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Educational Prevention Program of Surgical Site Infections (SSI)

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Abstract

Surgical site infections (SSI) cause negative health care effects to patients and hospitals. SSI is one of the most common types of healthcare-associated infections (HAI) accounting for 31% among hospitalized patients (Centers for Disease Control and Prevention [CDC], 2012). It is associated with prolonged length of stays (LOS), higher morbidity and mortality, and increased healthcare costs. The purpose of this quality improvement project is to decrease SSI rates by enhancing patient education and engagement in preoperative care and hygiene before surgery. In a metropolitan pediatric hospital, a microsystem analysis of the preoperative unit was conducted before generating the SSI Prevention Assessment Audit Tool. The audit tools were distributed to and completed by the preoperative nurses to assess patients' cleanliness before surgery. Data from the audit tool are to be collected before and after the implementation of an educational pamphlet and a preoperative phone call script provided to patients to evaluate and determine the effectiveness of the project. A total of 60 audit tools were collected from June 4th to June 28th, 2018. From the 60 surveys, 20 were marked as "N/A" and were not included in the data analysis. Overall, of the 40 completed surveys, 28 (70%) patients were clean and 12 (30%) patients were dirty. Currently, the education pamphlet is being reviewed for approval by the Patient and Family Education Committee of the hospital. When the educational pamphlet and phone call script are implemented, a team of CNL students will then be able to evaluate the effectiveness of the Educational Prevention Program of SSI.

Statement of the Problem

According to the Centers of Disease Control, an SSI is “an infection that occurs after surgery in the part of the body where the surgery took place” (2012). It is caused by germs that get into the surgical wound. The adverse effects of SSI present undesirable yet largely preventable outcomes associated with significant patient harm, prolonged hospitalization, higher morbidity and mortality, and increased healthcare costs. Improvements have been made and implemented in infection control practices in efforts to prevent and reduce SSI rates such as better sterilization methods, surgical techniques, and the use of antimicrobial prophylaxis. However, as the number of operative procedures performed in the United States increases, so does the expected increase of SSI rates.

The events of SSI negatively affect patients and the healthcare organization. Approximately 160,000 to 300,000 SSI take place every year in the United State, making SSI now the most common and costly healthcare-associated infections (Anderson et al, 2014). The high occurrences of SSIs lead to detrimental financial expenditure in the treatment of SSI and further health complications. Each SSI prolongs each hospital stay to an additional 7 to 11 day where the costs of all SSIs occurrences in a year cost approximately $3.5 to $10 billion (Anderson eta al, 2014). Moreover, surgical patients with SSI have 2 to 11 times the risk for death compared to those without an SSI (Anderson eta al, 2014).

SSI occur in surgical patients of all ages and diagnoses. However, the issue of SSI in children is underrepresented in the current time. There are insufficient quality improvements programs to be implemented and established focusing on the reduction of SSI in pediatric patients due to limitations in risk factors and preventative strategies for the population (Toltzis et al, 2014). A number of factors cause SSI in children such as younger age, duration of operation,

type of operation, wound class, urgency, antibiotic usage, and operation related complications (Varik, Kirsimagi, Varimae, Eler, Loivukene & Kubarsepp, 2010). Moreover, hygiene measures are ongoing risk factors for SSI before, during, and after a surgical event. For many pediatric patients and their families, they may lack the time, resource, and education to perform effective hygiene practices, leading to an increase risk for SSI and putting a patient's health at harm.

At a large, metropolitan pediatric hospital, there is a report of increased SSI rates in pediatric patients. It is a 334-bed hospital that provides pediatric healthcare services to over two million children across four counties in the region (x). Clinical preceptor stated that there is a need for improvement in the Perioperative Services while Clinical Nurse Leader (CNL) students conducted a microsystem needs assessment to identify and address the issues of SSI. Even though patient education handouts are available, they only include information about oral care and chlorhexidine gluconate (CHG) baths; none is specific to hygiene practices related to surgical outcomes where patients and families could play an important role in their care. The recent SSI data and limited educational resources from this hospital demonstrated a need for CNL students to conduct a quality improvement project to reduce SSI rates through the implementation of an educational prevention program of SSI.

Rationale

With an invitation to tour the Perioperative Services and to discuss the issue at hand with preoperative nurses about the microsystem, the CNL students gained a better understanding of the unit and developed an extensive Root Cause Analysis (RCA). There is a plethora of reasons for this quality improvement project, led by a team of CNL students, to take place. Root causes of increased SSI were related to patient characteristics, patient demographics, professional performances, environmental gaps, insufficient time, and lack of patient education (See

Appendix A for RCA). After an in-depth analysis, the rationale for developing an educational prevention program for patients was because patients were not provided with adequate education about the topic, complication, and prevention of SSI. Because surgical pediatric patients are at risk for SSI before, during, and after surgery, patients and families have an imperative role in patients' care to optimize their health and surgical recovery. They need to be educated on effective hygiene practices to prevent and reduce SSI, and thereby increase surgical outcomes.

Literature Review

A review of literature was used to identify evidence-based research on SSI prevention and to support the need for patient education on hygiene practices. The databases utilized for review included Fusion, Google Scholar, PubMed, and CINAHL. In this analysis, keywords that were used included surgical site infection, infection control, prevention, pediatric, children, families, hygiene, bathing, showering, and patient education. The search was limited to research articles published in the last 10 years. Literatures that were reviewed and used for discussion are between 2012 and 2017. These articles included systematic reviews, literature reviews, and a randomized prospective analysis.

In a systematic review by Kamel, McGahan, Polisena, Mierzwinski-Urban, and Embil (2012), it suggested that preoperative showers reduce bacterial colonization and can prevent SSI, especially with the use of antiseptic products. Twenty studies between January 2001 and June 2011 were used to analyze the effectiveness of preoperative skin antiseptics – iodophors, alcohol, or CHG – in a total of 9,520 adult and pediatric patients. Two cohort studies reported a decreased infection rate in patients who cleaned with CHG cloths compared with those who were not compliant with skin hygiene. Two randomized-controlled trials reported that preoperative bathing with antiseptics resulted in a statistically significant decrease in pre-surgical skin

colonization. Although the review does not suggest which antiseptic is most effective, it emphasizes on the significance of preoperative skin antiseptic preparation to prevent SSIs.

A randomized prospective analysis was developed to evaluate the efficacy of a standardized preadmission bathing protocol using CHG to decrease skin surface bacteria for surgical patients (Edmiston et al, 2015). Out of the 120 participants, one-third of patients failed to complete the preadmission shower protocol, presenting the lack of patient adherence. With an aim to reduce the risks for SSI, the study suggests that all patients should take two preadmission showers with CHG, preferably the night and the morning before operation. In addition, a text, email, or voicemail notification is recommended to remind patients and increase their adherence to complete the shower protocol. The study further highlights that those receiving an electronic alert had a notable increase of CHG on their skin surface. While demonstrating the effectiveness of preoperative baths with CHG, the study identified preoperative bath is an intervention that is only successful with the presence of patient adherence. The study supports the aim of this educational prevention program of SSI in that educational resources on hygiene practices provided prior to surgery improve patient cleanliness, and therefore, will reduce SSI rates in pediatric patients.

Anderson et at. (2016) conducted a literature review and synthesis to identify SSI prevention methods. Through a bundle approach, interventions before, during, and after surgery were identified to prevent SSI, some of which include smoking reduction, skin preparation, sterile techniques, and wound care. Specifically, skin preparation using chlorhexidine and alcohol solutions were recommended where two studies found that chlorhexidine showers reduce the occurrences of postoperative wound infections. The study also notes that gram-positive

organism are common pathogens that are endogenous and brought to the hospital by patients which leads to the importance of patients' roles in their preoperative hygiene practices.

Through a literature review conducted by the CDC, a modified Grading of Recommendations, Assessment, Development, and Evaluation method was utilized to assess the quality and strength of recommendations to help generate a CDC guideline for SSI preventions (Berrios-Torres et al, 2017). Upon exclusions, 170 studies were extracted for synthesis and included in the literature review. For antiseptic prophylaxis recommendations, it advises patients to shower or bathe the entire boy with soap or an antiseptic agent the night before surgery. From randomized controlled trials, there are undefined trade-offs when it comes to optimal time of the preoperative shower or bath, the total number of soap or antiseptic agent applications, or the use of CHG in SSI prevention. Based on this specific SSI prevention guideline from the CDC, the implementation of full body showering with any soap is encouraged and should be performed to prevent SSI risks and occurrences in surgical patients.

In a study, a survey was generated and distributed to patients to determine awareness and knowledge on the risks and consequences of SSI prevention (Anderson, Ottum, Zerbel, Sethi, Gaines & Safdar, 2013). Participants were asked a list of questions regarding SSI which specifically addressed their knowledge of SSI risk factors and consequences. From the completed surveys of 50 patients who underwent a surgical procedure, it was found that 26% of them believed that education on SSI prevention should be improved with more frequency and educational materials. Moreover, 40% of participants did not recall receiving an educational handout about SSI. Based on the results of patient surveys, the study concludes that better educational interventions are needed to increase patient awareness and engagement in SSI prevention.

In a system reviews formed by an expert panel of five key infection prevention and control experts and infectious disease specialists, 27 systematics reviews were conducted from the World Health Organization (WHO) SSI prevention guidelines (Tartari et al, 2017). The expert panel identified nine basic and practical recommendations for patients to increase their knowledge and engagement for pre-, intra-, and postoperative care. Hair removal, hand hygiene, and preoperative showering and bathing were recommendations instructed to patients to help prevent SSI. Patient participation in SSI prevention leads to strategic interventions such as educating patient to ensure a clean skin before operation and empowering patients to remind health care providers to perform hand hygiene and to not shave the surgical site. The study explains the importance of implementing diverse multidisciplinary SSI prevention strategies that emphasize patient engagement in many existent surgical site care bundles. It recognizes that patients are key stakeholders and when given appropriate information, they will facilitate a participatory role that optimizes health outcomes such as the case in SSI prevention.

The findings of these studies stress the values of educating and empowering patients and families in protecting their health from SSI. Moreover, effective hygiene practices performed by patients and families are demonstrated to be crucial interventions that can prevent and reduce SSI occurrences for better patient safety and outcomes.

Cost Analysis

According to Office of Statewide Health Planning and Development, the cost of an infection at this metropolitan pediatric hospital equated to $3,269 for the year of 2016 (2018). A SSI can result in higher daily hospital charges, longer length of stay, and a higher 30-day readmission rate (Shepard et al, 2013). Hence, hospitals can reduce cost if SSIs are reduced. For example, data from a study suggests that a patient with an SSI will have a LOS of 10 days and

total charges of about $79,134; however, if SSI was prevented, the LOS for a patient would reduce to 5 days with a charge of only $44,727 that the payer, insurance company or the patient would have to pay (Shepard et at, 2013). In addition, a hospital bed will not be backfilled by a patient and it would be available for a new patient.

Based on the cost analysis above, an educational SSI prevention program is a beneficial approach to effectively reduce SSI risks and rates, and thereby reduce healthcare costs. Cost analysis for the program will be conducted before and after implementation of the educational program to patients. Measures that will be used to evaluate cost will include utilization of hospital resources (i.e. staffing ratios, bed turnover), treatment cost, LOS, and 30-day readmission rate. Results will then be compared to results of previous years to determine clinical outcomes for further improvement and reevaluation of the educational SSI prevention program.

Microsystem Assessment

Agency Assessment

The metropolitan hospital is a 334-bed pediatric facility that provides tertiary and quaternary patient care to over two million children across four counties in the region (x). Healthcare services are provided to patients ranging from neonates through the age of 21 years with certain diagnoses up to the age of 25 years (x). From the infection control team of the hospital, it has reported an increase in surgical site infections in pediatric patients. Some common surgical procedures that are performed by this hospital include spine, neurological, and cardiac surgeries. Pediatric Clinical Nurse Specialist (PCNS) suggested that the CNL students focus on providing patient education related to pre-, intra-, and post-operative hygiene practices. Currently, no comprehensive written information about SSI and hygiene practices are provided to patients and their families. A team of CNL students conducted a 5 P’s assessment of purpose,

patients, professionals, patterns, and processes to better understand the microsystem in order to develop an effective and individualized quality improvement project.

Purpose

The purpose of this hospital is its mission "to nurture, advance and protect the health and well-being of children, while assisting and enriching existing services as well as developing programs to benefit the families of the county" (x). The purpose of the assessed microsystem, the Perioperative Services, is to deliver patient- and family-centered care that "make the surgical process easier for both patients and families" (x). It is focused in providing support for patient recovery and delivering accurate information throughout the surgical process.

Patients

Patients admitted to and treated on units of the Perioperative Services range from neonates to young adults up to 19 years old. Children demographics in the county of this hospital include 30.7% Caucasian, 47.2% Hispanic/Latino, 15.7% Asian, 1.5% black, and 4.9% others (x). Almost 46% of households in this county speak another language as the primary language spoken at home; 58.6% of those speak Spanish and 30.5% speak an Asian or Pacific Islander language (x). In addition, 68.9% of children between the ages of 0 and 17 years old receive care at a doctor's office, HMO or Kaiser while 23% receive care at a community hospital or government clinic (x). The diversity in patient demographic and their families' culture and socioeconomic status present challenges in their communication and access to effective health education.

Professionals

Professionals in the microsystem consist of nurses, physicians, surgeons, nursing assistants, and surgical technicians. Numbers of staff vary by the unit and operation hours in the Operating Room (OR) unit are during the daytimes.

Processes

Processes of patient care are individualized by the case depending on the surgical procedure and treatment that patient receive to meet the unique needs of a wide variety of patients. Patients are admitted onto the Pre-Operative Unit for patient assessment, medical documentations, procedural education, and consent. Then, patients receive their surgery in the Operative Room. Finally, patients are transferred onto the Post-Anesthesia Care Unit (PACU) to receive post-operative care and recovery treatment. Currently, two Pre-Anesthesia Teaching (PAT) nurses make pre-operative phone calls to remind patients of their scheduled surgery; however, they do not provide pre-operative patient education.

Patterns

The pattern of the microsystem consists of an interdisciplinary team to provide high quality patient care and safety. The care delivery model of the unit is to provide patient- and family-centered care. With this model, this microsystem strives to lessen the impact of pediatric patients' illness on their families by communicating and providing education to them every step of the patient's surgical journey.

Methodology

Needs Assessment

The CNL student team attended a unit tour, interviewed OR nurses on the floor, and joined a formal discussion with a PCNS to assess the needs of the Perioperative Services. A RCA was then conducted. From OR nurses, the team was able to gather ideas based on the unit's

current practices and nurses' recommendations. The students discussed with a PCNS about the hospital's SSI rates and patient discharge educational packet. Through discussion with a PCNS and analysis of a RCA, it was identified that information on patient hygiene needs to be delivered through the creation of educational tools provided to patients. A SSI Prevention Assessment Audit Tool was distributed to preoperative nurses to assess patients' cleanliness. The audit tool allowed the CNL students to gain and analyze baseline data that is needed to compare patient hygiene results before and after implementation of the educational prevention program.

Validation of Audit Tool Survey

The creation of an audit tool was suggested by OR nurses of the microsystem to determine patients' hygiene before surgery. The purpose of the assessment audit tool is to assess the cleanliness of each pediatric patient in the pre-operative unit. The audit tool asked for nurses' perception of hygiene of their preoperative patients through a series of yes or no questions pertaining to patients' cleanliness. A number of paper audit tools were distributed on the unit by CNL students who explained the purpose and instructions of the surveys to the nurses. At the beginning of each shift, nurses were instructed to take several audit tools to complete throughout their shifts. The audit tools were completed anonymously and data collected were analyzed by the CNL students. See Appendix B for the SSI Prevention Assessment Audit Tool.

Implementation of Educational Tools

Based on the CNL students' microsystem assessment and data collected from the audit tool, two educational tools were developed to address the need of patient education on SSI. The first educational tool comprises of an educational pamphlet that includes information about SSI, pediatric preoperative bathing instructions, and other hygiene practices done before, during, and after a patient's surgery. In developing this educational pamphlet, patient literacy level was taken

into consideration to ensure that it is written at a third-grade reading level with a clear and concise language. The educational pamphlet was then submitted to the Patient and Family Education Committee of the hospital which is currently in the process of being reviewed for approval. Upon approval, this educational pamphlet will be mailed to patients' home address prior to their surgery so patients and families can play an active role in preventing SSI. See Appendix C for the SSI Educational Pamphlet.

The second educational tool created for implementation was a pre-operative phone call script. CNL students developed a script for the PAT nurses to say verbatim for their pre-operative phone call made to patients. This script consists of two questions and bathing instructions for the PAT nurses to deliver. The purpose of this script is to ensure that patients and families have received the educational pamphlet and that they understand the instructions it entails. It also serves to encourage conversations and concerns that they wish to address if they have any. See Appendix D for the Bathing Instruction Script. Together, the two educational tools were synthesized to increase patient awareness and engagement in their roles to prevent and reduce SSI incidences.

Timeline

The timeline for the implementation of this educational program is based upon an 8-month timeframe, from May 2018 to December 2018; the first 4 months is conducted by a team CNL students and the remaining 4 months implemented by another team of CNL students. A Gantt chart was designed and used as a project management tool to illustrate the rundown of the action plans for the SSI educational prevention program. This team of CNL students began the quality improvement project with team meetings, microsystem needs assessment, research, and a

literature review during the first month. Development of an assessment audit tool and educational tools took place during the second month. Data analysis and distribution of education pamphlets were performed in the third month. From the fourth month and thereafter, distribution of education pamphlets will be an ongoing process. Finally, data collection, analysis, and evaluation of the educational pamphlet and phone call script will fall under the direction of the next team of CNL students. See Appendix E for Gantt Chart.

Results

Expected Results

One purpose of the project is to gather pre-operative assessment data to better determine hygiene in surgical patients and the need for this quality improvement project. Results from the audit tool CNL students created would provide baseline data in whether or not patients are clean before surgery. Specific measurements comprised in the audit tool to determine cleanliness include clothes, skin, hair, nails, and alcohol pad at IV insertion site which are determined to be unclean with the presence of dirt, soil, and grease. With an inclusion of a supplemental question which asks “Did the patient receive a bath/shower within the last 12 hours?”, the data is expected to be helpful in determining patients’ knowledge and engagement in their role of SSI prevention.

The audit tool is to be used before and after implementation of the educational prevention program of SSI. Expected data from the audit tool collected before implementation of the program would express of large number of patients having dirt, soil, grease, and no shower, which would be considered as unclean. After implementation of the program, patients and families are provided with knowledge about SSI and are empowered to perform hygiene practices to increase pre-operative cleanliness. It is expected that there would be less patients having visible soil on them and thus less pre-operative patients would be considered unclean.

With the implementation of an educational prevention program, this project is intended to increase patients' knowledge about SSI prevention. With understanding in SSI, patients can effectively adhere to pre-operative care instructions to increase their engagement in hygiene practices. After program implementation, the final intended outcome of this project is SSI reduction.

Actual Results

The results of the assessment audit tool provided significant data which supported the need of this quality improvement project and the goal of increasing patient education. A total of 60 audit tools were completed from June 4th to June 28th, 2018. The CNL students have defined the following terms for measurement. Clean is defined as "no" for visual cleanliness in all categories (i.e. clothes, skin, hair, nails, and alcohol pad at IV insertion site) and "yes" for showering within the last 12 hours. Dirty is defined as "yes" for visual cleanliness in any categories and/or "no" for showering within the last 12 hours.

From the data analysis, 28 out of 60 patients were considered clean, 12 out of 60 were considered dirty, and 20 out of 60 had "N/A" in any part of the survey. 20 audit tools which provided "N/A" information were omitted. A total of 40 surveys (28 "clean" and 12 "dirty") were used to conduct the final data analysis. From the 40 surveys of patients, 28 (70%) were clean and 12 (30%) were dirty. In addition, 6 out of 60 patients reported not having a bath within the last 12 hours before admission. This baseline data shows that there is an immediate need to increase hygiene in preoperative patients. With implementation of the educational prevention program, results from the implementation will yield increase patient education on SSI, improved hygiene practices, and decreased SSI rates.

Evaluation

Once the educational tools are accepted and utilized for three months, the same assessment audit tool will be redistributed to reevaluate the SSI rates with implementation of the educational pamphlet and script. After three months of implementation, the audit tool will be collected and reevaluated to assess the outcomes, evaluate if goals are reached, and determine the effectiveness of the program. If less than 30% of patients are dirty after implementation, then this educational program proves to be effective and of value to the microsystem. It means that the implementation has a positive effect on patients and clinical outcomes. Whether this project yields the expected results or not, evaluation is crucial to the next phase of this quality improvement project. Improvement of the project will be guided by an evaluation that is necessary to yield meaningful results for further implementation and maintenance of the project.

Discussion

Several key findings were identified throughout the progression of this quality improvement project. The microsystem assessment of the Preoperative Unit showed that there is not sufficient education and information about SSI being provided to patients and families. CNL students and clinical preceptor believed that this is a gap in the microsystem that needs to be addressed with implementation of an educational prevention program of SSI. Patients should view this program as an opportunity to obtain education related to SSI and gain a sense of empowerment in their health. Creating educational tools that provide patient education about SSI and hygiene practices will allow patients and families to understand the importance of their roles in SSI prevention and clinical outcomes. By empowering surgical patients and families, they will learn to become the managers of their own health and practice interventions that will reduce their risks for surgical-related harm.

CNL students identified limitations to the implementation of this program. The patient population assessed from the audit tools includes patients from the hospital and from home. The lack of information in where preoperative patients were admitted from made it difficult to determine which patients received SSI and hygiene education before coming to the preoperative unit. Nurses' perception regarding the cleanliness of patients are subjective. Despite preoperative nurse stating that most patients are dirty entering the unit, results showed that they were mostly considered clean. Also, confusion existed among some nurses when completing the audit tool which resulted to some surveys being discarded due to incompletion. Hence, a smaller sample size of patients was used for data analysis.

CNL & Nursing Relevance

A CNL is the clinician who designs and implements this quality improvement project and coordinate care for the population of surgical pediatric patients. In identifying and closing healthcare gaps in the perioperative microsystem, a CNL is a systems analyst and a risk anticipator who minimizes the risks and harms of SSI in order to improve patient outcome, healthcare cost, and hospital performance. They will "assume a leadership role to effectively implement patient safety and quality improvement initiatives" to increase patient education and decrease SSI rates (AACN, 2013). Through implementation of this educational prevention program, a CNL will be able to empower patients and families through the roles of being a client advocate and an educator. With integration of clinical prevention and population health concepts in the educational prevention program, a CNL will ensure the development of health education, communication strategies, and evidence-based interventions that are culturally relevant and linguistically appropriate to the microsystem and stakeholders involved (AACN, 2013). All in all, a CNL is the catalyst for change and improvement who will put this evidence-based

educational prevention program of SSI into action to achieve higher standards of surgical care and outcomes.

Nursing plays a vital role in reducing surgical site infections and increasing patient outcomes. Being in the frontline of health care where they spend the most time with patients, nurses can provide patient education on evidenced-based hygiene practices before and after surgeries. With implementation of this educational prevention program, nurses in the Perioperative Services distribute SSI Educational Pamphlets while teaching patients and families about the information presented on it. They are also the ones who make preoperative phone calls to remind and educate patients before they come into the hospital for their surgeries.

Conclusion

A team of CNL students initiated the conduction of a quality improvement project at a metropolitan pediatric hospital. With a 4-month timeframe, the CNL students were able to assess the preoperative microsystem, create and distribute a SSI assessment audit tool, and generate two educational tools for approval. Results from the audit tool suggested that not all patients are clean prior to surgery. Issues that the project aimed to focus on were SSI, patient hygiene, health care cost, and healthcare outcomes. A literature review of multiple studies has demonstrated that patient education and effective hygiene practices are evidence-based interventions to address issues related to SSI. A comprehensive educational prevention program of SSI was thus developed and outlined. The implementation and evaluation phases are projected to be performed by the next team of CNL students. The development of an educational prevention program of SSI allows health care providers to implement education which will empower patients and families to perform preoperative hygiene practices that can lower SSI rate and increase patient outcomes.

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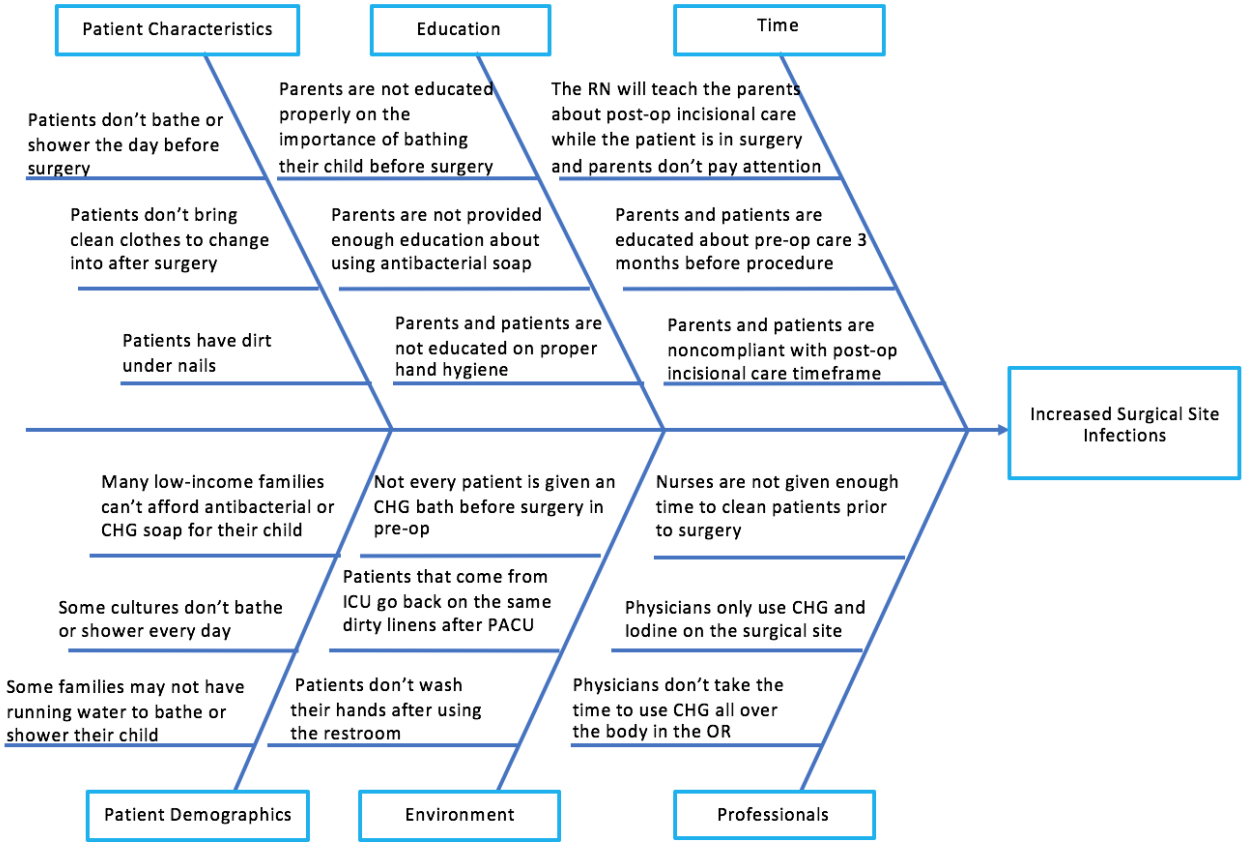
Appendix A

Root Cause Analysis



Appendix B

SSI Prevention Assessment Audit Tool

Date/Time:_____

Pre-Operative Unit – SSI Prevention Assessment Tool
(USF School of Nursing and Health Professions)

Please circle the best response to describe your patient's general appearance. Please assess the presence of dirt, soil, grease, on the following:	
	Yes= Visible dirt, soil, grease, etc No= Clean and neat
Clothes	YES / NO
Skin	YES / NO
Hair	YES / NO
Nails	YES / NO
Excessive dirt on alcohol pad at IV insertion site	YES / NO

Supplemental Question:

1. Did the patient receive a bath/shower within the last 12 hours? YES / NO

Appendix C

SSI Educational Pamphlet

Preventing Surgical Site Infections at Home

The handout you received called "FAQs about Surgical Site Infections" explains what a surgical site infection is, and some of the things that hospitals (including CHOC Children's) are doing to prevent them. This handout will explain the important role you can take in protecting your child's health and steps you can take to reduce their risk of a surgical site infection.

What is a Surgical Site Infection?

- Surgical site infections occur when germs get in the surgical wound
- SSIs can increase the length of time your child stays in the hospital and lead to further health complications
- Many SSIs are caused by the same germs that normally live on our skin

How can I help prevent a Surgical Site Infection?

Before your child's surgery:

- Tell your child's doctor about any medical problems your child may have.
- Decrease exposure to smoke. Patients who smoke, or are exposed to smoke, get more infections.
- If your child shaves, they should not shave near the area where they will have surgery. Shaving with a razor irritates skin and makes it easier for germs to enter.
- Give your child a shower the night before or morning of their surgery.
  - It is normal for germs to live on our skin, showering removes some of those germs which may lower the risk of infection.
  - It is very important to use clean linens (washcloths, towels, clothes/pajamas, bed sheets and blankets) after you shower your child. Using linens that haven't been freshly washed could transfer more germs on to your child's skin.
  - If the doctor has given you specific instructions and special soap, follow those instructions. If not, follow these steps to make sure you are removing as many germs as possible:
    1. Wash and rinse hair using normal shampoo
    2. Use soap and warm water to form bubbles on a clean washcloth or your hands
    3. Scrub the entire body to remove dirt. Don't scrub too hard- you don't want to irritate or break the skin
    4. Pay special attention to the neck, under arms, nails, breasts, feet, groin, and any other skin folds
    5. Rinse the soap completely using warm running water
    6. Pat the skin dry with a clean towel
    7. Do not put anything on the skin after washing. No lotion, cream, powder, or perfume
    8. Dress with clean clothes or clean pajamas
    9. Place clean, freshly washed sheets on the bed so no germs get back on the skin

At the time if your child's surgery:

- Speak up if someone tries to shave the surgical site with a razor. Shaving with an electronic clipper is safe because it does not irritate the skin. Talk with your surgeon if you have any concerns.
- Ask if your child will get antibiotics before surgery.

After your child's surgery:

- Make sure all hospital staff members clean their hands before examining your child. If you do not see them clean their hands, please ask them to do so.
- If your child can understand, teach them not to touch their surgical wound.
- Before you go home from the hospital, make sure you understand how to care for the wound. Ask the nurses or surgeon if you have any questions or concerns.
- Always clean your hands before and after caring for the wound.
- Make sure family and friends clean their hands before and after visiting your child. Friends and family should not touch the surgical wound or dressing.
- Before you go home from the hospital, make sure you know who to contact if you have questions or problems.
- Look for signs of an infection- If you see any redness, drainage or pus, or if your child gets a fever, call your doctor immediately.

Please contact the CHOC's Children if you have any questions regarding these instructions.

Appendix D

Bathing Instruction Script

Bathing Instruction Script for PAT nurses

Did you receive Preventing Surgical Site Infection at Home pamphlet?

Do you have any questions? (If answer is yes, see instructions below)

Before your child's surgery:

1. Wash and rinse hair using normal shampoo
2. Use soap and warm water to scrub the entire body to remove dirt. Pay special attention to the neck, under arms, nails, breasts, feet, groin, and any other skin folds
3. Rinse the soap completely using warm running water
4. Pat the skin dry with a clean towel. Do not put anything on the skin after washing. No lotion, cream, powder, or perfume
5. Dress with clean clothes or clean pajamas. Place clean, freshly washed sheets on the bed.

Appendix E

Gantt Chart for Educational Prevention Program of SSI

Gantt Chart for Educational Prevention Program of SSI								
Group members: Daniel Chavez, Myra Hasan, Christina Peppard, Khanh Cao, Carena Leung								
	2018							
	Summer				Fall			
Tasks/Details	May	June	July	Aug	Sept	Oct	Nov	Dec
Meet with Preceptor Juleah Walsh and discuss quality improvement project								
Research literuature on hygiene practices								
Tour of Pre-Op unit and interview nursing staff								
Microsystem assessment								
Group meeting to discuss goals and objectives								
Develop and distribute an audit-tool to gather baseline data								
Collect audit data								
Create educational pamplet								
Develop root cause analysis								
Health Literacy Module								
Edit educational pamplet								
Data analysis of audit-tool								
Finalize education pamphlet								
Distribute education pamphlet								
Gather data of patients who have received the educationl pamphlet								
Analyze data								
Evaluate effectiveness of educational pamphlet								