|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Supplement Table 2a. Complications (n=21)a** | | | | |
|  | **Measure of Effect Size** | **Effect Size** | **CI Spread** | **p-Value** |
| A Multicenter Study of Factors Influencing Cerebrospinal Fluid Shunt Survival in Infants and Children[92](#_ENREF_92) |  |  |  |  |
| Age <30 days was associated with shorter time to first VPS revision compared with age 13-18 years | HR | 2.03 | 1.03 | < 0.001 |
| Chiari malformation Type I surgery in pediatric patients. Part 2: complications and the influence of comorbid disease in California, Florida, and New York[70](#_ENREF_70) |  |  |  |  |
| Age 0-5 years had greater rate of post-op surgical complications compared with age 6-12 years | OR | 2.4 | 3 | 0.006 |
| Age 13-18 years had greater rate of post-op surgical complications compared with age 6-12 years | OR | 2.5 | 2.6 | <0.001 |
| Cross-Sectional Analysis on Racial and Economic Disparities Affecting Mortality in Preterm Infants with Posthemorrhagic Hydrocephalus[29](#_ENREF_29) |  |  |  |  |
| Patients in a non-children’s hospital had lower overall shunt complications than patients in a children’s hospital | RR | 2.08 | 4.55 | <0.01 |
| Patients in the Midwest had higher rate of general complications than patients in the Northeast | RR | 2.38 | 3.13 | <0.01 |
| Patients in the Midwest had higher rate of GI complications than patients in the Northeast | RR | 2.38 | 3.13 | <0.01 |
| Patients in a teaching hospital had higher rate of general complications than patients in a non-teaching hospital | RR | 2.57 | 3.14 | <0.01 |
| Patients in a teaching hospital had higher rate of GI complications than patients in a non-teaching hospital | RR | 2.57 | 3.14 | <0.01 |
| Disparities in clinical and economic outcomes in children and adolescents following surgery for tethered cord syndrome in the United States[41](#_ENREF_41) |  |  |  |  |
| Age 16-20 years had higher odds of experiencing a complication compared with age 6-10 years | OR | 2.2 | 2 | 0.01 |
| A pre-existing condition was associated with higher odds of experiencing a complication compared with no pre-existing condition | OR | 2.1 | 1.6 | 0.002 |
| Morbidity associated with 30-day surgical site infection following nonshunt pediatric neurosurgery[71](#_ENREF_71) |  |  |  |  |
| Any SSI within 30 days post-op was associated with higher rate of readmission within 30 days post-op compared with no SSI | OR | 6.299 | 3.407 | <0.001 |
| Patient and operative factors associated with complications following adolescent idiopathic scoliosis surgery: an analysis of 36,335 patients from the Nationwide Inpatient Sample[55](#_ENREF_55) |  |  |  |  |
| Patients with anemia had increased risk of complication development compared with patients without anemia | OR | 2.1 | 1.4 | 0.004 |
| Patients with hypertension had increased risk of complication development compared with patients without hypertension | OR | 2.51 | 3.39 | <0.001 |
| Combined approaches were associated with increased risk of complication development compared with posterior approaches | OR | 3.04 | 1.95 | <0.001 |
| Pediatric endoscopic third ventriculostomy: a population-based study[95](#_ENREF_95) |  |  |  |  |
| Age 6-12 months was associated with ETV failure compared with age 10-19 years | HR | 2.31 | 2.35 | 0.001 |
| History of prior CSF shunt was associated with ETV failure compared with no history of prior shunt | HR | 2.47 | 1.89 | <0.001 |
| Perioperative outcomes for pediatric neurosurgical procedures: analysis of the National Surgical Quality Improvement Program–Pediatrics[30](#_ENREF_30) |  |  |  |  |
| ASA Class 4 or 5 was a predictor of any adverse event with craniotomy/craniectomy compared with ASA Class 1-3 | OR | 2.3 | 2.8 | 0.004 |
| Age 1-5 years was a predictor of any adverse event with craniotomy/craniectomy compared with age 13-18 years | OR | 5 | 3.1 | <0.001 |
| Spinal fusion for pediatric neuromuscular scoliosis: national trends, complications, and in-hospital outcomes[56](#_ENREF_56) |  |  |  |  |
| The presence of 2 or more pre-existing comorbidities was an independent predictor of the occurrence of 1 or more complications | OR | 3.226 | 2.085 | <0.001 |
| Highest median household income quartile was an independent predictor of the occurrence of 1 or more complications | OR | 3.462 | 2.467 | <0.001 |
| The comparative effectiveness of ventricular shunt placement versus endoscopic third ventriculostomy for initial treatment of hydrocephalus in infants[86](#_ENREF_86) |  |  |  |  |
| ETV was associated with a higher risk of CSF diversion failure at 1 year compared with shunt placement | OR | 2.6 | 1.1 | <0.001 |

aCategories are defined as the following: Effect Size (ES) = Medium or Large (>2-10) + Confidence Interval (CI) = Medium or High (0-4) + p-value = Strong/Very Strong (<0.01).

**Abbreviations:** CI=confidence interval; HR=hazard ratio; OR=odds ratio; RR=relative risk.