients and adults.	\$2.99
Uno	>5 years	This classic card game brings out the competitive streak in children young and old. Options for individual play or teams can even engage anxious family members.	Free
Trivia Crack	>12 years	Patients can select categories and distract themselves from pain while testing random knowledge. Play along with them to build trust!	Iphone/ipad has some free (ads); or pay \$2.99 no ads



Breathing/Relaxation/Imagery	Age/Development	Tips for Use	Cost
YouTube	All	Search for “Guided Imagery for kids” “Pain” or “Anxiety” or “Superhero”	Free
Settle Your Glitter	4-15 years old	Children shake the device and mimic blowfish’s breaths to help work out stress or anger.	Free
Stop, Breathe, Think	10-18 years old	Guided meditation and breathing exercises assist tweens and teens and allow them to “share” how they feel	Free
Healing Buddies Comfort Kit	4-18 years old	Select a feeling and then learn positive coping mechanisms. Includes “Pain” and “Worried” which makes an excellent app to use with all ages.	Free



Video Examples of Distraction

- 3 yo Pediatric I Spy Wand Distraction
<https://youtu.be/autRcLtevnM>
- Ginger
<https://youtu.be/vZNdQMFEu1Q>



*Need ED and EMS examples-
Must have consent from
patient/parent/employee*

How to Implement and Fund a Program

- Identify champions and stakeholders
- Host a training program or provide Nonpharmacologic and Distraction Toolkit training materials
 - National EMS Week
 - ED Techs or volunteers
- Identify community partners
 - Almost everyone loves to help injured or ill children
- Determine grants and donor sources
 - Manufacturers of distraction products
 - Restaurants
 - State and local grants
 - Foundations

Distraction Supply Resources

- Amazon- create a wish list
- Specific manufacturers- often donate to nonprofit causes
Wikki Stix- www.wikkistix.com
- Dollar stores
- Art supply stores
- Special thanks to Kessler Creative and Stack-On Products

Case Scenario: Head Trauma & Laceration

EMS called to the home of a 4 year old who cut his forehead after a fall while running. He had a brief LOC. Initially the boy was calmly sitting in his mother's lap but now begins to cry and throws his toy truck at your face. Blood is dripping down his face. His mother is crying and asks if you will "report her".



What can be done to help calm the child and mother in order to perform further evaluation of the injury?

Case Scenario: Laceration continued

Upon arrival to the ED a physician comments, “*That cut is pretty deep. It’s going to need stitches. Don’t worry, it will only hurt a little. You won’t remember any of it after we put you to sleep*”. He tells the nurse to start an IV and leaves the area.

***Is the physician’s language developmentally-sensitive?
What unintended consequences may occur?***

Case Scenario: Burn

- A 6 foot, 200 pound 18 year old with cerebral palsy and development delay was burned by boiling water. He is now crying and thrashing with obvious full-thickness burns to chest, arms, and hands.
- A 2 year old pulled a pot of boiling water and pasta off the stove. She has burns on her arms, chest and face. She is screaming and running away from you- at the scene, in the ED.

Would you handle these two cases the same?

Case Scenario: 2 yo Burn

You decide to use the FLACC pain scale and determine patient has a pain rating of 8. Patient likely would benefit from pharmacologic and nonpharmacologic management.



FLACC Scale ²		0	1	2
1	Face	No particular expression or smile.	Occasional grimace or frown, withdrawn, disinterested.	Frequent to constant frown, clenched jaw, quivering chin.
2	Legs	Normal position or relaxed.	Uneasy, restless, tense.	Kicking, or legs drawn up.
3	Activity	Lying quietly, normal position, moves easily.	Squirming, shifting back and forth, tense.	Arched, rigid or jerking.
4	Cry	No crying (awake or asleep).	Moans or whimpers; occasional complaint.	Crying steadily, screams or sobs, frequent complaints.
5	Consolability	Content, relaxed.	Reassured by occasional touching, hugging or being talked to, distractible.	Difficult to console or comfort.

Pediatric Case Scenario

Management and Conclusion

1. **Interactive distraction-** show a lighted toy
2. **Comfort positioning-** caregiver presence
3. **Using developmentally-sensitive language-**
“*You are brave*” instead of “*I am sorry*”
4. Attempt IV x 2 without success
5. Give IN fentanyl and cover burn
6. Pain level decreases to a 6 which makes it easier for trauma center staff to attempt IV access upon arrival and keep family calm.

Case Scenario: Past History

- 5 year old female with obviously deformed forearm S/P fall off playground equipment arrives via EMS from school. She is crying hysterically and saying “Please don’t tell my momma I was a bad girl”. Father arrives ten minutes later and appears quiet and exhausted. ED/EMS staff is concerned that he doesn’t seem to be doing anything to comfort his daughter. You ask if he has notified the child’s mother of the accident. The child’s eyes light up but he shakes his head. Finally you ask why he has not called the girl’s mother; he responds “She died 3 months ago”...

How do past experiences influence responses to pain and traumatic events?

Adult Case Scenario

Rescue arrives at the home of an 82 yo female who fell down some stairs. EMS performs a quick assessment and determines that her left ankle is swollen and tender. She is breathing rapidly, anxious and in pain- reported as 8 out of 10.

Her ankle is immobilized and an IV is started in the left arm. During transport the patient begins to cry and states “now my children will make me sell my house and go into a nursing home”.



What other treatments and techniques can be used to address this patient's anxiety and pain in addition to IV medications?

Adult Case Scenario Discussion

- Nonpharmacologic options:
 - distraction
 - splinting
 - elevation of affected extremity
- Interactive distraction
- Distraction through conversation while performing secondary assessment during transport to hospital
- Conversation starters include family, hobbies, etc.
- Orienting information: where you are taking patient, what to expect, offer to call family or friends

Adult Case Scenario

The patient is handed off to the ED team. Treatments and techniques started in the field are continued in the ED and the patient's anxiety and pain improves to a 3/10. Daughter arrives at the ED and thanks EMS for calling. Patient is admitted with ankle and hip fractures. One month later, patient writes a letter to her local newspaper praising the county EMS service.

Questions and Comments

References and resources can be found on the main PAMI website:

<http://pami.emergency.med.jax.ufl.edu/>

Email your comments, ideas, change of practice, recommendations, challenging cases, and questions.

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(904) 244-4072 or 244-8617

