



## **Pediatric Emergency Myths, Misnomers and Controversies**

Many commonly held beliefs regarding the care of children in the emergency department are not supported by fact. The difference between myth and reality in the pediatric emergency department will be discussed in a debate format.

- Discuss the advantages of the presence of a family member during procedures and resuscitations.
- Discuss the merits of topical anesthetic agents for procedures in children.
- Discuss the use of analgesic agents in children with abdominal pain.
- Discuss the recommended management of the infant or child with diarrhea.

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## **FACULTY**

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# **Pediatric Myths, Misnomers and Controversies**

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## **Introduction:**

Every discipline of medicine has its cornerstone principles upon which the practice is based. These ideas are so ingrained in practitioner's minds that they become virtual laws; unquestioned, unchallenged, and unfortunately untested. Many of these principles developed at a time when explanations were accepted without any scientific scrutiny. This session will focus on some of these standard treatments and raise the question of whether they are legitimate facts or simply medical myths, misnomers or controversies.

The first topic is probably best described as a controversial myth.

Myth #1: "Children are not just small adults?"

Those in favor of this statement would argue the following facts:

- A. Pediatric patients have unique physiologic and anatomic differences in comparison to adults.
- B. Children have diseases unique to this age group
- C. Treatment of an infant or child may differ from that of an adult and applying adult principles to a child can increase morbidity and even lead to mortality.

Those opposed might reply: Yeah, So what!

- A. Every other branch of medicine has unique characteristics.
- B. Learning the unique features of pediatric patients is no different than learning those of obstetrical, geriatric or psychiatric patients.
- C. Any health care provider intent on treating patients in the pediatric age group should learn those management issues relevant to the care of that patient population.

Myth #2: "The cure is worse than the disease"

Pediatric pain management is just now emerging as a major concern in Emergency Medicine. A heightened awareness of the need for more liberal use of analgesics, sedatives and local anesthetics has appeared in the last few years and the use of these agents is now being encouraged. One argument against these agents is that they are too dangerous to be used by Emergency Physicians.

- A. Children have little room for error in dosing potent analgesics and sedatives.
- B. Anesthesiologists train for years to give these meds.  
Emergency Physicians do not have the proper training for these meds.
- C. Expertise in pediatric airway management is essential for use of any pediatric sedative
- D. The Emergency Medicine literature is full of case reports on adverse outcomes when EP attempt to use these medications.

Fact:

- A. There is no review article, case series, evidenced based analysis or prospective study which has ever demonstrated sedatives or analgesic administered to children by Emergency Physicians are unsafe.
- B. Case reports are just that, isolated instances and do not in any way reflect Emergency Medicine practice. By definition, if it is a case report, it is unusual.
- C. Emergency Department safety and efficacy has been demonstrated for the administration of all of the following agents.
  - 1. Ketamine
  - 2. Pentobarbital
  - 3. Fentanyl
  - 4. Midazolam
  - 5. Propofol
  - 6. Etomidate

Proper monitoring was used for children in all of these studies.

- 1 Green SM: Intramuscular ketamine for pediatric sedation in the Emergency  
Department: Safety profile in 1,022 cases. Ann Emerg. Med. 1998; 31:688
- 2 Agency for Health Care Policy and Research. Acute Pain Management Guideline Panel:  
Clinical practice guidelines: Acute pain management: operative or medical procedures and  
trauma February 1992
- 3 "Friedland, L.R., Pancioli AM; Duncan KM : Emergency Department Analgesic use in  
Pediatric Trauma Victims with Fractures. Ann Emerg Med 1994; 23:203-6"
- 4 "Schechter, NL, et. al.: Management of Pain in Children. Aust Paed J. 1989; 25:1-2"
- 5 "Quinn, M, Carraccio, C, Sacchetti, AD: Pain Punctures and Pediatricians. Ped Emerg Care.  
1993; 9:12-14"
- 6 "Hauswald, M, Anison C: Prescribing analgesics: The effect of patient age and  
physician specialty. Ped. Emerg. Care. 1997; 13:262-63."
- 7 "Krauss B, Zurakowski D: Sedation patterns in pediatric and general community hospital  
emergency departments. Ped Emerg Care. 1998; 14:99-103."
- 8 Costen M.R.: Efficacy of ketamine hydrochloride sedation in children for interventional  
radiologic procedures. Am J Roent. 1997; 169:1019
- 9 McGlone RG: An alternative to brutacine: A comparison of low dose intramuscular  
ketamine with intranasal midazolam in children before suturing. J Accid Emerg Med.  
1998; 15:231.

- 10 Parker RI: Efficacy and safety of intravenous midazolam and ketamine as sedation for therapeutic and diagnostic procedures in children. *Pediatrics* 1997; 99:427
- 11 Sacchetti, A.D., Schafermeyer R, Gerardi, M, et. al.: Pediatric Analgesia and Sedation. *Ann Emerg Med.* 1994, 23:237-250"
- 12 "ACEP Policy Statement: Use of pediatric sedation and analgesia. American College of Emergency Physicians. *Ann Emerg Med*, 1997, 29:834-5"
- 13 American Academy of Pediatrics Committee on Drugs: Guidelines for monitoring and management of pediatric patients during and after sedation for diagnostic and therapeutic procedures. *Pediatrics*, 1992; 89:1110-5 "
- 14 Algren JT; Algren CL: Sedation and analgesia for minor pediatric procedures. *Pediatric Emerg Care*, 1996; 12:435-41 "

Myth #2A: "Use of local anesthetics to relieve pain only makes the procedure more difficult to perform, requiring more attempts and greater pain in the long run."

- A. Local lidocaine increases time to perform procedure.
- B. Local lidocaine increases risk of needle wound to physician.

Fact:

- A. Use of local anesthetics does not increase the number of attempts for pediatric procedures.
  1. Use of local lidocaine infiltration did not increase the number of attempts for lumbar punctures in infants and small children.
  2. Lidocaine wheals raised prior to intravascular access attempts in children < 24 months of age did not effects number of attempts.
  3. Subcutaneous lidocaine or saline with benzyl alcohol reduced the pain of insertion but did not effects the number of IV attempts in older children.
- 15 "Carraccio, CA, Feinberg P, Hart LS, et. al.: Lidocaine for lumbar punctures: A help not a hindrance. *Arch Ped Adol Med.* 1996; 150:1044-46"
- 16 " Sacchetti, AD, Carraccio, CA: Subcutaneous lidocaine does not affect the success rate of intravenous access in children less than 24 months of age. *Acad. Emerg. Med.* 1996, 3:1016-1019"
- 17 "Fein, JA, Boardman CR, Stevenson, S, et. al.: Saline with benzyl alcohol as intradermal anesthetics for intravenous line placement in children. *Ped. Emerg. Care.* 1998; 14: 119-122."

Myth #3: "What, he drank a soda in the waiting room, now we can't take him to the O.R. for another 8 hours.."

- A. An 8 hour fast is required for safe induction of anesthesia.
- B. Multiple anecdotal reports exist on the dangers of full stomachs and procedural vomiting.

Fact:

- A. This is based on a single study in 1946 of pregnant patient undergoing surgery who had eaten a recent meal.
- B. Prolonged fasting increased gastric volume and decreases gastric pH
- C. Clear liquids are cleared from the stomach in < 20 minutes in a healthy child.
- D. Canadian Anaesthetists Society guidelines permit unrestricted clear liquids up to 2 hours pre op.

18 "Greenfield SM , Webster GJ , Vicary FR: Drinking before sedation: Preoperative fasting should be the exception rather than the rule. Br. Med. J. 1997; 314:162"

Myth #4: "Analgesics mask the diagnosis in undifferentiated abdominal pain"

- A. Cope's textbook on the diagnosis of the acute abdomen clearly states that narcotic analgesics will obscure the correct diagnosis in a child with abdominal pain.

Fact:

- A. In Cope's day 30 mg of morphine was given as the analgesic therapy.
- B The latest edition of Cope's has reversed this stand advocating prompt relief of the patient's pain.
- C. Current research has now demonstrated
  - 1. No delay in diagnosis with 5 to 10 mg of morphine
  - 2. Improved physical examinations
  - 3. Can also be used safely for reduction of hernias

19 Silen W. Cope's early diagnosis of the acute abdomen. 19th edition. New York: Oxford University Press; 1996: 5-6.

20 "LoVecchio F, Oster N, Sturmman K, et. al.: The use of analgesics in patients with acute abdominal pain. J Emerg Med. 1997; 15:775-79."

21 "Pace S, Burke TF: Intravenous morphine for early pain relief in patients with acute abdominal pain. Acad. Emerg. Med. 1996; 3:1086-92. "

22 Fraser GC: Reduction of an incarcerated hernia. J Ped. Surg. 1993; 28:1519.

23 Baguley PE: Emergency Room reduction of incarcerated inguinal hernia in infants: is routine hospital admission necessary. Pediatr. Surg. 1992; 5:366

Myth #5: "Intermittent abdominal pain, vomiting and currant jelly stools are the hallmark of intussusception"

- A. It's written in every Pediatric, Emergency Medicine and Pediatric Emergency Medicine Textbook

Fact:

- A. Altered mental status, in particular lethargy is the most common presentation of intussusception.
- B. The classic triad appears in < 10% children

1. Only 37.5% had intermittent screaming attacks and vomiting.
  - C. Currant jelly stool is rare, but heme positive stools are common
    1. You need to do the rectal exam to produce the currant jelly stool.
  - D. Ultrasound is the diagnostic study of choice.
    1. Barium or air enema is a treatment.
- 24 "Luks FI, Yazbeck S, Perreault G, et. al.: Changes in Presentation of Intussusception. Am J Emerg Med. 1992; 10:574-76"
  - 25 "Eshel G, Barr J, Heyman E, et. al.: Intussusception: A 9 year survey. J Ped. Gastroenterol Nutr. 1997; 24:253-56."
  - 26 "Macdonald IA, Beattie TF: Intussusception presenting to a paediatric accident and emergency department. J Accid Emerg Med. 1995; 12:182-86."
  - 27 Moss K: Intussusception presenting as lethargy in a 6 month old infant. Alaska Med. 1991; 33:113-14.
  - 28 Knudson M: Intussusception. A case that suggests a new cardinal symptom--lethargy. Postgrad. Med. 1988; 83:201-2

Myth #6: "Never look in a barking child"

- A. Direct inspection of the posterior pharynx will lead to acute airway obstruction in a child with epiglottitis.

Fact:

- A. Direct visualization is the best way to rule out epiglottitis.
  - B. Children in whom tongue blade inspection precipitated respiratory arrest, were on the verge of respiratory arresting prior to any attempt at inspection. It is fatigue and not anatomic obstruction which leads to respiratory arrest in these patients.
  - C. Visualization of a normal pale pink epiglottitis is easy in a child and leads to more rapid administration of appropriate therapy.
  - D. Preparations for immediate airway interventions should be immediately available for any child with stridor.
  - E. A child with profound drooling and a toxic appearance is unlikely to have croup and epiglottitis should be suspected in this child.
- 29 Mauro RD Poole SR; Lockhart CH: Differentiation of epiglottitis from laryngotracheitis in the Child with Stridor. Am J Dis Child: 1988; 142:679-82

Myth #7 "Even if it doesn't work it sure looks impressive"

- A. Cool mist is the treatment of first choice for croup.
- B. If at home simply run the shower and steam up the bathroom.

Fact:

- A. Cool mist has never been shown to work in croup. (And for that matter neither has a hot mist).
- B. The only objectively proven means to treat croup are some form of steroids and epinephrine
  - 1. Steroids can be given P.O., I.M., I.V. or nebulized and all are effective. Published doses of decadron range from 0.15 mg I.M. through 0.6 mg/kg P.O. to 1.5 mg/kg nebulized.

30 "Skolnik, NS: Treatment of Croup: A critical review. Am J Dis Child. 1989; 143:1045-9"

31 "Klassen TP: Recent advances in the treatment of bronchiolitis and laryngitis. Pediatr Clin North Am, 1997; 44:249-6"

Myth #8 "Does the right hand know what the left hand is doing?"

- A. Racemic epinephrine is the nebulized treatment of choice for croup in children.

Fact:

- A. Racemic epinephrine is a 50/50 mixture of the D and L isomers of epinephrine.
  - 1. Only the L-isomer is biologically active
  - 2. All other epinephrine used in medicine is L-epi.
- B. Using L-epinephrine at a dose 1/2 of that given for Racemic Epi produces a quicker, longer lasting effect than that of the mixture of D and L forms.
- C. Racemic epinephrine is 2.5% (only 1.25% is active L-epinephrine). The normal dose of Racemic Epi is 0.25cc mixed with saline. Standard off the shelf 1:1000 epinephrine used for subcutaneous injections is a 0.1% solution of pure L-epinephrine. So 2.5cc of 1:1000 epinephrine delivers about the same amount of biologically active epinephrine to a patient as 0.25cc of racemic epinephrine.
- B. Clinical studies have demonstrated 3cc of 1:1000 epi mixed with 2-3 cc of Normal Saline Solution is more effective than racemic epi in treating children and infants with stridor.
- E. There is also emerging evidence that this may be the case for bronchiolitis compared to albuterol.

32 "Waisman, Y, Klein BL, Boenning DA, et. al.: Prospective randomized double blind study comparing L-epinephrine and racemic epinephrine aerosols in the treatment of laryngo-tracheitis (Croup). Pediatrics 1992; 89:302-6"

33 "Nutman J , Brooks LJ , Deakins KM et.al.: Racemic versus L-epinephrine aerosol in the treatment of postextubation laryngeal edema: Results from a prospective, randomized, double-blind study. Critical Care Medicine. 1994; 22:1591-4"

34 "Fitzgerald D , Mellis C , Johnson M et. al.: Nebulized budesonide is as effective as nebulized adrenaline in moderately severe croup. Pediatrics 1996; 97:722-5"

Myth #9: "Parents should be neither seen nor heard"

- A. Parents should be asked to wait outside while procedures are performed on their children.
- B. Parents will become upset and disruptive during resuscitations on their child.

Fact:

- A. Most parents when given the option will prefer to remain with their child during a resuscitation or procedure.
  - B. Most nurses favor Family Member Presence
  - C. Both nurses and physicians who have experience with Family Member Presence favor the concept. Those with no experience feel it is a bad idea.
- 35 "Sacchetti, AD, Lichenstein, R, Carraccio CA, Harris, RH: Family Member Presence During Pediatric Emergency Department Procedures. Ped. Emerg. Care. 1996, 12: 268-271"
- 36 "Haimi-Cohen Y, Amir J, Harel L, et. al.: Parental presence during lumbar puncture: anxiety and attitude toward the procedure. Clin. Ped. 1996; 35:2-4"
- 37 "Sacchetti, AD, Carraccio C, Leva, E, Harris, R, Lichenstein, R: Effect of Experience on Acceptance of Family Member Presence During Pediatric Resuscitation in the Emergency Department. (ACEP Research Forum) Annals Emergency Medicine 1998; 32:S17-S18."
- 38 "Boie ET, Moore GP, Brummett C, Nelson DR: Do Parents want to be present during invasive procedures performed on their children in the Emergency Department?" Annals Emerg Med. 1999; 34:70"

Myth #10: "Sick Kids Can Tell Time"

- A. Emergency Department should be staffed with pediatric specialists during the evening hours because that is when most children present for care.

Fact:

- A. Pediatric patient volumes demonstrate a clear cut circadian rhythm with peaks in the late afternoon and evening hours.
  - B. Critically ill children present evenly throughout the day and in fact are just as likely to present outside the hours of the typical part time pediatric emergency department.
- 39 Sacchetti, AD, Moakes, ME, Warden, TM: Can Sick Children Tell Time? Presentation Patterns of Critically Ill Children Do Not Match Hours of Part-Time Pediatric Emergency Departments. (SAEM) Acad. Emerg. Med. 1998; 2:385.



Myth #11: "Remember, only let her drink liquids you can see through"

- A. Clear liquids are the treatment of choice for acute gastroenteritis.

Fact:

- A. Clear liquids do not shorten the course of gastroenteritis.
- B. Clear liquids, even electrolyte preparations lead to caloric starvation forcing children into a catabolic state.
- C. Continuation of a normal diet does not lead to increase stooling, but does lead to improved nutritional status.
- D. Certain clear liquids, in particular apple juice will increase diarrhea from the large sugar load delivered to the large intestines.
- E. Electrolyte solutions (RiceLyte, Pedialyte, etc.) should be used to supplement any normal feeding and offset fluid losses.

Myth #11a: "All dehydrated children need intravenous hydration"

- A. Children with vomiting and diarrhea will not be able to absorb sufficient fluids from the GI tract to offset losses during their illness.

Fact:

- A. Enteral hydration has been proven to be effective even in children in shock. (In the US where access to intravenous fluids is almost universal, children in shock should be parenterally resuscitated).
- B. The World Health Organization has demonstrated consistent success with enteral hydration in gastroenteritis.
- C. Enteral hydration solutions have higher concentrations of sodium and glucose than simple maintenance solutions such as Pedialyte. (Although recent reports note this difference may not be clinically significant)
- D. Children in whom vascular access cannot be obtained may be admitted and hydrated enterally.

- 40 Nazarian LF: A synopsis of the American Academy of Pediatrics practice parameter on the management of acute gastroenteritis in young children. *Ped. Rev.* 1997; 18:221-23
- 41 "Merrick N, Davidson B, Fox, S: Treatment of acute gastroenteritis: too much and too little care. *Clin. Pediat.* 1996; 16:429-35."
- 42 "Brown, K.H.: Dietary management of acute childhood diarrhea: Optimal timing of feeding and appropriate use of milks and mixed diets. *J Ped* 1991; 118:S92-8"
- 43 "Sacchetti AD, Brilli RJ, Barkin, RM: "Fluid and Electrolyte Balance" in Barkin RM (ed): *Pediatric Emergency Medicine*. Mosby-Year Book Inc., 1997 "
- 44 "Nanulescu, M., et. al.: Early re-feeding in the management of acute diarrhoea in infants of 0-1 year of age. *Acta Paed* 1995; 84:1002-6"

Myth #12: "Just get a CBC and let's see what the white count is"

- A. The CBC will be elevated in bacterial infections and normal in viral or non-infectious problems.

Fact:

- A. In all clinical scenarios from appendicitis to septic hips, to fever without source the CBC has been shown to be a specific but not sensitive test. (50% to 84%)
- B. An elevated WBC, or elevated band count implies an acute process is taking place.
- C. A normal CBC or band count does not eliminate an acute infectious process. In fact some of the most ominous bacterial diseases will have a normal white blood cell count.
- D. Never let a normal CBC be the determining factor in a clinical decision
- E. CBCs may be followed serially or incorporated as part of a formal evaluation program (i.e. Rochester criteria for febrile 4-6 week olds).

- 45 Lau WY: Leukocyte count and neutrophil percentage in appendectomy for Suspected appendicitis. Aust NZ J Surg. 1989; 59:395
- 46 "Procop GW, Hartman JS, Sedor F: Laboratory tests in evaluation of acute febrile illness in pediatric emergency room patients. Am J Clin Path. 1997; 107:114-21"
- 47 "Kramer MS, Tange SM, Mills E, et. al.: Role of the complete blood count in detecting occult focal bacterial infection in the young febrile child. 1993; 46:349-57."
- 48 "Mazur LJ, Kozinetz CA: Diagnostic tests for occult bacteremia: Temperature response to acetaminophen versus WBC count. Am J Emerg Med. 1994; 12:403-6"
- 49 Press S: Association of hyperpyrexia with serious disease in children. Clin Ped. 1994; 33:19-25.
- 50 "Bonadio WA, Smith D, Carmody J: Correlating CBC profile and infectious outcome: A study of febrile infants evaluated for sepsis. Clin. Ped. 1992; 31:578-82."
- 51 "Silver BE, Patterson JW, Kulick M: Effect of CBC on ED management of women with lower abdominal pain. Am J Emerg. Med. 1995; 13:304-6."
- 52 DelBeccaro: Septic arthritis versus transient synovitis of the hip: The value of screening laboratory tests. Ann Emerg. Med. 1992; 21:1418

Myth #12a: "While you're drawing blood get a set of blood cultures"

- A. Blood cultures will accurately reflect the infecting organism in a febrile or ill child.

Fact:

- A. Over 20-40% of blood cultures are contaminants.
  - 1. 43% management decisions made based on blood cultures will be wrong because cultures were false positives.
- B. Most patients with serious disease will return to the ED for followup prior to return of their blood culture results.
- C. In most diseases the bacteria cultured from the source of the infection will be the bacteria cultures from the blood. (Culture the urine in pyelonephritis not the blood).

53 Korones DN; Shapiro ED : Occult pneumococcal bacteremia: what happens to the child who appears well at reevaluation? *Pediatr Infect Dis J.* 1994; 13:382

54 "Kramer MS, Shapiro ED. Management of the young febrile child: A commentary on recent practice guidelines. *Pediatrics* July 1997;100:128- 133."

55 "Thuler LC, Jenicek, M, Turgeon, JP, et. al.: Impact of false positive blood culture results on the management of febrile children. *J. Ped. Infect. Dis.* 1997; 16:846-51"

Myth #13: "Ventricular Fibrillation is an old man's disease"

- A. V-fib does not occur in children, it is the result of CAD only.

Fact:

- A.. Incidence of V-fib is 5.57 /100,000 infant visits to EDs
- B. 10% of all pediatric arrhythmias V-fib

56 Young, KD, Seidel JS: Pediatric Cardiopulmonary Resuscitation: A Collective Review. *Ann Emerg Med.* 1999; 33:195

57 Sacchetti, AD, Moyer, V, Baricella R, Cameron, J, Moakes, ME: Primary Cardiac Arrhythmias in Children. *Ped. Emerg. Care.* 1999; 5:95-98.

Myth #14: "Fever + Seizure = Meningitis"

- A. Febrile seizures have a higher incidence of meningitis
- B. All first time febrile seizures need an Lumbar Puncture
- C. All children require a CT before the LP

Fact:

- A. The incidence of bacteremia, serious bacterial infection and meningitis is the same for children with simple febrile seizures as for febrile children without seizures.
  - 1. Complex, focal or prolonged seizures do have a higher incidence of CNS infections.

- B. First time febrile seizures over the age of 12 months do not need a routine lumbar puncture.
- C. The use of a CT in a child with no clinical evidence of increased ICP cannot be justified if it delays the performance of a necessary LP. The incidence of herniation is extremely remote in a child with a febrile seizure.

- 58 Van Stuijvenberg M: Seizures associated with fever: Clinical Data as predictors for normal biochemical blood levels. *Eur J Ped.* 1998; 157:7
- 59 Eadie MJ: The single seizure: to treat or not to treat? *Drugs* 1997; 54:651
- 60 Al-Eissa YA: Lumbar puncture in the clinical evaluation of children with seizure associated with fever. *Ped Emerg. Care* 1995; 11:347
- 61 Press S: Association of hyperpyrexia with serious disease in children. *Clin Ped.* 1994; 19
- 62 Green SM: Can seizures be the sole manifestation of meningitis in febrile children? *Pediatrics* 1993; 92:527
- 63 Rosenberg NM: Seizures associated with meningitis. *Ped Emerg Care* 1992 8:67

Myth #14a: "The Standard of Care is the Delivery of Antibiotics Within 30 minutes of Arrival for a Child with Meningitis"

- A. Any delay in delivery of antibiotics increases a child's risk of morbidity and mortality.

Facts:

- A. Delivery of antibiotics within 30 minutes is not the standard of care and in fact is the exception. Median time to antibiotic administration was 2 hours in 93 children with meningitis with only one child receiving antibiotics in less than 30 minutes.
  - B Patient outcome is independent of antibiotic timing.
  - C Children with meningitis should be given antibiotics and steroids if appropriate as soon as possible in the ED, however, adverse outcomes cannot be related to the timing of antibiotic administration.
- 64 "Rothrock, SG: Pediatric Bacterial Meningitis: Is prior antibiotic therapy associated with an altered clinical presentation? *Ann Emerg Med.* 1992; 21:146
  - 65 "Radestky M: Duration of symptoms and outcome in bacterial meningitis: An analysis of causation and the implications of a delay in diagnosis. *Ped J. Infect Dis.* 1992; 11:694
  - 66 "Goodman, JM: Commentary: Legal aspects of bacterial meningitis. *Ped. Infect. Dis J.* 1992; 11:1992
  - 67 "Kallio MT: The effect of a recent previous visit to a physician on outcome after childhood bacterial meningitis. *JAMA* 1994; 272:787.
  - 68 "Meadow, WL: Ought "Standard Care" be the "Standard of Care" *Am J Dis Children.* 1993; 147:40.

Myth #15: "Is there such a thing as a bee sting removal kit?"

- A. Never use forceps, aka tweezers, to remove a retained bee stinger.
  - 1. The forceps will only squeeze additional toxin from the sac at the end of the stinger.

Fact:

- A. The sac at the end of stinger is muscular and will contract forcing toxin into the skin.
- B. The sooner the stinger is removed the less toxin will be injected
- C. Forceps are the quickest means to remove a stinger and therefore the method with the least amount of envenomation.

69 "Visscher PK , Vetter RS , Camazine S: Removing Bee Stings. Lancet, 1996; 348:301-2"

Myth #16: "The only two reasons to not perform a rectal exam are no finger and no rectum"

- A. The rectal examination is an essential part of the evaluation of a child for appendicitis.

Fact:

- A. In patients with positive abdominal findings the rectal exam adds no additional data
- B. Only 11-21% of rectal exams added information to patients with completely normal abdominal exams.
  - 1. Most of the information centered on constipation or heme testing stool.

70 Scholer SJ: Use of the rectal exam on children with acute abdominal pain. Clin. Peds. 1998; 37:311

71 Dixon J.M.: Rectal examination in patients with pain in the right lower quadrant of the abdomen. Br. Med. J. 1991; 302:386

Myth #17: "Here mom, just hold her over this cup next time she wets and we'll get a urine specimen"

- A. Urinary tract infections do not occur in children prior to toilet training.
- B. A simple U/A on a bagged specimen will generally be sufficient for a culture and sensitivity.

Fact:

- A. The incidence of UTIs ranges from 4%-8% of all febrile children without a source.
- B. Incidence of UTI for females is 2.26 x's that of males
- C. Sensitivity of simple U/A can range from 53-99%
- D. Specificity of simple U/A can range from 70-98%

72 "Hoberman, A: Prevalance of Urinary Tract Infections in Febrile Infants. J Pediatrics, 1993; 123:17"

73 "Crain, EF: Urinary Tract Infections in Febrile Infants Younger than 8 Weeks of Age. Pediatrics, 1990; 86:363"

74 "Kramer, MS: Urine Testing in Young Febrile Children: A Risk-Benefit Analysis. J Peds. 1994; 125:6"

75 "AAP Practice Parameters: The Diagnosis, Treatment and Evaluation of the Initial Urinary Tract Infection in Febrile Infants and Young Children. Pediatrics 1999; 103:843-852"

Myth #18: "I figure a figure of 8 will work just fine"

- A. The treatment of a clavicle fracture in a child is a figure of 8 Clavicle strap.

Fact:

- A. A simple sling is more effective and better tolerated in a child than a clavicle strap.

76 Anderson K: Treatment of clavicular fractures: Figure of eight bandage versus a simple sling. Acta Ortho Scand. 1987; 57:71

Myth #19: "That ears a little pink, some amoxicillin should clear it right up"

- A. Otitis media is the most common cause of fever in children.
- B. Antibiotics are the treatment of choice for O.M.

Fact:

- A. Otitis media does not cause fever.
- B. There is no evidence that antibiotics shorten the course of uncomplicated O.M.
- C. Antibiotics are only indicated in ear infections if the ear is still infected after 72 hours of conservative therapy.
- D. A yellow tympanic membrane is more indicative than a red ear for an infection.
- E. Most O.M. is viral.

77. Froom J: Antimicorbials for acute otitis media? A review from the internation primary care network. Br. Med J. 1997; 315: 98

78. Dowell SF: Otitis Media: Principles of judicious use of antimicrobial agents. Pediatrics 1998;

101:165

79. Paradise JL: Managing Otitis Media: A time for a change. Pediatrics 1995; 96:712  
80. Heikkinen T: Signs and symptoms predicting acute otitis media. Arch Adol Med. 1995; 149:26

Myth #20 "He's got a little bit of a pneumonia here on his chest x-ray some amoxicillin should clear it right up.

- A. Pneumonia in infants and children is generally caused by pneumococcus
- B. The treatment of pediatric infiltrates on chest x-rays is a penicillin or cephalosporin.

Fact

- A. In children 3-12 years of age with pneumonia, up to 28% have mycoplasma and up to 27% have chlamydia pneumoniae.
  - B. Up to 23% of children with persistent cough had pertussis in a study of 975 children, 60% had a non-classic presentation with peaks < 6 months and greater than 5 years.
81. Black, S: Mycoplasma pneumoniae and chlamydia pneumoniae in pediatric community acquired pneumonia. Ped Infect Dis. J. 1995; 14:471  
82. Gordon, M: Clinical and microbiologic features of children presenting with pertussis to a canadian pediatric hospital during an 11 year period. Ped Infect Dis J. 1994, 13:617

Myth #21: "A Febrile Sickler is an Admitted Sickler"

- A. All febrile sickle cell anemia patients less than 2 years of age must be admitted.
- B. The incidence of sudden death from overwhelming sepsis is too great in this age group to risk outpatient management.

Fact

- A. Careful evaluation with septic work-up can identify children at risk for sudden death.
  - B. Extended observation with long acting cephalosporin antibiotics can permit out-patient management of these patients.
83. Williams, JA: A Randomized study of outpatient treatment with ceftriaxone for selected febrile children with sickle cell disease. N Eng. J Med. 1993; 329:472  
84. Lane, PA: Fatal pneumococcal septicemia in hemoglobin SC disease. J Ped. 1994; 124:859

85. Roberts ZR: Outpatient management of febrile illness in infants and young children with sickle cell anemia. J Ped. 1990; 117:736
86. Platt, OS: The febrile child with sickle cell disease: A pediatrician's quandary. J Ped. 1997; 130:693.

Myth: #22 "Badges, Badges, we don't need no stinking badges."

- A. Children do not need medical identification jewelry such as Medic Alert Bracelets.
- B. Children with medical problems are easy to identify.
- C. Parents can fill the treating physician in on any relevant medical history.

Fact:

- A. Children with Special Health Needs frequently have occult medical problems which may go unrecognized without some form of medical identification jewelry.
  - B. Parents are not always knowledgeable about their child's problems and up to 50% of caretakers may not be able to describe to a medical provider what is a child's problem.
  - C. In an emergency even the best informed parent may not be able to think clearly enough to relay correct information.
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87. "Gerardi M, et. al.: ACEP Policy Statement on Use of Medical Information Form for Children with Special Health Care Needs. Annals Emergency Medicine. (Oct. 99 anticipated publication date)
  88. "Newachek PW, Taylor WR: Childhood chronic illness: Prevalence, severity and impact. Am JEPublic Health. 1992; 82: 364-371. "
  89. "Reynolds S, Deaquin B, Uyeda A, et. al.: Children with chronic conditions in a pediatric emergency department. Ped Emerg Care 1996; 12:166-8"
  90. "Carraccio, CL,: Family Member Knowledge of Children's Medical Problems: he Need for Universal Application of an Emergency Data Set. Pediatrics, 1998; 102:367-370."
  - 91 "Sacchetti, AD, Gerardi, M, Barkin, R, et. al.: Emergency Data Set for Children with Special Needs. Annals Emerg Med. 1996, 28:324-327"
  - 92 "EMSC Task Force on Children with Special Health Care Needs: EMS for Children: Recommendations for Coordinating Care for Children with Special Health Care Needs. Annals Emerg Med. 1997; 30:274-280"

Myth #22 "Listen mom, you don't need any x-rays, I can tell just by looking at Bruiser here it just a little lump on his head"

- A. Physical examination with a GCS of 14 or greater effectively rules out any intracranial lesions.



Fact

- A. Children with GCS of 15 can still have intracranial injuries which are only detected on CT scan.
  - B. The clinical significance of most of these lesions remains to be determined.
95. "Vera M; Fleisher GR; Barnes PD; Bjornson BH; Allred EN; Goldmann DA: Computed tomography imaging in children with head trauma: utilization and appropriateness from a quality improvement perspective. Infect Control Hosp Epidemiol, 14:491-9 1993"
- 94 "Davis RL; Mullen N; Makela M; Taylor JA; Cohen W; Rivara FP: Cranial computed tomography scans in children after minimal head injury with loss of consciousness. Ann Emerg Med, 24:640-5 1994"
95. "Jan MM; Camfield PR; Gordon K; Camfield CS: Vomiting after mild head injury is related to migraine. J Pediatr, 130:134-7 1997 "
96. "Reilly PL; Simpson DA; Sprod R; Thomas L: Assessing the conscious level in infants and young children: a paediatric version of the Glasgow Coma. Childs Nerv Syst, 4:30-3 1988"
97. "Pietrzak M; Jagoda A; Brown L: Evaluation of minor head trauma in children younger than two years. Am J Emerg Med, 9:153-6 1991 "
98. "Stein SC, Doolin EJ. Management of Minor Closed Head Injury in Children and Adolescents. Pediatr Surg Int. 10:465-71, 1995"
99. "Greenes DS, Schutzman SA: Infants With Isolated Skull Fracture: What Are Their Clinical Characteristics, and Do They Require Hospitalization? Annals Emerg Med. 30: 253-259"
100. "Moreea S; Jones S; Zoltie N: Radiography for head trauma in children: what guidelines should we use? J Accid Emerg Med, 29:13-5, 1997"
101. "Atabaki SM, Berns S, Camarca J, Bazarian J, Perniciaro C, Chamberlain JM: A Prospective Study of Pediatric Closed Head Injury: Can Clinical Signs Predict CT Findings? Pediatric Emergency Care 13: 83-84 1998"

Myth #21: "Pediatricians and Emergency Physicians are too different species"

- A. Pediatricians & Pediatric Emergency Physicians treat patients Different than Emergency Physicians.
  - 1. EP don't treat children as well as pediatrician or PEPs.

Fact

- A. There are no significant difference in the approach to Emergency Physicains and Pediatric Emergency Physicians to sick or injured children.
  - B. There are small specialty different preferences between the two Groups but none of these have dramatic impacts on patient care.
102. "Schweich PJ: Pediatric emergency medicine practice patterns: A comparison of pediatric and general emergency physicians. Pediatric Emergency Care; 1998; 14: 89"