AMÉLIORER LA QUALITÉ DU SERVICE DANS UN MILIEU DE SALLE D'OPÉRATION ET DE STÉRILISATION

Auteures:

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RÉSUMÉ

Problématique:
Améliorer la qualité du service fourni par le service de stérilisation et de salle d'opération en appliquant une approche multidisciplinaire coordonnée de groupe.

Projet:
Un comité de direction a été formé comprenant des membres de l'administration, du service de stérilisation, de la salle d'opération et du service de prévention des infections. Le mandat était d'améliorer la qualité de service offerte par les services de stérilisation et de salle d'opération par le biais de pratiques fondées sur l'expérience clinique dans le but d'améliorer les soins aux patients. Le représentant du service de prévention des infections a été nommé président, étant perçu comme ayant une perspective d'ensemble et un intérêt direct au projet en général plutôt qu'à un service en particulier. Au début le comité s'est réuni à toutes les deux semaines mais il a adopté une réunion mensuelle une fois le trajet établi. Des problématiques spécifiques ont été identifiés, un plan d'action développé, un échéancier établi et les personnes responsables de problématiques particulières ont été identifiées. Un système d'évaluation a été mis en place.

Résultats:
Les problématiques examinés comprennent : accroître l'efficacité du retraitement des instruments, réduire la fréquence de la stérilisation rapide, retirer les dispositifs à usage unique du processus de recyclage, réviser la stérilisation à l'oxyde éthylène, prévenir la perte des instruments chirurgicaux, atteindre un niveau optimal du stock d'instruments chirurgicaux, mettre à niveau les protocoles de nettoyage des salles d'opération, introduire la péremption par événement, développer un système standardisé de formation et de formation continue du personnel du service de stérilisation, utiliser les indications biologiques afin de surveiller la stérilisation de tout dispositif implantable et améliorer le contrôle de la qualité de la documentation. Des solutions à ces problématiques ont été développées et mises en place selon les normes de l'Association canadienne de normalisation (CSA) et de l'Association des infirmières et infirmiers de salle d'opération du Canada (AIISOC), ainsi que selon les normes de certification de la *Central Sterile Association of Ontario* (CSAO) et des lignes directrices de Santé Canada.

Apprentissages:
Cette initiative a développé un fort sentiment d'appui à l'intérieur de l'équipe en développant les relations professionnelles, la résolution de problèmes en collaboration, le leadership partagé et le dialogue plus ouvert entre les services. Cette pratique a dépassé les problématiques originaux pour inclure des services connexes: urgence, accouchement et traitements mineurs. L'atteinte de notre mandat a eu pour résultat une qualité de service améliorée grâce aux pratiques exemplaires dans la salle d'opération et le service de stérilisation.

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IMPROVING QUALITY OF SERVICE IN A STERILE PROCESSING AND OPERATING ROOM SETTING

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ABSTRACT

Issue:
To improve the quality of service provided by the Sterile Processing Department (SPD) and the Operating Room (OR) through a coordinated multi-disciplinary team approach.

Project:
A Steering Committee was struck consisting of members from Administration, SPD, OR and Infection Prevention and Control. The mandate was to improve the quality of service provided by the SPD and OR through evidence-based practices resulting in enhanced patient care. Infection Control was named Chair. Infection Control was viewed as having a broad perspective and a vested interest in the overall project rather than with any specific department. Meetings were held biweekly initially and then monthly once momentum was established. Specific issues were identified, an action plan was developed, timelines were established and the persons responsible for addressing specific issues were named. An evaluation process was implemented.

Results:
Issues addressed included: increased efficiencies when reprocessing instruments, reduced frequency of flash sterilization, removal of single use medical devices (SUMeD) from the recycle stream, review of Ethylene Oxide (ETO) sterilization, prevention of loss of surgical instruments, attained optimal inventory levels of surgical instruments, upgraded OR cleaning protocols, introduced event related sterility, developed standardized SPD staff training and demonstrated continued competency, used biological indicators to monitor sterilization of all implantables and improved quality control documentation. Solutions to these issues were developed and introduced consistent with Canadian Standards Association (CSA) Standards, Operating Room Nurses Association of Canada (ORNAC) Standards, Central Sterile Association of Ontario (CSAO) Certification practice standards and Health Canada Guidelines.

Lessons Learned:
This was an initiative that built strong team support through the development of working relationships, collaborative problem solving, shared leadership and increased dialogue between each department. This model of practice moved beyond the original areas to include related departments including: emergency, labour and delivery and minor procedure rooms. Achieving our mandate produced improved quality of service through best practices in the OR and SPD.

ISSUE / INTRODUCTION

Surgical services and sterile processing departmental responsibilities and functions have undergone a tremendous change in the last 12-15 years. Demands on the human and material resources in healthcare have impacted how service is provided. Advances in technology stress capital and operational budgets, resulting in smaller inventories that demand rapid turnover. As a result, in 2001, an independent review was conducted to ensure best practice standards were being met in the Sterile Processing Department (SPD) and Operating Rooms (OR). An assessment of the current departmental performance, workload activity, and process issues and concerns between SPD and the OR was completed. Subsequently, a number of recommendations were made concerning the

Nurse First Surgical Assistant (cont.)

The functions authorized for the nurse's first surgical assistants during the operating phase are:

Positioning;
Prepping;
Draping;
Achieving haemostasis by electric or mechanical means;
Clamping, cauterizing or tying vessels;
Assuring organ and tissue exposure through suctioning, sponging, placing and holding retractors, irrigating the operative site, cutting tissue as determined by the surgeon, and placing sponges around operative sites;
Suturing fascia, sub-cutaneous tissue and skin;
Choosing sutures and needles, suturing, cutting and making knots; and
Using any instruments at the surgeon's request, manipulating laparoscopes, hitting the osteotome, etc.

It should be noted that the acts of medical assistance are always under a surgeon's direct supervision and the level of assistance will vary based on the nurse's experience. For example, a nurse who has experience assisting in cardiac surgery can harvest the saphenous vein and the radial artery. The NFSA's role and function in the clinical field calls for the development of specific skills from both a theoretical and a practical point of view.

RIPAC for Nurse First Surgical Assistants

Since the settlement in December 2000, the committee in perioperative nursing care (started in 1997 by the first group of certificate graduates) was replaced by the "Regroupement des Infirmières Premières Assistantes en Chirurgie" or RIPAC (Regrouping of the Nurses First Surgical Assistants). RIPAC is a permanent committee of the Corporation of Operating Room Nurses of Quebec (CORNQ). RIPAC's goal is to connect all Nurses First Surgical Assistants to enable them to share experiences and information. RIPAC, along with CORNQ, promotes quality of care and builds links with government, professionals, universities and unions while collaborating with the Order of Nurses of Quebec (ONQ) and the college of medicine. RIPAC also participated in the formation and the evaluation of guidelines for the nurse first surgical assistant role. For those interested in learning more about the role of nurses first surgical assistant, RIPAC created two documents:

1. "Description de fonction de l'infirmière première assistante en chirurgie" (Description of the Function of the Nurse First Assistant in Surgery) and
2. "Protocole d'actes délégués de l'infirmière première assistante en chirurgie" (Protocol of Delegated Acts of the Nurse First Assistant in Surgery).

The Future and Job Prospects:

At the time of writing, 30 positions for NFSAs had been created within Quebec hospitals. In some facilities, additional NFSAs are used on an as needed basis without the creation of an actual position. NFSA graduates continue to work to educate their superiors and the administration of each centre about the role in order to encourage the creation of more positions. Encouraging the support of medical staff is also very helpful. A new group of NFSA students began their studies in September 2005 at UQTR.

Along with the desire to inform the nursing community of the particular of this new role, RIPAC believes it is important to build profile and understanding of the program in order to ensure it is maintained and continues to grow.

For informations about the « Certificat de premier cycle en soins infirmiers périopératoires » or the « Programme court en pratique infirmière en salle d'opération » please contact Aline Gagnon at aline_gagnon@videotron.ca.

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operations of reprocessing to prepare surgical instruments and procedure case carts to meet the needs of the daily surgical schedule in tandem with patient and occupational infection prevention.

As a result of this review, administration moved to improve the quality of service provided by the Sterile Processing Department (SPD) and the Operating Room (OR) through a coordinated multi-disciplinary team approach.

PROJECT / METHODS

A Steering Committee was struck in 2002 that included a representative from Administration, the SPD Manager, SPD Clinical Coordinator, OR Manager, Peri-Operative Educator, Nurse Manager of Ambulatory Health Surgi-Centre and Infection Prevention and Control personnel. Each person had a vital role to play in the process. Administration was an asset due to their ability to initiate recommended changes that would have a financial impact on the hospital budget. The managers of SPD, OR and Ambulatory Surgi-Centre were essential members of the committee. Their departments are inter-dependant and many issues have an impact on these departments. The managers could direct change in practice when necessary and required a close, cooperative relationship for the success of this initiative. The SPD Clinical Coordinator and Peri-operative Educator would then be able to facilitate the changes by ensuring they were communicated clearly to the appropriate personnel. Infection Prevention and Control personnel provided neutrality, an overall perspective and were an asset in addressing infection control issues and recommending evidence-based changes that were consistent with established guidelines. Meetings were initially held bi-weekly and then monthly once momentum was established.

The committee's mandate was to improve the quality of service in the Sterile Processing Department and the Operating Room. This would be accomplished by; identifying issues, developing an action plan, establishing timelines, naming persons responsible for specific issues, implementation of recommended changes and a process of evaluation. The committee's action plan identified approximately 40 major and minor issues that would be addressed. Among them were frequent emergency / flash sterilization, reuse of single use devices, review of Ethylene Oxide (ETO) sterilization, surgical instrument loss, inadequate OR cleaning schedule, time related versus event related sterility, SPD standardized training and competency, quality control documentation and instrument reprocessing inefficiencies.

SOLUTIONS / RESULTS

Solutions to the issues were evidence based and consistent with current established guidelines and standards from Operating Room Nurses Association of Canada (ORNAC) Standards, Canadian Standards Association (CSA) Standards, Central Sterile Association of Ontario (CSAO) Certification Standards of Practice and Health Canada Guidelines.

Emergency/Flash Sterilization:

The frequency of emergency / flash sterilization[1] was reduced after monitoring and documenting items flashed in OR and Surgi-Centre. The committee reviewed and analysed three months of data. They determined the time required for reprocessing in SPD, reviewed surgery booking practices, and increased surgical instrument inventory of high traffic items such as "eye sets" for the ophthalmology service that resulted in decreased demand for emergency / flash sterilization. SPD and OR continued to monitor and audit emergency / flash sterilization to determine why instruments were being flash sterilized and how often this occurred. This provided supporting evidence that the incidence of flash sterilization continued to decline. This documentation continues to be reviewed regularly and will provide an alert if the practice of emergency / flash sterilization starts to increase. Countermeasures can then be taken to halt escalation.

Ethylene Oxide (ETO) sterilization:
Use of Ethylene Oxide (ETO) sterilization [2,3,4] was reduced by first assessing all items sterilized with ETO. Some items were replaced with purchased pre-sterilized products. Other instruments that required ETO sterilization were replaced with hydrogen peroxide gas plasma or steam compatible items. An additional hydrogen peroxide gas plasma sterilizer was purchased that provided a quick turnaround time of 50 minutes. Ozone (O_3) technology, another low temperature method of sterilization, was investigated as an alternative for ETO sterilization. It was subsequently determined to be unsuitable for our needs due to the four-hour sterilization time required and the unavailability of validation of this method by manufacturers for their instruments.

Single Use Medical Devices:
Single use medical devices[5] were removed from the reprocessing stream by, implementing a process by which the SPD Manager verified with the source department if an instrument was single use or could be reprocessed. Manufacturer's guidelines for reuse and reprocessing were requested in writing. Single use items sent to SPD are not reprocessed.

Mesh bag and basket system:
A mesh bag and basket system[6] was introduced for small items to reduce instrument loss, reduce sharps injury, and increase efficiency of reprocessing in SPD.Standardized major and minor basic instrument sets were introduced in the emergency department, Urgent Care Centre and minor procedure rooms. Each basic instrument set is contained in a stainless steel mesh basket. It remains together as a unit throughout use, return and reprocessing. Upon return to SPD for reprocessing, the basket allows visual inspection for sharps and safe removal before handling. Missing instruments can be spotted immediately and sought, or replaced and costs charged to the appropriate department. Before introduction of this system, replacement cost of instruments was approximately $2000 every 3 months. After introduction, no replacements have been necessary for 6 months. Laryngoscope blades arrive in a labelled colour coded mesh bag that identifies the department for return. Before introduction, blades were routinely lost or returned to the wrong department. After introduction, a department could rely on safe return of their laryngoscope blades and complaints were reduced.

OR cleaning schedule:
The OR cleaning schedule was aligned with ORNAC Standards[7] by developing checklists that outline the required daily, weekly and monthly cleaning. Dates and signatures are required. Specially trained housekeeping staff were dedicated to the OR. Housekeepers report directly to the OR Manager instead of Environmental Services.

SPD training and competency testing program:
A comprehensive SPD training and competency testing program was developed that was consistent with CSAO Standards of Practice.[8,9,10,11,12,13,14] and Health Canada Guidelines.[15] The SPD Clinical Coordinator provided initial training. Detailed pictorial and text instructions were developed outlining the disassembly, cleaning, assembly, and sterilization of all instruments and sets. (Figure 1 & 2) These comprehensive reference binders have been developed for each surgical specialty. They are available at all workstations for easy reference. SPD staff must demonstrate competency before they are permitted to work unsupervised. A mandatory annual review utilizing an internal checklist is conducted to demonstrate continued competency.

Event Related Sterility:
Current standard of practice has moved from time-related sterility to event-related sterility, reducing unnecessary reprocessing in SPD. First the committee members addressed issues of restructuring physical space and realignment of individual roles within the OR i.e. housekeeping. An Event Related Sterility policy and procedure was developed. Staff education was provided including what constitutes an event and the importance of stock rotation to ensure sterile packages are "first in" and "first out". Closed cupboard storage was implemented in keeping with ORNAC Standards[7]. Exchange carts were introduced in Day Surgery and Minor Procedure Rooms. Auditing use helped to eliminate hoarding. Each department must sign out items are taken and par levels are established and monitored. An enhanced cleaning regimen was implemented in OR and SPD consistent with ORNAC Standards[7].

Quality Assurance:
Comprehensive Quality Assurance measures were introduced in SPD and OR. One hundred percent of the sterile process is now monitored and documented. There is two-person signature verification that all parameters of packaging and sterilization have been met. Instrument sets lacking initials are rejected. Biological indicators were introduced into each autoclave load to monitor sterilization of all implantables. Problems are resolved as close to the source as possible. Staff in-service training sessions are conducted weekly, providing knowledge, thereby empowering staff with the confidence to make decisions at the front line. Any staff member can shut down the system if there is a problem.

Evaluation:
A process of evaluation was implemented. A documented Quality Assurance (QA) system was initiated with OR and SPD to track trends. The SPD Manager audits sterilizer checklists twice daily. Errors or omissions are immediately communicated directly to the staff. The SPD Clinical Coordinator performs a random audit of a sample of surgical instrument sets to ensure that they are complete. The OR completes a QA form to identify any omissions such as a missing integrator, or missing instrument from a surgical instrument set. The SPD QA Committee reviews all forms. Change in practice is developed from this information. It is also used to drive the content of weekly staff in-service education.

LESSONS LEARNED / DISCUSSION

After meeting for a number of months the OR and SPD came to understand the impact of procedures and procedural changes on each other's department. They developed respect for each other's work and realized the importance of each person's role. This increased level of understanding facilitated open communication and collaborative problem solving that is beneficial to all concerned. Providing quality of service is a team effort. This process brought together infection control, quality control, education, training, administration and accountability. When new issues arise, the Steering Committee has a proven mechanism in place for continued improvement based on agreed priorities. This initiative has built strong team support through the development of working relationships, collaborative problem solving, shared leadership and increased dialogue between each department. This model of practice moved beyond the original areas to related departments such as emergency, labour and delivery and minor procedure rooms. Achieving our mandate produced improved quality of service through implementation of best practices in the OR and SPD. It has also provided a proven framework through which new issues can be addressed and effective resolution can occur. We realized that what began as a task force with a fixed mandate and time frame, has evolved into a valuable standing committee that continues to address process, policies, procedures and quality assurance in the SPD and OR, facilitating ongoing quality improvement for enhanced patient care at St. Joseph's Healthcare.

ADDENDUM / UPDATE

On November 25, 2003 The Ontario Ministry of Health and Long Term Care issued a mandatory audit of all sterilization and disinfection practices in Ontario Hospitals.[16] This occurred following news items of unsterilized or improperly sterilized instruments being used on patients in Ontario hospitals. This labour intensive document had a deadline of January 9, 2004. Fortunately due to the enormous efforts already undertaken by the Sterile Processing Steering Committee the audit was manageable and our practice met current established guidelines.

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