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"SMALL BATCH" MEANS IT'S ALL ABOUT THE KIDS

PEDIATRIC PATIENTS AND YOUR PARAMEDIC STUDENT

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Objectives

- Introduction
- Provide a rationale for a solid foundation in "normal"
- Provide ideas for non-traditional, non-clinical resources to enhance students' pediatric exposure
- Discuss experiences, attitudes and perceptions about optimal pediatric exposure and training

In 1981, a pediatrician saved the life of a 3.2lb premature baby boy by working around the clock and beating the odds to stabilize him. In 2011, the same pediatrician was pinned inside a burning vehicle after a car collision, but was saved by a paramedic who turned out to be the premature baby he saved 30 years earlier.

Before and after....

Kids <u>are</u> scary

- Limited exposure during training
- Heightened response
- “Chaos” on scene often
- Few diagnostic categories
- When complex, they are REALLY complicated
- What’s “abnormal”??
- Need a solid foundation in “normal

Case example

- 14 m/o male with decreased PO intake and wet diapers over past 18 hrs, “not feeling well or acting right,” hx of viral illness 2 weeks ago, wet cough
- VS afebrile, HR 160, BP 98/72, RR 50, RA sats 93%
- Awake & alert but not moving much, mild-mod retractions, coarse crackles bilaterally—or was that wheezing?, abdominal guarding?, CRT 3 seconds, color sl pale

Case cont'd

- Transported on 2 lpm NC to non-children's hospital ED (Children's Hospital 10 min further away)
- After 2 hrs obs and 40 ml/kg IV fluids for presumed dehydration, child went into CPA and could not be resuscitated
- CXR had shown marked cardiomegaly consistent with dilated cardiomyopathy, liver was down 4-5 cm below the R costal margin
- Ignoring those clinical red flags, only other clue was "not acting right" and "didn't LOOK right either"

So what is "right"?

- Treasury Dept. requires trains looking at real bills, don't study counterfeits so as not to confuse
- Similarly, shouldn't we know "normal" before "sick"?
- "Old Doc Smith, he knows 'sick'" - PICU MD during med school
  - Easy after 60 years of experience, not after 6 months
- AAP-defined age groups[1] are somewhat arbitrary.....
  - Neonate: < 28-30 days ~ 1 month post 40-wk conceptual age
  - Infant: < 1 year
  - Toddler: over 1 yr, less than 2 yrs
  - Preschooler/early childhood: 2-5 yrs
  - School age/middle childhood: 6-11 yrs
  - Adolescent (early and late): 12-18 yrs

[1]Williams K, et al. *Pediatrics* 2012;129;S153

The data

- National EMS Education Standards requires "competency" in caring for all age groups
- 1998 DOT NSC recommended 30 pediatric patient encounters of various age groups … but is it the quantity or the quality of those encounters that contributes to competence?
- In lab, clinical and field experiences, the average US paramedic trainee will encounter 33 patients < 18 yrs, most school age and adolescents (Kokx et al 2012)
- Over those 33 pediatric patient encounters, the overall effect will be an additional 6.6-13.2% improvement in paramedic student scoring on the pediatric-specific test questions of the Paramedic BLUE exam (Brazelton et al 2014)

Recommendations

- Take a "sick vs not sick" approach to clinicals
  - "Sick" curriculum should focus on PALS, PEPP, NRP

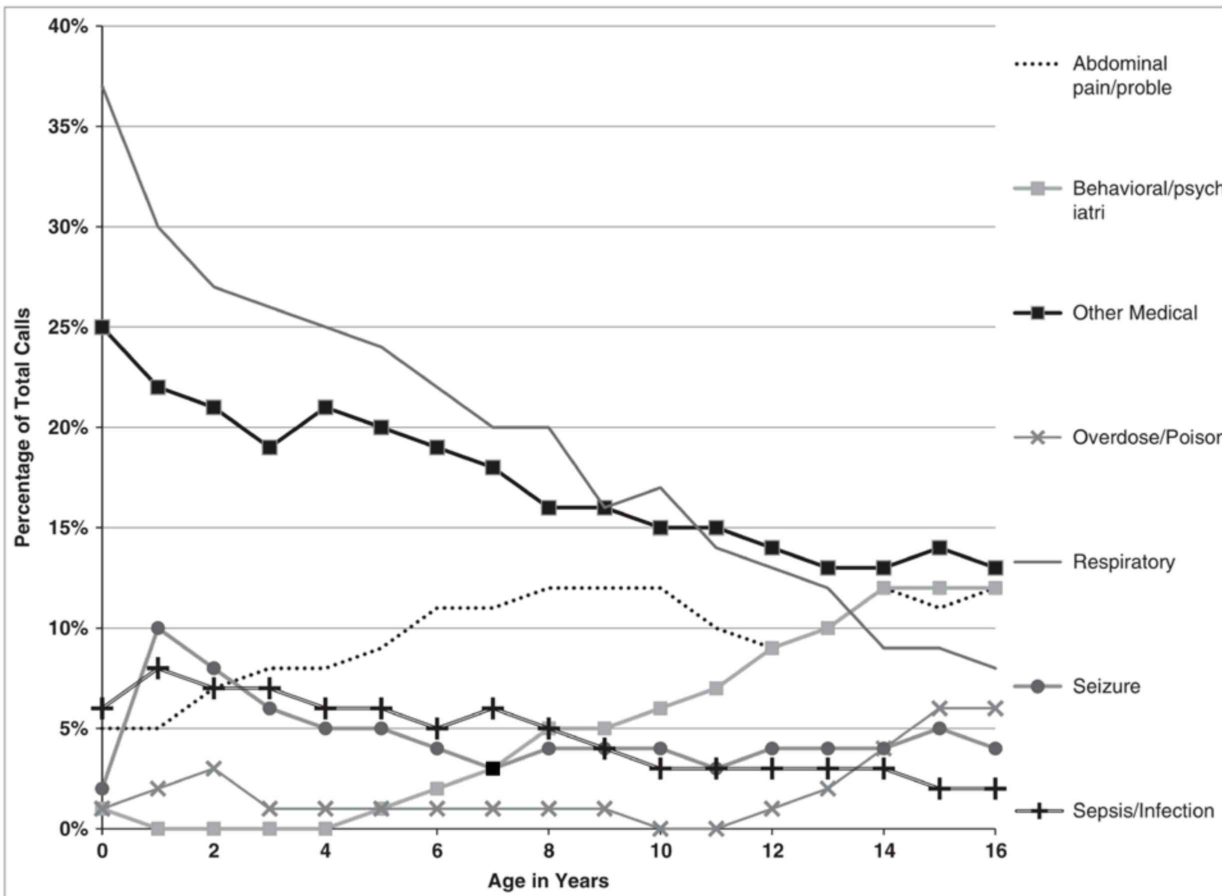

Figure 1. Primary Impressions with Statistically Significant Trends Encountered in at least Five Percent of all Patients vs Patient Age.

Ernest EV, Brazelton TB, Carhart ED, Studnek JR, Tritt PL, Philip GA, Burnett AM. Prevalence of unique pediatric pathologies encountered by paramedic students across age groups. Prehosp Disaster Med. 2016;31(3)1-6.

Recommendations

- Increase exposure to infants and young children
- Optimize well-child exams (i.e Larry & his 8 kids)
- Utilize local resources:
  - Instead of PICU or NICU time, "ride" with Child Life in the CH
  - Local day cares, pediatrician's or FP's offices, urgent care
  - Engage schools, especially the parents of complex kids
  - Complex children represent our socio-medical paradox
    - Often quarantined but also mainstreamed
    - They WILL need medical care, often emergently and then ….
    - … it will all be on the line
    - Their parents are VERY motivated to help you help them
    - They will bring their child, plus equipment, to your school

Other suggestions?