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# EDAP News

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## Sucrose "Solutions" for Neonatal Pain

Edited by L. Garcia, RN

AAP position statement on Prevention and Management of Neonatal Pain, 2006.

Stevens, B., Yamada S. & Ohlsson A., (2004) The Effect of Sucrose as an Analgesic for Newborn Infants Undergoing Painful Procedures, Cochrane collaboration, pp. 137

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**True or False? Infants feel less pain than adults or children. Absolutely false!** The somatosensory cortex is one of the most active sites in a developing infant brain. In addition, the inhibitory system is not developed until full term, but the nociceptive neural pathways (pain detectors) are fully developed by 22-23 weeks gestation. In preterm babies, the pain impulses don't stop immediately when the painful stimulation stops. Ouch!! Untreated pain can cause an increase in morbidity and mortality in infants as well.

**What is causing the problem?** Stress or trauma causes physiologic changes such as increased heart rate, respiratory rate, blood pressure, and intracranial pressure which can lead to increased strain on the cardiorespiratory system and increased ICP can increase the risk of intraventricular hemorrhage. During acutely painful procedures the stress hormones cortisol and catecholamine are released. These hormones promote tissue catabolism (which produces lactic acid), inefficient energy metabolism,

fluid retention, decreased peristalsis (leads to emesis), and a decreased immune response.

**So, what do we do about it?**

Assess pain in neonates using a standardized pain scale. Generally a scale rating > 3 means the infant is having pain. The best tools are those which are specific for infants of various gestational ages and include contextual, behavioral, and physiologic indicators. Assess pain after each potentially painful intervention or procedure.



Cont. page 2

### Special points of interest:

- ☺ Sucrose Solutions to pain
- ☺ Quarterly QI update
- ☺ Safety tips
- ☺ EMS corner
- ☺ Guidelines for CT in traumatic brain injury

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## EMS Corner

Seizures are the most common pediatric call in EMS. Since 2009, midazolam has been used to control seizures that do not subside on their own. There is the perception that there has been some children that

had more complicated outcomes due to use of midazolam. Therefore, the EMS agency is conducting a QI audit, to determine if there is a problem with midazolam administration. Here are the points that are being

audited.

- < 14 years old
- Seizure w/ midazolam
- Color code, weight
- Dose appropriate
- Pulse ox applied
- Discharge diagnosis



## Quarterly Article Summary edited by S. Szczesniak

**Did you know that children that have a CT to rule out traumatic brain injury are at risk for developing radiation-induced malignancy?**

Identification of children at very low risk of clinically important brain injuries after trauma: a prospective cohort study. (Kupperman, N., Holmes, J., et. Al, October 3, 2009, [www.thelancet.com](http://www.thelancet.com))

**Findings:** the study validated the criteria used to identify children with head injuries who are at very low risk for clinically important traumatic brain injuries (cTBI).

**Criteria for considering CT:**

**Younger than 2 years:**

1. Abnormal mental status
2. Scalp hematoma except frontal
3. Loss of consciousness for > 5 seconds
4. Severe mechanism of injury
5. Palpable skull fracture
6. Not acting normally per parents

**2 years and older:**

1. Abnormal mental status
2. Loss of consciousness
3. Vomiting
4. Severe mechanism of injury

5. Signs of basilar skull fracture
6. Severe headache

These guidelines were not meant to apply to patients with penetrating injuries, known brain tumors, pre-existing neurological disorders, ventricular shunts and bleeding disorders.

**Tip: Ask the parent if the child's behavior is normal for them, don't assume. Do not dismiss a parents' concern that their child is not acting normally after a head injury, even if they seem fine to you.**



## Neonatal Pain Management (cont. page 1)

And finally, manage the infant's pain by using non-pharmacologic and pharmacologic agents. There are many non-pharmacologic strategies which include grouping blood draws, IV insertion, and LP procedures, as well as modifying the environment in the ED to promote calming of the infant. Swaddling, rhythmic rocking, non-nutritive sucking (NNS) and sucrose

have been found to be effective in **neonates up to 3 months of age**. These techniques are generally more effective when used together. The AAP recognizes that the exact mechanism of pain relief with use of sucrose is not known for certain.

The suggested dose of **25% sucrose is 0.1–0.5 ml** placed on the tip of the tongue (sweet taste receptors) or

a pacifier dipped in sucrose solution. **Give 2 minutes prior to procedure and use with NNS.** If pain is unrelieved by non-pharmacologic interventions acetaminophen can be used for mild to moderate pain and consider morphine or fentanyl for more severe pain.

Please make sure to document your efforts!

## Pediatric Education

### 2-day EDAP Courses

May 19 & 20, 2010

Henry Mayo Newhall

Contact info: [henrymayo.com](http://henrymayo.com)

October 7 & 8, 2010

Presbyterian Intercommunity/ENA

Contact info: [LGarcia2@pih.net](mailto:LGarcia2@pih.net)



September 14 & 15, 2010

Fort McArthur, San Pedro

Contact info:

[nmcgrath@emedharbor.edu](mailto:nmcgrath@emedharbor.edu)

[sherylrn06@sbcglobal.net](mailto:sherylrn06@sbcglobal.net)

**Pediatric class**

May 6, 2010

Pediatric Symposium 8 hr.

Torrance Memorial

**Pediatric Trauma Course**

July 13, 2010 CHLA

<http://www.chla.org>

Insert your classes here!

## April is Child Abuse Awareness Month

The statistics can feel overwhelming. In 2006, an estimated 905,000 children in the United States were found to be victims of child abuse and neglect. However, child abuse and neglect can be prevented.

Parenting is one of the toughest and most important jobs in America, and we all have a stake in ensuring that parents have access to the resources and support they need to be successful. Entire communities play a role in helping families find the strength they need to raise safe, healthy, and productive children. Here are some things you can do:

**Get to know your neighbors.** Prob-

lems seem less overwhelming when support is nearby.

**Help a family under stress.** Offer to babysit, help with chores and errands, or suggest resources in the community that can help.

**Reach out to children in your community.** A smile or a word of encouragement can mean a lot, whether it comes from a parent or a passing stranger.

**Be an active community member.** Lend a hand at local schools, community or faith-based organizations, children's hospitals, social service agencies, or other places where families and children are supported.



**Keep your neighborhood safe.** Start a

Neighborhood Watch or plan a local "National Night Out" community event. You will get to know your neighbors while helping to keep your neighborhood and children safe. •

**Learn how to recognize and report signs of child abuse and neglect.**

Reporting your concerns may protect a child and get help for a family who needs it.

**You are their voice!**

<http://www.childwelfare.gov/pubs/factsheets/preventingcan.pdf>

## Safety Tip



Approximately 26,000 people are treated in ED's each year for skateboard injuries. The most common injuries are sprains, fractures, contusions and abrasions. 6 out of every

10 skateboard injuries are to children under 15.

To decrease the incidence of injuries teach riders to

- Check the area for irregular surfaces
- Do not ride in the street
- Wear protective gear such as a helmet, closed toe shoes, and padding/gloves.
- Learn how to fall, roll with the fall

- If falling, crouch low, relax and land on the fleshy parts
- Only one person per board
- Never hitch a ride with a car, bus, bicycle
- Practice tricks in designated practice area.

U.S. Consumer Product Safety Commission

## Kids Perspective

"Daddy picked them up and looked underneath. I think it's printed on the bottom."  
-- 3 year old son, when his mother asked how his father knew the genders of four new baby kittens

"How will that help?" -- Kindergarten student, when the class was instructed to hold up two fingers if any of them had to go to the bathroom

The box says you can't eat them if the seal is broken. I'm looking for the seal."  
-- A young son, examining the contents of a box of Animal Crackers

"Don't kid me, Mom, I know they're my feet." -- 3 year old son, when his mother told him his shoes were on the wrong feet.



<http://rinkworks.com/said/kidquotes.shtml>



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Emergency Department Approved for Pediatrics (EDAP) is a designation assigned by LA County EMS agency and is represented by the "Blue Bear" symbol. An EDAP is a licensed basic emergency department that is approved by the County of Los Angeles to receive pediatric patients from the 9-1-1 system. These emergency departments provide care to pediatric patients by meeting specific requirements for professional staff, quality improvement, education, support services, equipment, supplies, medications, and established policies, procedures, and protocols.

The Pediatric Liaison Nurses is a nonprofit organization committed to the promotion of quality health care for the pediatric patient. Through communication, education and representation, PdLN is committed to:

- Maintaining a network for dissemination of information and data to EDAPs
- developing a positive working relationship with state and local EMS agencies on issues that affect the health care of pediatric patients
- promoting the health and welfare of children and their families through educational programs for the community and health care providers.

## Quarterly EDAP QI Summary

Insert your QI here!

