

Bad Bugs: Reducing Neurosurgery Surgical Site Infections

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Statement of Successful Practice

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Background

- Surgical site infections are the most common cause of improper wound healing
- The Center for Disease Control's (CDC), National Healthcare Safety Network (NHSN), defines the standardized infection ration (SIR) as a measure to track hospital acquired infections (HAI)
- The SIR compares the actual number of HAIs reported to the number predicted, against the standard population
- In fiscal years (FY) 2018 through 2020, the SIRs for complex spinal fusions were statistical higher than predicted
- An interprofessional workgroup was formed in May 2022 (FY21) as an interdisciplinary approach to decrease SSIs in this patient population



Objectives

- Appraise evidenced based practice approaches to decreasing complex spinal fusion SSIs
- Determine the benefit of collaboration between the interprofessional to create a Neurosurgery Working Group to decrease SSIs

References

- Goldberg, L. (2020). Developing a surgical site infection prevention bundle for patients undergoing elective spine surgery. AORN Journal, 112(2), http://doi.org/10.1002/aorn.13130
- National Healthcare Safety Network (2024, March). The NHSN standardized infection ratio (SIR): A guide to the SIR. https://www.cdc.gov/nhsn/pdfs/psanalysis-resources/nhsn-sir-guide.pdf

There was a 31.74% decrease in complex fusion SSIs from FY23 (rate of 2.3) through April 2024 (rate of 1.67)

		FY23	FY24	Jul-24	Aug-24	Sep-24	FY25 Q1	FY25 thru Sept
Fusion SSI Deep & Organ Space (90 days) - Neurosurg + Ortho	Number of Infections	18	12	1	0	1	2	2
	Surgeries	781	787	58	59	68	185	185
	Rate per 100 surgeries	2.30	1.52	1.72	0.00	1.47	1.08	1.08
	SIR	2.18	1.56				0.90	0.90

With a sustained decrease through FY25





Changed postop silver impregnated dressing to remain in place for 7 days rather than removing by post op day

Implications for Advancing Practice

Reduction of SSIs requires a team-based approach. An increase in infections is rarely related to one cause and interventions should be multimodal. Engagement from all stakeholders created a successful space to improve practice.