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R2 CAT Block 9

“Risk Factors Leading to Failed Procedural Sedation in Children Outside the Operating Room”

Grunwell, McCracken, Fortenberry, Stockwell, Kamat

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Why? Because kids are the cutest when they are sedated, and we do it a lot; estimated 0.6% of all sedations are unable to be completed due to complications.

Study: Assessing for potential predictors of failed procedural sedation in munchkinland; specifically sedations performed by their dedicated sedation but non-anesthesia providers (ahem, ED).

What: Retrospective review of sedations charts for risk factors, comparative with successful sedations

Who: 83 failed sedations (vs. 523 successful) in patients from birth to 21 years old; not including those ASA class IV, getting sedated for PICC, imaging, etc. Most providers used propofol 3 mg/kg slow IVP then infusion.

Where: Children’s Healthcare of Atlanta at Egleston, Atlanta GA ; 3500 sedations/4 years

When: Jan 2007 – Dec 2011

Failure = could not complete imaging/procedure due to adverse events of...

hypoxemia <90% x 1 min; airway obstruction not responsive to repositioning, secretions more than periodic suctioning, coughing that interrupted procedure, apnea, wheezing, agitation, irregular respirations, bradycardia.

Using Chi squared for categorical variables

Using 2 sample t-tests for continuous variables

7 out of 13 predictors were found to be associated with failure; URI, congenital heart disease, OSA/snoring, ASA >II, obesity, increased weight, older age.

Not associated: gender, prematurity, asthma, GERD, CP/developmental delay, which was a tad surprising since I would think prematurity or asthma would definitely correlate.

Pitfalls; did not include BMI as did not have height measurements, did not include ASA Class IV kiddos

How it changes what I do: I will take kids with the sniffles more seriously when they present for their Colles’ fractures and need for procedural sedation and counsel especially parents on risks of sedation. Statistically, this is going to happen to each ED provider who sedates a munchkin and airways are risky business to be managing inside an MRI machine.

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