Child-Like Behaviors: 10 Myths of EMS Pediatric Care

Christopher B. Colwell, M.D.
Department of Emergency Medicine
Denver Health
Brian Schimpf
Myth #1

• Pain management is bad
Treating Pain

- “Care more for the individual patient than for the special features of the disease”
  – William Osler, 1899
Pain Myths

• “It can wait”
  – No!
  
  • Waiting until the patient gets to the ED can result in a 2 hour delay in treatment
    – And that is IF the ED has its act together
      » Abbuhl et al, Prehosp Emerg Care 2003
  
  • Higher overall doses when started in the field
    – Vassiliadis et al, Emerg Med 2002
Pain Myths

• It isn’t safe
  – Side effects (hypotension, respiratory depression)
    • It is!
      – Barber et al, Pediatr Emerg Care 2004
      – Kanowitz et al, Prehosp Emerg Care 2006
Pain Management

• Abdominal pain?
  – Yes!
    • Thomas et al, J Am Coll Surg 2003

• Trauma patients?
  – Yes!
    • Soriya et al, J Trauma 2012
Options

- Intranasal
  - Fentanyl
    - 2-4 mcg/kg
      - Max is 1 cc/nostril
        » Concentration is 50 mcg/cc
  - Midazolam
    - 0.2 – 0.4 mg/kg
      - Concentration is 5mg/cc
- Rule of thumb, double the dose for IN
Myth #2

• Children don’t get c-spine injuries
Pediatric Cervical Spine Injuries (CSI)

- Upper spine greater risk in < 8 years
  - Anatomic fulcrum between C1 and C3
Unique Features of the Pediatric C-Spine

- Wedged Vertebrae
- Incomplete Ossification
- Horizontal Facet Joints
- Immature Ligaments
- ↑ Predental Space-5 mm
- ↑ Prevertebral Soft Tissues
SCIWORA

- Spinal Cord Injury Without Radiographic Abnormalities
  - Pang et al, 1983
- More common in the pediatric population
- Injury from rapid deceleration mechanism
- From inherent laxity of pediatric c-spine
- Clinical diagnosis
  - Brief sensory or motor deficits
  - Electric shocks
  - Rapidly clearing weakness
  - *Delayed deficits-up to 4 days*
Myth #3

- Immobilization works
  - It doesn’t!
Spinal Immobilization
Spine Boards

• No benefit
  – Perry et al, Spine 1999
  – Hughes, J Trauma 1998

• May hurt
  – Haut et al, J Trauma 2010
C-Collar

• Never based on data!
• May be harmful
  – Ben-Galim et al, J Trauma 2010
• “Routine use” can be safely avoided
  – Sundstrom et al, J Neurotrauma 2013
Myth #4

- Mechanism alone warrants trauma activation/lights and sirens
  - No published evidence has ever shown mechanism alone as a good predictor
Myth #5

- Abuse is important to talk about, but other things are more common
  - Fact – number of deaths due to abuse in < 5 population is greater than MVAs and fires combined
  - Many do NOT have obvious findings on exam
  - If you are not cruising, you shouldn’t be bruising!
Myth # 6

• ALTEs aren’t serious if they look good
  – Apparent life threatening event
    • Frightening to the observer
      – Apnea
      – Color change
      – Change in muscle tone
      – Choking
      – Gagging
ALTE

- By definition, they look good
  - High risk
    - Symptoms at the time of evaluation
    - Bruising
    - History of ALTE (especially in the past 24 hours)
    - History of ALTE or SIDS in sibling
    - Age < 6 months
      - Especially less than 3 months
Myth # 7

- As long as my asthmatic or allergic reaction patient is looking ok, I am safe
  - Can go down hill fast
Myth # 8

• Epinephrine should be feared
  – It should not!
    • Asthma
    • Anaphylaxis
      – Remember the IM is better than SQ!
Myth # 9

- Kids don’t have blood pressures
  - They do!
Myth # 10

- Children are not little adults
  - They are!
CHILDREN ARE LITTLE ADULTS?

HIGHLY ILLOGICAL.
Adults Are Just Big Kids
Kids ARE Small Adults

• History and physical exam are key
• ABCs
• Develop a relationship with your patient
  – It will be worth your time
Don’t Ever Underestimate the Power of Youth!
E-mail

- Christopher.Colwell@dhha.org