

Significance of Problem

- Estimated 300 million surgical procedures per year (Gillespie et al. 2021)
- Incidence of SSI 30 days post-operative globally 11% (Gillespie et al. 2021)
- Community Hospital NW Indiana SSIs : 2021 total 5 (CV 0)
2022 Jan-Aug total 25 (CV 4)

PICOT Question

In patients who have undergone cardiothoracic and vascular surgery, does implementation of a post-operative care bundle based on current EBP as compared to current clinical agency practice standards result in a decrease in SSIs over a 12-week period?

Review of Literature

Evidence	Database	LOE ^a / Quality ^b
Antoniou (2019)	Citation Chase	I/ A/B
Bosanquet (2021)	PUBMED	III/ A/B
Dumville et al. (2016)	Cochrane	I/ A
Elver et al. (2021)	PUBMED	III/ A/B
Hekman et al. (2019)	CINAHL	II/ A/B
Heal et al. (2016)	Cochrane	I/ A
Kachel et al. (2016)	CINAHL	II/ A/B
Madej et al. (2020)	PUBMED	III/ C
Manivannan et al. (2018)	CINAHL	III/ A/B
Murithi et al. (2016)	JBIC	I/ A
Norman et al. (2016)	Cochrane	I/ A
Sivapuram et al. (2021)	JBIC	I/ A
Vos et al. (2018)	CINAHL	I/ A
WHO (2019)	Citation Case	I/ A/B

^aMelnyk & Fineout-Overhold; ^bJohns Hopkins

Best Practices

- Use and removal of dressings including supportive devices (Antoniou, 2019; Sivapuram et al. 2021; WHO, 2019; Ever et al. 2021; Dumville et al. 2016; Murithi et al. 2021; Vos et al. 2018)
- Use of antibiotics or antiseptics post-operatively (Heal et al. 2016; Norman et al. 2016; Kachel et al. 2020; Madej et al. 2016; Bosanquet et al. 2021)
- Implementation of evidenced-based care bundle (Hekman et al. 2019; Manivannan et al. 2018)
- Use of auditing and surveillance tool (Manivannan et al. 2018)

Implementation

EBP Model: Iowa Model
Participants: 24 post-operative surgical patients, elective and urgent procedures: men (66.6%) and women (33.3%) over the age of 18
Setting: 192 bed community hospital in Midwest United States. CV practice included 2 Surgeons, 4 PAs, 2 APRNs, 1 RN and 1 MA
Intervention: Creation of a smart phrase for discharge instructions. Patient instruction provided with needed supplies. Participants were followed with in person clinic follow ups on 1-week, 4-week and 12-week schedule. Participants wounds were evaluated with NHSN/CDC assessment tool

SSI Assessment Tool

NHSN/CDC Surgical Site Infection Assessment Tool (NHSN, 2022)

Evaluation

Primary Outcome: Pearson Chi-Square test ($p=.443$) showed no statistical relationship between the intervention and non-intervention groups whether SSI present

		Intervention	Non-Intervention	Total
SSI Present	Yes	1	4	5
	No	23	215	238
Total		24	219	243

Secondary Outcome: Logistics regression model found the higher BMI ($p=.013$) and heavier weight ($p=.049$) the more likely the development of an SSI

Conclusion and Recommendations

- Use of post-operative care bundle aids in standardizing post-operative care
- Recommendations: Larger patient population to evaluate effectiveness and each component individually
- Nursing Implications:
 - Need for evaluation of current clinical practice standards for post-operative incision care
 - Anticipate increase likelihood of SSIs in patients with increased BMI and weight