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Sharp Safety and Supply Containment in Procedural Areas

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Executive Summary

Introduction of the Problem

Sharp injuries and other sharps-related injuries in healthcare are sustained by hospital-based personnel an estimated 385,000 per year (CDC, 2018). Reporting shows 50% or more healthcare personnel do not report percutaneous injuries (CDC, 2018). Operation-surgical departments have nearly 50% of all sharp related injuries, and procedure centers have nearly 2% of sharp related injuries (International Safety Center, 2018). To improve patient and staff safety in a procedure area, a large hospital in the Midwest implemented supply and sharps counts to reduce both sharp injuries and patient retained supplies. Supply counts have been used for decades and are a standard of practice within surgical-operational departments (Recommend Practice for Sponges, Sharps, and Instrument Counts, 2006; Warwick, & Gillespie, 2017). Despite improved standards within the healthcare system, including specialty areas like the surgical-operational departments, the transition of improved safety measures within procedure areas is limited (Schmidt, 2011).

The procedure area identified the need to increase the standard of care within procedural areas by implementing supply and sharp containment policy within the Electrophysiology (EP) studies. The procedure area performs a variety of procedures, including EP, heart catheterization, pacemaker insertion, port placement, and more. In 2019, 7,276 procedures were completed; 771 of the procedures were EP studies. EP staff reported using inconsistent methods to count sharps and procedural supplies. Further, documentation of sharps and supplies counts varied, and leadership was not monitoring compliance or completion of sharps and supplies counts. The procedure areas leadership reported thirteen documented sharp injuries from 2016-2018.

Evidence supports the use of sharp and supplies counts in the Department of Surgery, and Harris, Rochstroh, and Shively (2013) recommend the introduction of supply counts into procedural areas. Additional evidence from Sarasota Memorial Health Care System (SMHCS) included implementing supply counts and sharp containment facility-wide. After an extensive literature review, the evidence, together with the sharp injuries in the procedure area, supported the need to develop and implement a standardized supply count and sharp containment policy.

Literature Review

The use of a counting system has been a long-used system to ensure patient safety in surgical areas (Warwick & Gillespie, 2017). The development of safety checklists or protocols has provided safety supply checks (SSCs), which have been proven to reduce advert complications with surgical practice (Alidina et al., 2017; Walker & Wilson, 2014; Wu. et al., 2017). The use of SSCs has been established in surgical-operational departments to increase patient safety and increase the standard of care (Anderson, Appelbaum, Bartz-Kurycki, Tsao, & Browne, 2018; Smith & Burke, 2014). Currently, the use of counting systems in procedural areas are expanding within the various healthcare environments, but overall are limited. The Association for Perioperative Practice defines supply counting systems as the counting of accountable items, swabs, instruments, and needle counts (The Association for Perioperative Practice, 2012; Recommend Practice for Sponge, Sharps, and Instrument Counts, 2006). The current recommendation from the literature supports the use of a counting system for all procedures that use countable objects. The quality improvement initiative published in 2006 and 2012 showed the need for supply counts to be implemented consistently in all procedural areas to follow current standards in practice (Akyol & Kargin, 2016; Tayaben, 2015).

With established safety processes within surgical-operation departments, the introduction of supply counts into procedure areas has slowly started, but more expansion is needed

(Jakribettu, 2017; Retzlaff, 2014). Current publications show that three organizations have policies related to sharp and supply counts in procedure areas. As the complexity of healthcare increases and the expansion of procedures being completed outside of the operation department, the importance of standardized care in the procedure area with quality improvement efforts is needed (Schmidt, 2011). Harris, Rochstroh, and Shively (2013) published the innovative surgical count process within a Cardiac Catheterization Laboratory to increase patient and healthcare provider safety both with supplies and sharp control. Accreditation for Cardiovascular Excellence (ACE) standards (2011) discussed the need for supply counts for supply and sharp safety. Within the Sarasota Memorial Health Care System (SMHCS) currently has an established policy for all procedure areas to account for all soft goods, sharps, and instruments during all procedures. Implementation of supply counts outside the surgical areas is an expanding quality improvement movement to increase patient and healthcare team members' safety (Gao, et al., 2017).

Project Methods

This project was declared exempt and designated as Quality Improvement, Institutional Review Board (IRB) exempt by Southern Illinois University Edwardsville Institutional Review Board, and Nursing Evidence-Based Practice/Research Committee at the hospital. The project was of quality improvement design and did not include patient information or direct patient interaction. Participation in all surveys, focus groups, superusers, and policy development was voluntary.

The purpose of this project was to increase the standard of care in the procedural area through the development of a new policy to count sharps and supplies. Staff education focused on the implementation of a protocol for supply counts and sharp containment. The second focus evaluated the EP staff’s perceptions about the feasibility of expanding the policy to other types

of procedures in the procedural area. Educational sessions were completed to emphasize the importance of sharp safety, supply counts, and the current recommendations for procedural areas. Educational sessions included both leadership and EP staff. Evidence-based research, recommendations of the standard of practice, and example policies were organized into a PowerPoint presentation that was conducted during operational hours at the procedure area. Education incorporated both visual aids, discussions, handouts, and feedback in policy development. An educational binder was developed to include copies of the PowerPoint presentation, references, recommendations, the developed policy, and contact information. The educational binder was made available to EP staff and leadership for a source of reference.

A pre-implementation survey was conducted to gather demographic information, Likert scale questions, and an open comment box to assess EP staff for background information related to quality improvement measures, knowledge of sharp injuries, experiences with sharp injuries, and supply counts in procedural areas. Through the first survey, sharp counting and supply count practices were noted in the comment area. An additional pre-implementation survey was conducted, and the use of un-standardized and varying supply counts, sharp counts, and documentation processes were identified.

Policy development started with standards identified within surgical and procedural practices, including the facility's surgical policy. Superusers were identified by leadership, that included one Registered Nurse (RN) superuser and one Registered Technologist in Radiation Therapy (RT(T)) superuser. The superusers reviewed the policy draft and provided feedback. Once feedback was gathered, all EP staff and leadership met to discuss and provide feedback to the policy. Information Technology (IT) department assisted with the further development of the documentation intervention within the EPIC computer system. The updated documentation

intervention allowed the EP staff to document sharps, supplies, and to identify the staff completing the counts within the Electronic Medical Record (EMR). The project running timeline was four weeks. During the project's four weeks run time, 81 EP cases were completed. Superusers, leadership, and a Doctor of Nursing Practice (DNP) student were available to EP staff for questions, concerns, feedback, and assistance throughout the project.

After the project run time, all EP staff and leaders met to finalize the policy. Also, a post-implementation SurveyMonkey was completed by EP staff to gather data related to policy development, the quality improvement process, barriers to the project, and overall feedback of the project. Feedback from the EP staff was compiled and provided to leadership.

Evaluation

During the project implementation, there was a 100% compliance rate for completion of sharp and supply counts, including proper documentation. During the project, there were no sharp injuries or retained items reported. For sharp injuries, the "direct costs associated with the initial and follow-up treatment of exposed healthcare personnel, which are estimated to range from $71 to almost $5,000 depending on the treatment provided" (CDC, 2018, p. 6). The procedure area reported thirteen sharp related injuries in 2016-2018. With the continuation of the sharp and supply containment process, the procedure area could save an estimated $923 to $65,000 in two years. Although the procedure area has no reported retained items in recent history, a report by The Joint Commission (2013) estimated that the average total cost of care related to an unintended retained foreign object is $166,000. By increasing the standard of care through the implementation of the supply and sharp containment policy, the procedure area has an increase in patient and staff safety and potential in damage related cost savings.

The implementation of the sharp and supply count policy provided an increase in the standard of care during EP procedures. The post-implementation survey provided insight into the

further need for professional development related to quality improvement and compliance with the current standard of practice. While 100% of EP staff intend to adhere to the sharp and supply count process, 37.5% of EP staff disagree or strongly disagree that the sharp and supply process increases patient safety. Also, 25% of EP staff strongly disagree that the sharp and supply counts process will result in standardization and hard wiring into the procedure area's daily routine. Furthermore, 12.5% of staff do not think that it is possible to integrate the sharp and supply counts into a procedural area.

Further education and information on quality improvement and standardization of care can be achieved with the assistance from procedure area staff. The procedure area staff demographics included 32% of staff members who had been in the procedure area less than five years, 48% of staff had worked in the procedure area less than five years, and 56% of EP staff reported completion of a baccalaureate degree. 20% of EP staff reported not participating or unsure of participating in organized quality improvement initiatives. The reported demographics noted there is a lack of experience in the field, in the procedural area, and with quality improvement efforts. After the project, a missed supply count was reported by a superuser. The sharp count was not accurate during an EP procedure with one sharp missing. Staff found the one sharp between two of the sterile tables. Once the sharp was found, the count was accurate. By increasing the standard of care with the sharp and supply count policy, patient and staff safety was safeguarded. Leadership support for the improvement of standardization within the procedure area was evident. Sustainability was achieved with the continuation of the supply count policy into heart catheterization procedures.

Impact on Practice

Increasing patient and staff safety within procedural areas is a recommendation to practice, and the process is expanding within various procedural environments. Implementation of supply counts and sharp containment within the EP procedures allows for policy development, education of best practice, potential future cost savings, and further advancement of the nursing profession. Through quality improvement efforts, the procedure area is at the forefront of current evidence-based practice, which allows other procedures and procedural areas to increase the standard of procedural practices.

Conclusion

The importance of supply counts to promote safety for patients and healthcare team members is a long-standing practice within surgical-operational areas. The advancement of supply counts has been suggested in evidence-based, and quality improvement focused studies. Hardwiring supply and sharp counts into the daily routine has been slow in procedure areas such as heart and vascular specialties. The procedure area leadership can utilize the feedback from EP staff to assist with sustainability within other procedure areas. Leadership and superuser support were and currently are evident within the procedure area. The development of sharps and supply count policy is generalizable to other procedural areas. Expansion of supply count and sharp containment policies should be developed and applied to procedural areas to increase safety outcomes.

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