## Surgical Neonates Are Not Just Little Children. The NSQIP Pediatric Public Use File as a Source of Actionable QI Data for the Surgical Neonate.

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51,008 total patients

48,089

Non-neonates

2919

Neonates

Introduction		Results		
<ul> <li>The American College of Surgeons NSQIP Pediatric is a quality improvement program that records standardized 30-day outcome data for children undergoing operative procedures.</li> </ul>	Morbidity	Neonates (N=2919)	Non-neonates (N=48089)	p-value
	30-day mortality	107 (3.7%)	71 (0.2%)	<0.0001
<ul> <li>We hypothesized that neonates would have significantly higher morbidity and mortality than non-neonates and that NSQIP data could be used to generate actionable quality improvement efforts within the neonatal surgical population.</li> </ul>	30-day morbidity	450 (15.4%)	2347 (4.9%)	<0.0001
	Superficial surgical site infection	67 (2.3%)	492 (1.0%)	<0.0001
	Wound disruption	57 (2.0%)	248 (0.5%)	<0.0001
<ul> <li>Methods</li> <li>Data source: 2012 NSQIP Pediatric PUF file</li> <li>Cohort of neonates identified using the "neonate" identification field</li> <li>Neonate definition: <ul> <li>Term neonate and operation date &lt;29 days of age</li> <li>OR</li> <li>Premature neonate and EGA at surgery &lt;51 weeks</li> </ul> </li> <li>All other patients identified as "non-neonates"</li> <li>Morbidity and mortality rates compared</li> <li>Morbidity defined as any of these identified complications: <ul> <li>Pneumonia without preoperative pneumonia, reintubation without preoperative ventilator dependence, pulmonary embolism, renal</li> </ul> </li> </ul>	Pneumonia without preoperative pneumonia	26 (0.9%)	179 (0.4%)	<0.0001
	Reintubation without preoperative ventilator dependence	85 (2.9%)	167 (0.4%)	<0.0001
	Bleeding events (>25ml/kg transfusion)	184 (6.3%)	680 (1.4%)	<0.0001
	Sepsis	52 (1.8%)	218 (0.5%)	<0.0001
	Central line associated bloodstream infections	15 (0.5%)	47 (0.1%)	<0.0001
	Related reoperations	144 (4.9%)	960 (2.0%)	<0.0001
insufficiency or renal failure without preoperative renal failure or				
seizure, peripheral perve injury IVH, CVA/stroke or ICH, cardiac	Neonatal Procedure	N	Morbidity	Mortality
arrest requiring CPR, venous thrombosis requiring therapy, graft/prosthesis/flap failure, sepsis, SSI, wound disruption or bleeding event	Pyloromyotomy	357	6 (2%)	0 (0%)
	Ostomy revision/closure	126	25 (20%)	2 (2%)
Chi-square analysis used     STATA v12 1 used for analysis	Diaphragmatic hernia repair	97	24 (25%)	7 (7%)

## Conclusions

- The neonatal surgical population has a higher morbidity and mortality rate than the non-neonatal population
- · Data from NSQIP may be useful to identify areas to target for quality improvement in the neonatal population.
- · To adequately capture high-morbidity procedures, the sampling rate of all neonatal procedures may need to be increased while limiting the sampling of more common low-morbidity procedures.