

Project title:

Identifying Risk Factors for Baclofen Pump Infections

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Research Project Description

Intrathecal baclofen (ITB) is a common and effective treatment for medically intractable spasticity and dystonia in children with movement disorders, especially cerebral palsy. The use of implantable devices for ITB delivery has had a positive impact on the quality of life experienced by many of these affected pediatric patients. Unfortunately, the surgical insertion and postoperative maintenance of these products are associated with a myriad of complications, including a relatively high rate of infection; reported infection rates range from 4-66% in the literature. ITB pump infections create an increased risk of morbidity and mortality, as well as higher healthcare costs.

Although case reports and case series exist suggesting some risk factors related to infection may be unique to this patient population, to date there has not been a systematic review and meta-analysis of the risk factors associated with ITB pump infections in children. We hypothesize that there are preventable risk factors related to ITB pump infections in pediatric patients and that an investigation of the most common variables involved in the operative implantation and perioperative management of these devices will help identify opportunities for interventions that may reduce infection rates.

This is a retrospective cohort study in which we will review our neurosurgical database of ITB cases in patients age 0 to 18 years over a 4-year time period to determine the percentage of patients with infectious complications, assess targeted variables that may be related to the infections, and identify the factors that show a statistically significant impact on infection rates. This will allow us to implement quality improvement initiatives to reduce ITB pump infections that we can study prospectively in the future.