

Infection prevention

Guidelines for the [prevention](#) of [infection](#) (which is one of the [perioperative](#) complications) were issued by the World Health Organization (WHO) in [2016](#), ¹⁾ updated and published in a new edition in [2018](#), ²⁾ and the Centers for Disease Control and Prevention (CDC) in [2017](#) ³⁾. However, they are broad recommendations for surgery in multiple surgical fields, and it is not feasible to apply them directly to the neurosurgical field

The objective of this study was to describe trends in the utilization of [infection prevention](#) techniques ([standard care](#), [intrathecal antibiotics](#), [antibiotic-impregnated catheters](#) [AICs], and a combination of IT antibiotics and AICs) among participating hospitals over time.

Methods: This retrospective cohort study at six large children's hospitals between 2007 and 2015 included children ≤ 18 years of age who underwent initial shunt placement between 2007 and 2012. Pediatric Health Information System + (PHIS+) data were augmented with chart review data for all shunt surgeries that occurred before the first shunt infection. The Pearson chi-square test was used to test for differences in outcomes.

Results: In total, 1723 eligible children had initial shunt placement between 2007 and 2012, with 3094 shunt surgeries through 2015. Differences were noted between hospitals in gestational age, etiology of hydrocephalus, and race and ethnicity, but not sex, weight at surgery, and previous surgeries. Utilization of infection prevention techniques varied across participating hospitals. Hydrocephalus Clinical Research Network hospitals used more IT antibiotics in 2007-2011; after 2012, increasing adoption of AICs was observed in most hospitals.

Conclusions: A consistent trend of decreasing IT antibiotic use and increased AIC utilization was observed after 2012, except for hospital B, which consistently used AICs ⁴⁾.

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Global guidelines for the prevention of surgical site infection [Internet]. [cited 2024 Oct 29]. Available from: <https://iris.who.int/bitstream/handle/10665/250680/9789241549882-eng.pdf>

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Global guidelines for the prevention of surgical site infection [Internet]. [cited 2024 Oct 29]. Available from: <https://iris.who.int/bitstream/handle/10665/277399/9789241550475-eng.pdf?sequence=1>

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Berríos-Torres SI, Umscheid CA, Bratzler DW, et al. Centers for Disease Control and Prevention Guideline for the prevention of surgical site infection, 2017. *JAMA Surg.* 2017;152(8):784-91. doi: 10.1001/jamasurg.2017.0904

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Podkovik S, Zhou C, Coffin SE, Hall M, Hauptman JS, Kronman MP, Mangano FT, Pollack IF, Sedano S, Schaffzin JK, Thorell E, Warf BC, Whitlock KB, Simon TD. Utilization trends in cerebrospinal fluid shunt infection prevention techniques in the United States from 2007 to 2015. *J Neurosurg Pediatr.* 2024 Jan 5:1-10. doi: 10.3171/2023.11.PEDS2337. Epub ahead of print. PMID: 38181501; PMCID: PMC10810681.

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