Pediatric Emergency and Critical Care Lit UPDATE!
Bedside tests to predict laryngoscopic difficulty in pediatric patients.
What This Study Adds

Frontal Plane to Chin Distance (FPCD)

Height

Neck Circumference

Mallampati Index

BMI

Weight

Sternomental Distance

Thyromental Distance

Inter-incisor Distance
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FPCD (cm) to weight (kg) ratio > 0.2:

Sensitivity 88.89%
Specificity 73.68%
Clinical Practice

Retrognathism = Difficult Airway

“Kiss your airway goodbye…”
Andersen et al.

Time to Epinephrine and Survival After Pediatric In-Hospital Cardiac Arrest.

JAMA. 2015; 314(8):802-810.
What This Study Adds

Retrospective analysis, 1558 U.S. children < 18 yo

487 (31.3%) Survived to Discharge

Time-to-Epi: 1 min (IQR 0-4)

RR per minute delay: 0.95 [95% CI, 0.91 to 0.99]
Clinical Practice

Proxy for preparedness?

Primary Respiratory or Cardiac?

Interventions are time-sensitive
Hoffman et al.

Comparison of the AVPU Scale and the Pediatric GCS in Prehospital Setting.

Prehosp Emerg Care. 2016; Early Online 1-5.
What This Study Adds

Prospective cohort, 302 children < 10 yo
Median age 2.3

Alert (73.5%)
Verbal (13.9%)
Painful (9.4%)
Unresponsive (3.1%)

Verbal Stimuli: 100% PPV
pGCS ≥ 8
V = 8 = Great
Responds to Voice, at least pGCS of 8

Only Pain? Only Gain…an ETT
Turner et al.

A Review of Pediatric Critical Care in Resource-Limited Settings.

What This Study Adds

Majority of childhood deaths preventable

Lower respiratory tract disease
Malaria
Diarrhea
Meningitis
Nutritional Deficiencies
Global Newborn and Child Sepsis Initiative

- Developed Nation
- Developed Nation

Child Mortality < 30/1000

Child Mortality > 30/1000

1st hr IVF, IV abx, CPAP

Vax, H\textsubscript{2}O, Vitamins

IM abx via HCW

ECMO, Transport

Inotropes, Mech Vent
Clinical Practice

Basics save lives

Country-specific goals

Research agenda set
Airway management complications in children with difficult tracheal intubation: a prospective cohort analysis.

What This Study Adds

Prospective, 1018 difficult pediatric intubations, 13 children’s hospitals

1st-pass success

Direct Laryngoscopy  3%
Fiber-optic  54%
Indirect Laryngoscopy  55%
Clinical Practice

Associated with complications

> 2 attempts

Weight < 10 kg

Thyromental distance

3 direct laryngoscopies before indirect

Go to video early!
Intravenous Fluid Bolus Prior to Neonatal and Infant Lumbar Puncture.

What This Study Adds
Prospective, convenience; 3 years, 40 pts
0 to 3 months, ddx pyloric stenosis

Difference in subarachnoid space $\text{mm}^2$

*Before* IV bolus: 37.8 $\text{mm}^2$
*After* IV bolus: 36.9 $\text{mm}^2$

$P = 0.42$
Clinical Practice

IV bolus probably doesn’t help.
Predictors of Emergency Department Utilization Among Children in Vulnerable Families.

What This Study Adds

Fragile Families and Child Wellbeing Study
5000 vulnerable children, 9-year follow-up

Hospitalization in last year $15.97$ [6.64 to 38.4]
History of asthma $2.53$ [1.17 to 5.44]
Clinic visit in last year $1.22$ [1.12 to 1.33]
Caregiver ED visits $1.15$ [1.03 to 1.28]
Clinical Practice

**Over-utilization** is a problem

**Insurance status** not predictive of ED utilization

**Care coordination, education**

*Editorial: vulnerable child syndrome*
KA-POW!
Quick Links

• Mansano et al. **Bedside tests to predict laryngoscopic difficulty in pediatric patients**. Inter J Pediatr Otorhinolaryngol. 2016; 83:63-68.

• Andersen et al. **Time to Epinephrine and Survival After Pediatric In-Hospital Cardiac Arrest**. JAMA. 2015; 314(8):802-810.

• Hoffman et al. **Comparison of the AVPU Scale and the Pediatric GCS in Prehospital Setting**. Prehosp Emerg Care. 2016; Early Online 1-5.


