Implementing a Treatment Algorithm for Neonatal Status Epilepticus
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Aim:
Implementing an evidence based treatment algorithm for neonatal status epilepticus to reduce time and variation in practice, with the goal to achieve 90% compliance with the treatment algorithm by July 2015.

Setting:
The Riley Hospital for Children NICU is a level 4 60-bed unit equipped with 24-hour neurotelemetry. The NICU is a referral only facility with about 650 admissions/year, about 20% of those are monitored for suspected seizures/status epilepticus. Neurology and Epileptologists are available 24/7.

Mechanism:
Practice variation amongst care givers and lack of knowledge amongst new learners lead to treatment variation and carry in increased risk for mistakes and delayed care. Higher seizure burden is associated with an increased risk of childhood epilepsy as well as impaired neurodevelopmental outcome, therefore, decreasing treatment time through consistency might facilitate treatment success. To establish more consistent care and facilitate medication dispense processes, we developed a treatment algorithm for neonatal status epilepticus. This algorithm applies to neonates monitored with neurotelemetry and status epileptics as defined by seizures lasting more than 50% of any given recorded time interval, ideally 1 hour. By making an evidence based treatment algorithm for neonatal status epilepticus available and educate involved caregivers, we target improvement in consistency among providers, reduce practice variation, and facilitate timely treatment. At this point, no comparison data is available as this is the first treatment algorithm available for neonatal status epilepticus.

Methods:
March-May 2014: Development of an evidence based treatment algorithm for neonatal status epilepticus in collaboration by the departments of Pediatric Neurology, Neonatology and Pharmacy.
June 2014: Presented, discussed and amended within the department of Pediatric Neurology and Neonatology; final algorithm approved, education done
July 2014: Implementing the treatment algorithm for the treatment of neonatal status epilepticus in the Riley NICU.

Measures:
Seizure algorithm was introduced in July 2014. Data collection begun August 2014. Adherence of practitioners to the treatment algorithm, goal: 75% adherence by 6 months and 90% adherence by 12 months.
1. Number of neonates diagnosed with neonatal status epilepticus treated according to the algorithm
2. Time from dx to resolution of status epilepticus as defined as reduction of seizure activity by 50%
3. Length of hospital stay

Results: None yet

Discussion: We have just begun the data collection process.