

# **NJCOMO ANNUAL MEETING ABSTRACT CALL**

Title of Abstract:

## **Implementation of Colon Surgical Site Infection Bundle**

Marta Trzaska, MSN, RN, CNOR

Rachel Montag, BSN, RN, CNOR



# NJCOMO ANNUAL MEETING ABSTRACT CALL

## Significance:

- Surgical site infections (SSI) are one of the most common postoperative complications following colorectal procedures because of the nature of surgery which includes working in a dirty and clean area of the body. It is estimated that 1-40% of colorectal surgeries develop an infection (Mulita et al., 2022). However, research has shown that by implementing a protocol or bundle can decrease the number of infections. We are implementing a colon bundle at Holy Name.



# NJCOMO ANNUAL MEETING ABSTRACT CALL

## Study Purpose/Objectives:

The aim of this project is to introduce a colon surgical site infection (SSI) bundle to the Holy Name Hospital. Currently the hospital had four colon infections in the year 2022. Two were superficial infections and two were deep organ infections which are reportable to the Centers of Medicare and Medicaid (CMS) and LeapFrog. The objective is to decrease our rate of four infections to zero by the end of 2024.



# NJCOMO ANNUAL MEETING ABSTRACT CALL

**Design/Methodology:** The colon bundle was created, and staff and surgeons completed computer-based learning where different shifts of staff can work on their own time to complete modules with information about SSI colon bundles. Another learning activity was a face-to-face in-service where the SSI bundle closing pack was displayed. During the face-to-face in-services, the educator was able to go over the checklist that will be used to monitor the use of the colon SSI bundle.



# NJCOMO ANNUAL MEETING ABSTRACT CALL

**Design/Methodology Con't:** Return demonstration was performed by scrub techs and nurses to demonstrated competency with the closing pack. Since the start of the colon surgical site infection bundle, Holy Name performed twelve colorectal surgeries that qualified for the SSI bundle. The checklist that was created collected data if the surgery surgeon used the colon bundle or not.

# NJCOMO ANNUAL MEETING ABSTRACT CALL

## BOWEL RESECTION PROTOCOL – CHECKLIST

	YES	NO	COMMENTS
1. <b>Before Case Begins:</b> Prepare extra Mayo with closing pack including closing tray, and sutures			
2. <b>Prep used:</b> Chloraprep			Other:
3. Wound protector drape used during the procedure (optional )			
4. <b>After anastomosis or stoma is created:</b> intra-abdominal irrigation is performed, laps, electrocautery, suction tubing/yankauer and retractors are removed.			
5. Team changes gowns and gloves			
6. Change light handles			
7. Incision site is draped with 4 new clean utility drapes (sticky towels)			
8. Use of prepared Mayo stand			
9. Team does not touch contaminated back table			
10. Was Mepilex or Aquacel dressing applied			

RN Name: \_\_\_\_\_ ST Name: \_\_\_\_\_

Surgeon Name: \_\_\_\_\_

Audit Tool: Not a permanent part of medical record, please return to Marta Trzaska  
(Place this form in mailbox at the front desk.)

# NJCOMO ANNUAL MEETING ABSTRACT CALL

## Evidence- Based Practice:

Study by Lohsiriwat (2021) revealed that a high compliance with SSI prevention bundle (especially  $\geq 70\%$ ) reduced incisional SSI after colorectal surgery. The bundle included smoking cessation, antibiotic prophylaxis, appropriate hair removal skin, preparation with alcohol solution, wound protectors, ATM-coated sutures for wound closure, perioperative glucose control, intraoperative normothermia, perioperative oxygen saturation  $\geq 92\%$ , change instruments before wound closure.

Study by Guerrero et al., (2021), showed a decrease by 85.4% from 3.08 to 0.45 after implementation of SSI bundle. It was found that the bundle decreased total 30-day colon SSI rates and national standardized infection rates. The study recommended implementing a standardized SSI bundle on all colon cases to minimize infection rates. The bundle was like other bundles with a few changes that the hospital implemented.

# NJCOMO ANNUAL MEETING ABSTRACT CALL

- Population/Sample Size:

Every patient who is undergoing surgery involving small or large intestines

Sample size: N= 12





# NJCOMO ANNUAL MEETING ABSTRACT CALL

## Results/Outcomes/Implications:

- Since surgical infections are reportable within the first thirty days post-surgery Implementation of the SSI was March 2023 – to date no surgical infections have been reported. The staff utilized the SSI on 8 of the 12 eligible cases.
- Staff demonstrated understanding of the need to use the checklist evident by the results of their post-test and the encouragement they show in the operating room to use the bundle.
- More data is needed to determine if the SSI colon bundle is correlating with a decrease of postoperative colon infections. The staff will be surveyed during scheduled twice monthly in-services to determine the need for further education to increase compliance rate and evaluate barriers to implementation.
- With the compliance rate of 75%, we will continue to collect data and see if the SSI bundle improves our infection rates and if more teaching needs to be done to get achieve a higher compliance rate.



# NJCOMO ANNUAL MEETING ABSTRACT CALL

**Conclusion:** Every project takes time to implement. With leaderships support and evidence-based practices presented, the colon SSI bundle should create better patient outcomes with a reduction in infections. The hope is that after the implementation of this program, Holy Name will have a decrease in reportable and non-reportable infections post colon operations. Every new projection gets some push-back but it's important to show evidence-based research to accomplish the use of the colon bundle on every colon case.

# NJCOMO ANNUAL MEETING ABSTRACT CALL

Boswell, C. (2016). Online educational experiences. In S. Cannon & C. Boswell (Eds.), *Evidence-based teaching in nursing: A foundation for educators* (2nd ed., pp. 175–210). Jones & Bartlett Learning.

Guerrero M., Anderson B., Carr G., Snyder K., Boyle P., Ugwu S., Davis M., Bohnenkamp S., Valentine Nfonsam V, & Riall, T., (2021). Adherence to a Standardized infection reduction bundle decreases surgical site infections after colon surgery: a retrospective cohort study on 526 patients. *Patient Safety in Surgery*, 15(1), 1–7. <https://doi.org/10.1186/s13037-021-00285-7>

Hoang, S. C., Klipfel, A. A., Roth, L. A., Vrees, M., Schechter, S., & Shah, N. (2019). Colon and rectal surgery surgical site infection reduction bundle: To improve is to change. *The American Journal of Surgery*, 217(1), 40–45.

Lohsiriwat V. (2021). High Compliance With Surgical Site Infection (SSI) Prevention Bundle Reduces Incisional SSI After Colorectal Surgery. *Annals of coloproctology*, 37(3), 146–152. <https://doi.org/10.3393/ac.2020.04.10.2> <https://doi.org/10.1016/j.amjsurg.2018.07.008>

Mulita, F., Liolis, E., Akinosoglou, K., Tchabashvili, L., Maroulis, I., Kaplanis, C., Vailas, M., & Panos, G. (2022). Postoperative sepsis after colorectal surgery: a prospective single-center observational study and review of the literature. *Przegląd gastroenterologiczny*, 17(1), 47–51. <https://doi.org/10.5114/pg.2021.106083>

Martinez, C., Omesiete, P., Pandit, V., Thompson, E., Nocera, M., Riall, T., Guerrero, M., & Nfonsam, V. (2020). A Protocol-Driven Reduction in Surgical Site Infections After Colon Surgery. *Journal of Surgical Research*, 246, 100–105. <https://doi.org/10.1016/j.jss.2019.08.018>

Reese, S. M., Knepper, B., Amiot, M., Beard, J., Campion, E., & Young, H. (2020). Implementation of colon surgical site infection prevention bundle—The successes and challenges. *AJIC: American Journal of Infection Control*, 48(11), 1287–1291. <https://doi.org/10.1016/j.ajic.2020.05.010>