A Bundled Approach to Prevention

Melissa Morgan, BSN, RN, CIC; Susan H. Pedaline, DNP, RN, MS; Cleo Montpelier, MHA, BSN, RN, CPAN; Ginger Fountain, RN, CNOR; Beverly Harrelson, MSN, RN, CPAN;
Jenny Clapp, MSN, RN, RNC-OB; Amy Skrinjar, MSN, RN, RNC-OB; and Jennifer L. Fencl, DNP, RN, CNS, CNOR

Poster #135

MAGNET RECOGNIZED
AMERICAN NURSES CREDENTIALING CENTER

Cone Health Magnet Facilities
Annie Penn Hospital
Behavioral Health Hospital
Moses Cone Hospital
Wesley Long Hospital
Women's Hospital

Surgical site infections (SSIs) are the most common and most costly health care associated infection (HAI). SSIs have direct impact on patients, families, and the community in which they live and work.

In late 2013, our organization noticed an increase in superficial, deep and organ space SSI in our C-section patients. Given the importance of patient safety and the maternal bonding period, our organization felt action was indicated. An interprofessional team reviewed the literature and compared this to the findings from the observational studies. Based on best practices, a standardization protocol was developed and implemented to ensure that the same care protocols were in place for all C-section patients with a focus on the perioperative experience across the three phases of care: preoperative, intraoperative and postoperative.

Cuection Surgery Practice Changes
Implementation Date: October 2013
Goal: To standardize processes in order to deliver the same high standard of care to every patient, every time, regardless of the scheduled or emergent nature of the case.
Outcome: Reduction / elimination of surgical site infections

Phase of Care	Measure	Action	Rationale	Metric
Pre-Op	CHG	• Patient receives a CHG Bath & Nasal Prep with Povidone Iodine nasal antiseptic for all C-sections. • Clip hairline to labial split. • Place clean gown and hat on patient and transfer onto stretcher with clean linen (if from unit other than Short Stay).	Reduce bioburden and exogenous sources of wound contamination. Prevent surgical prep from being absorbed into the hairline. Reduce the bioburden carried into the OR suite.	% compliance with: • Bathing • Nasal prep application % compliance on direct observations % compliance on direct observations
Intra-Op	Antibiotic standardization	• Cefazolin (weight based – 2 gm if <120 kg; 3 gm if >120 kg) • If PCN allergy: Clindamycin 900 mg + Gentamicin 5 mg/kg • If chorioamnionitis (if already on amp + gent): switch ampicillin/sulbactam 3 g Q6h for ampicillin or add clindamycin 900 mg x 1 or add cefazolin 2 gm x 1 • If Group B strep screen: if no screen results available and if < 37 wks gestation, membrane rupture > 18 hr or Temp 38C: Penicillin 5 MU x 1, then 2.5 MU q 4 hrs; if PCN allergy with non-anaphalactic, non-urticarial – cefazolin 2 gm x 1, then 1 gm Q8h or if anaphylactic or urticarial – vancomycin 1 gm Q12hr	Standardize prophylaxis to ensure right drug, right dose, and right time	% compliance with: • Standard antibiotic • Drug dose • timing
	Dress Code	• Circulator monitors compliance with dress code for all who enter the room.	To protect the room from exogenous sources of wound contamination.	% compliance on direct observations
	Foley Placement	• Anesthesia delivered • Patient positioned • Foley placed – RN will open foley kit at the FOB to use as her sterile field then use hand sanitizer. Apply sterile gloves, and insert foley in patient; Remove gloves and apply hand sanitizer then position the patient supine. *Please note that some patients who are in labor (e.g. arriving from Birthing Suites, may already have a foley in place) • Apply bovie pad and safety strap across thighs	Standardizing responsibilities and processes for foley insertion	% compliance on direct observations
	Skin Prep Standardization	• Circulator performs skin prep with Duraprep – The RN will apply hand sanitizer and sterile gloves from the sterile prep table. Activate the Duraprep and prep the patient abdomen starting at the incision site and work out in a circular motion extending to the breast and extending to the labial split. After the 3 minute dry time, the RN will take a sterile towel from the sterile prep table and place it over the groin/perineum	Standardizing prepping techniques to promote competency and continuity	% compliance on direct observations
	Family Member Process	• Patient is draped, sterile field established, significant other is then escorted into place at patient's head	To lessen likelihood of contamination when the traffic pattern is well established prior to bringing in the significant other	% compliance on direct observations
	Draping of Baby Warmer	• Draped by RT with a sterile ¼ drape AFTER setting up for baby and as close as possible to time of birth to ensure sterility is maintained as the surgeon places the infant in the warmer. Surgeon places baby in warming unit.	Protect sterility of the warmer to prevent contamination of the surgeon during transfer	% compliance on direct observations
	Dressing application	• Occlusive dressing (which allows for showering) is applied, drapes removed, a pressure dressing is applied prn over the op-site dressing, then mother is cleaned, redressed in a clean gown and transported to recovery • Alternatives: Dermabond and Wound Vacs are acceptable wound closure applications in appropriate populations based on need. Discussed and decided on 5.8.2014 WH OR Committee	Standardizing occlusive dressing protects the incision from contamination during removal of drapes and cleaning process.	% compliance on direct observations
Post-Op	Dressing to remain intact	• Dressing should remain in place for 3 days, at a minimum. • If staples are removed prior to discharge, a new dressing is applied. All patients are discharged with a dressing in place and the patient is instructed to remove dressing if it begins to fall off, is dirty, or damaged or on day 3 after returning home.	Standardizing occlusive dressing to be left on for at least 3 days to protect the incision during the critical heal time from post-op contamination due to mother's decreased mobility and ability to maintain proper hygiene.	% compliance with leaving dressing in place a minimum of 3 days

The protocol was fully implemented on Jan. 1, 2014. In the year prior to implementation, C-section infection rates were at 0.49. In 2014, C-section infection rates dropped to 0.23 and thus far in 2015 are at 0.18. The number of deep and organ space infections has also dropped from 6 to 1 in 2014.

Implementation of a standardized bundle approach had profound effects on reducing surgical site infections in the C-section population at our organization. Overall, an 89 percent reduction has occurred when looking at our pre-intervention year compared to our post-intervention year.

This work has improved the quality and safety of patient care in our organization and enhanced the birthing experience for our patients by not interfering with the skin-to-skin process of baby and mother.

Standardization Protocol for C-Section Patients Across 3 Phases of Perioperative Care