



Mythbusters:

"No Pain, No Gain" Managing Painful Pediatric Procedures

Vicki L. Sakata, MD



Development of these materials paid for by NWHRN member contributions. © 2015, Northwest Healthcare Response Network. Copying and adaptations permitted for non-commercial, educational use only.

Scenario



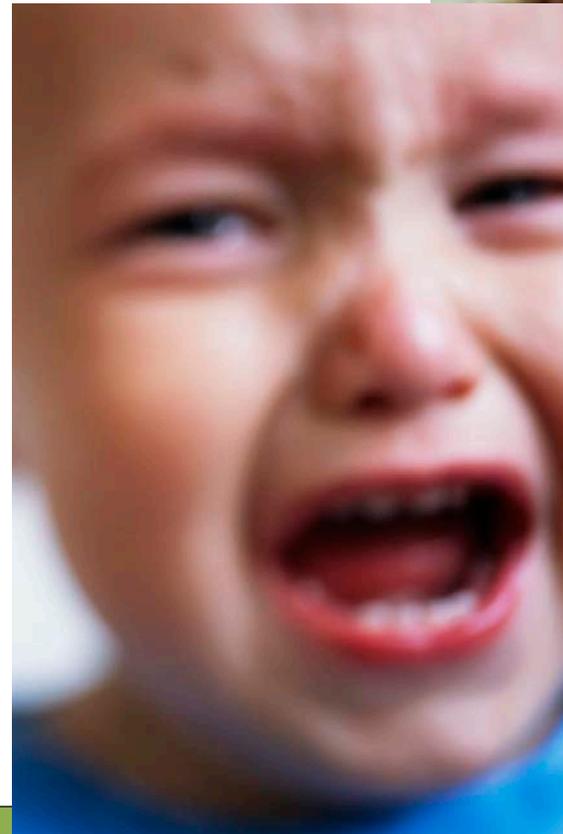
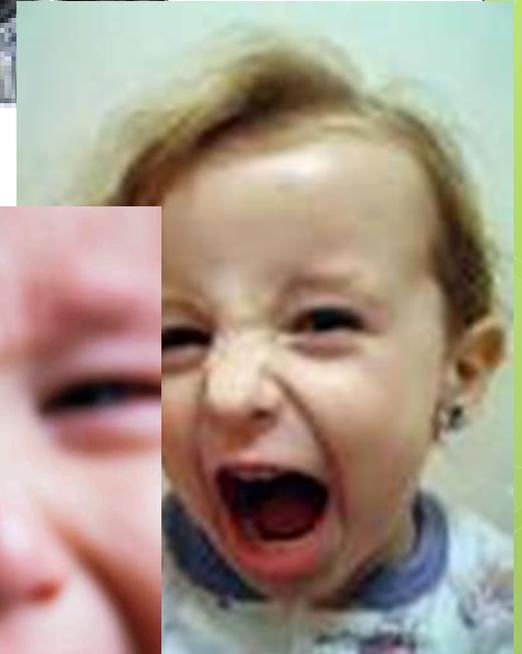
- Johnny needs a blood test (IV, sutures...or just a look in his ears)



- Johnny is pulled from mom's arms



- Johnny is forced to lie flat on the treatment table
- Johnny is kicking, screaming, crying
- Johnny's nurse calls for reinforcements





- 2 nurses and a tech are now holding Johnny down.



- Johnny's mother is crying



- Johnny's mother refuses the test and wants to go home



No Drugs



Lessons from the Experts: Child Life Specialists

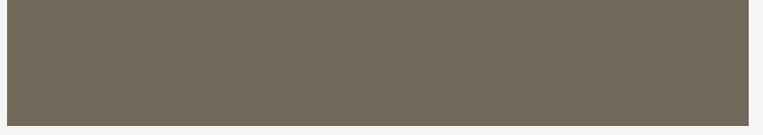
- Krebel MS et al, Child life programs in the pediatric emergency department, *Pediatric Emergency Care*, 1996, 12:13.
- Alcock DS, et al, Evaluation of child life intervention in emergency department suturing, *Pediatric Emergency Care* 1985, 1:111
- Stevenson, MD, et al, child life intervention during angiocatheter insertion in the pediatric emergency department, *Pediatric Emergency Care*, 2005, 21:712

Nonpharmacologic Management of Pain

- Work with the child at their appropriate developmental stage
- Embrace separation anxiety
- Use distraction techniques
- Use Comfort holds
- Be honest; prepare the child. "an ounce of prevention".

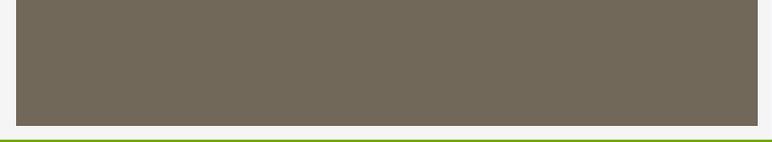






“What the Child Hears”





What we say	What they hear	Try saying...
IV	Ivy?	Small straw to help give you medicine
Give you a shot	Are you mad? Why do you want to hurt me?	Give you some medicine using a small needle.
Stretcher	Stretch her...why?	Bed with wheels
Blood Pressure	Will there be blood?	Show them the cuff and how it "hugs" them
Flush your IV	Down the toilet?	Explain how liquid helps keep the IV clear.

Distraction Techniques





DRUGS: LET gel recipe

- Do's and do not's of LET placement.



DRUGS: Topical Anesthetics

- Ela-max (LMX)
 - 4-5% lidocaine in liposomal vehicle
 - Kol: equally effective as EMLA
 - Shorter application time: 30 minutes
 - Does not contain prilocaine, thus methemoglobinemia unlikely
 - OTC: 30gms 5% , \$54 on Amazon.com (not including shipping)
 - Serum Lidocaine levels after 60 minutes < 0.3 mcg/ml. (toxic level: 5 mcg/cc)





DRUGS: Intranasal medications

- Fentanyl and Versed
 - Proper dose
 - Use highest concentration
 - Draw up extra .1ml
 - Proper administration
 - Max 1ml per nares
 - Nasal atomizers
 - Versed burns
 - Seizures
 - Ketamine
 - Pain relief not procedural sedation



Needle Free Injection Devices



- J-tip (National Medical Products Inc.)
 - 2 sizes: 0.25 and 0.5 cc
 - Contents delivered under high pressure generated by a compressed carbon dioxide gas cartridge
 - Penetration 5-8 mm in 0.2 seconds

Needle Free Injection Devices

- Jimenez N et al, A Comparison of a Needle-Free Injection System for Local Anesthesia versus EMLA for IV Catheter Insertion in the Pediatric Patient, *Anesth Analg* 2006;102:411
- Lysakowski C et al, A Needle-Free Jet-Injection System with Lidocaine for Peripheral IV cannula Insertion: A Randomized Controlled Trial with Cost-Effectiveness Analysis, *Anesth Analg* 2003;96:215

Needle Free Injection Devices

- Advantages over EMLA/Elamax
 - 0.2 sec vs 30-60 minutes
 - No vasoconstriction
- Disadvantages
 - Not painless
 - Variable reports as to ease of cannulation
 - Lysakowski study: 17.6% failure rate



Procedural Sedation



DRUGS: Procedural Sedation

- Propofol: a.k.a MJ Juice
 - Appropriate training necessary
 - Non-opioid, non-barbiturate sedative hypnotic
 - Full monitoring and airway capabilities
 - Painful during administration
 - Adverse effects:
 - Respiratory depression, apnea, hypotension
 - Propofol infusion syndrome: refractory bradycardia, asystole, metabolic acidosis, rhabdomyolysis

DRUGS: Procedural Sedation

- Ketamine
 - Synthetic derivative of phencyclidine
 - Induces a dissociation between the cortical and limbic systems
 - Produces a “trance like state”
 - Provides a unique combination of amnesia, sedation and analgesia
 - Highly lipid soluble results in rapid cerebral uptake and clinical effect.

Ketamine

- Ketamine:
 - “Perfect” procedural medication
 - Emergence phenomenon
 - Increased ICP
 - Laryngospasm
 - Safety in Emergency Department
 - Well studied

Building Trust- Be honest! “Promise you’ll tell if it will hurt”

1. Don’t surprise me
2. Always think of a less painful way of doing things
3. Be honest
4. Ask permission before you put any part of your body on mine
5. Get down on my level
6. Try to keep the doctors and nurses who come into my room the same.
7. Try not to wake me up so many times
8. Dress normal
9. Get cable
10. Stop saying “it’s no big deal”



Questions?

Thank you.
vicki.sakata@nwhrn.org