ADVANCES IN THE ROLE OF SURGICAL CENTER NURSES
AVANÇOS NO PAPEL DO ENFERMEIRO DE CENTRO CIRÚRGICO
AVANCES EN EL PAPEL DEL ENFERMERO DE CENTRO QUIRÚRGICO

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ABSTRACT
Objective: to promote reflection on the role of surgical center nurses in light of advances in perioperative nursing. Methods: this study uses literature data and the experiences of the authors to reflect upon the activities of nurses in surgical center settings. Results: we demonstrate a mix of skills for surgical center nurses, from prediction and providing materials to a relationship with new technologies, updates, continuing technical education, administrative sector management activities, and assisting surgical center patients. Conclusion: reflection upon this theme encourages nurses in the pursuit of research, technical development, and publication of their new duties in order to bring about promising advances in perioperative nursing through partnership between practicing professionals and academics. Descriptors: Surgical Center Nurse; Technological Development; History of Nursing; Role of Nursing Professionals.

RESUMO
Objetivo: promover reflexão sobre o papel do enfermeiro de centro cirúrgico diante dos avanços da enfermagem perioperatoriária. Método: este estudo utilizou dados da literatura e vivência dos autores para trazer reflexões acerca das atividades do enfermeiro no centro cirúrgico. Resultados: evidenciou-se um misto de competências para o enfermeiro de centro cirúrgico, como as atividades de previsão e provisão de materiais, até a relação com novas tecnologias, atualizações, educação continuada do nível técnico, atividades administrativas de gerenciamento do setor e assistência ao paciente cirúrgico. Conclusão: a reflexão deste tema incentiva o enfermeiro na busca da pesquisa, do desenvolvimento técnico e da publicação sobre seus novos afazeres a fim de trazer por meio de parceria entre os profissionais da prática e da academia avanços promissores na enfermagem perioperatoriária. Descriptores: Enfermeira de Centro Cirúrgico; Desenvolvimento Tecnológico; História da Enfermagem; Papel do Profissional de Enfermagem.

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INTRODUCTION

The role of surgical center nurses has developed in parallel to advances in surgery. In the early 20th century, surgery was still carried out in the home, and the "nurse" assisted in preparing the surgical space and instruments. However, with Lister's establishment of aseptic techniques in 1880, there was more initiative to designate restricted areas where surgical procedures could be performed. Thus, cleaning the area in order to prevent infection, a practice highly valued by Florence Nightingale, came to be one of the "nurse's" tasks. At the same time, medical care on the battlefield promoted further learning about patient care and nursing practice in the surgical arena, thereby establishing assistant nurses in surgical centers.

It is obvious from the historical aspects of surgical patient care that the surgical center specialty developed into a practical field due to an emerging need, and little by little nurses began to incorporate scientific knowledge so as to bolster their own knowledge. In 1933, the National League for Nurses in the United States established a nursing curriculum that included courses on the operation room and clinical experience. Thus, knowledge gathered from clinical practice came to be formally taught, with knowledge from other courses supporting the practice of surgical center care.

In order to see to the needs of the surgical team, nurses' work initially consisted of organizing the Operating Room (OR), preparing materials and equipment necessary for the procedure, and circulating the room. For this, it was necessary to have knowledge about materials management—particularly the provision, handling, and maintenance of OR equipment and materials and the reprocessing of materials. With surgery's evolution and the increasing complexity of procedures, nurses' role in coordinating both human and material resources expended.

In the second half of the 20th century the search for scientific evidence about surgical center care began, with both research and the creation of professional organizations that promoted discussions and the improvement of surgical center nurses. The role of these nurses continued to change with surgery's technical and scientific progress, and it began to involve planning, coordination, and management of surgical patients, along with providing a safe environment and intervening for patients' physical and psychological well-being. Activities related to provision and forecasting of materials for surgery remained, but these worked in partnership with the Sterilized Material Center.

Last century's introduction of the nursing process into patient care during the transoperative phase—not only the physical preparation of patients for anesthesia and surgery, but also preparing them to face the situation—was a breakthrough for the autonomy of nurses. In 1990, two authors proposed a conceptual-philosophical model for perioperative assistance, the Systematization of Perioperative Care, which was initially used in the development of the learning process, and later operated in university hospitals' surgical centers, with five stages: pre-operative assessment; identification of problems; care planning; implementing nursing care during the transoperative period; and postoperative evaluation.

In the model focusing on the patient, nurses use the nursing process to develop a plan of care and to coordinate and offer care to patients undergoing surgery or other invasive procedures. Nurses should have the skills and knowledge to be able to diagnose, plan, intervene, and evaluate the results of their interventions. Nursing evaluates the physiological, psychological, sociocultural, and spiritual responses of a surgical patient.

Several procedures are carried out outside of the surgical center, such as endoscopic procedures and minimally-invasive radiology procedures, and many people are admitted into the hospital every day, which reduces the admission of pre-operative patients. Therefore, the ability to evaluate and interview became necessary for the implementation of the nursing process in the surgical center and thus ensures patients' safety during anesthesia and surgery.

The expected outcome of nursing activity in the surgical center has to do with establishing priorities in order to manage patients' pre-operative phase, specialized nursing care, methods of systematic communication, guaranteed continuity in nursing care, coordination between nursing specialties, continuous and active evaluation of patients, and nurses' commitment to their care.

The late 20th century was characterized by the policy of service quality, and overcoming the difficulties in implementing the Systematization of Perioperative Care remains one of the biggest challenges for surgical center nurses. However, the 21st century is characterized by technological growth, new instruments, and the modernization of surgical techniques, all of which demand that...
surgical nurses constantly update their skills, along with investing in research and professional training. Surgical center actions end up focusing mainly on patient safety. This century is known as a century of scientific knowledge, of growth in the surgical area, and of concern for the safety of surgical procedures; thus, protocols and security practices have been included in surgical center practice, and nurses’ skills have been broadening.

A review of literature about the powers of perioperative nurses divides knowledge into three different spheres: scientific (language comprehension; technical and procedural familiarity with the surgical and anesthetic procedures; adherence to infection control guidelines, hospital policies and protocols); practical (ability to anticipate the needs of patients and staff based on clinical experience and familiarity, to perform in a variety of situations, and to inform the nursing actions taken); and ethical (nursing skills that extend beyond the technical functions, involving a greater empathy with patients on a psychosocial level and the position of “patient advocate”).

An evaluation of the perception of nurses in terms of the skills needed to work in the surgical center identified three themes: theoretical, practical, situational, and ethical knowledge within a technocratic atmosphere; the ability to communicate with the staff in conflict situations; and management and coordination of the surgical schedule.

Advocating for patients is one of the main duties in the practice of nursing, because in addition to providing direct care, nurses must: care for patients’ emotional and social well-being; ensure their rights and duties; and act in an educational manner while providing care. Education and patient information are cited as important duties for nurses who advocate; besides that, the effective use of advocacy can reduce communication errors and increase patients’ safety.

The activity in an operating room is complex and interdisciplinary; organizational and team-related factors play an important role in the constant interaction between people, machines, and other pieces of equipment. The activity involves complex tasks, full of change and uncertainty, carried out in environments dominated by pressure and stress, which requires that nurses show leadership and manage conflict.

Twenty-first-century nurses are challenged by a technical diversity that demands constant improvement in order to keep up with new demands in the surgical center. Technology in the perioperative environment includes: a tracking and monitoring system; instruments with technological resources; robotic surgery; artificial organs; nanotechnology equipment; intraoperative MRI; navigation systems for neurosurgery; mobile, wireless communication systems; high-definition monitors for laparoscopic surgery; various types of hemodynamic monitoring; and computer access to information about patients’ health.

Faced with these changes, nurses should seek regular updates, and many have sought out courses to address these different resources. In general, hospitals with more resources seek out more technical innovations than do smaller hospitals. Those that invest in sending their nurses to train with new technologies outside of Brazil are still few and far between. What is noticeable in practice is the training done by the companies that provide the technology. In light of these advancements, it is vital for nurses to have good computer and foreign language skills—preferably English—so that they can access international literature and be able to train in foreign institutions that already use the new equipment.

In robotic surgery, for example, it is up to the nurse to begin assembling the robot and to regulate the optics being used. In neuronavigation, there are some institutions in which nurses carry out a scan of the area to be operated on and conduct the navigation during the procedure, while others watch the procedure. Nurses are also responsible for supervising the assembly of rooms and the use of this equipment, as well as for the continuing education of technical professionals.

Unlike North American practice, in which nurse anesthetists are responsible for the anesthetic procedure, Brazilian nurses are beginning to develop activities that aid in anesthetic induction and performance involving difficult airways. Some institutions have already added nurses who work with difficult airways, training these professionals to evaluate and assist the anesthesiologist in these situations. This type of professional has a mastery of the materials specific to the airways and their use, and is held responsible for the organization and control of these materials. Subspecialties of surgical center nursing have begun to appear, and academia needs to prepare itself in order to be able to educate these professionals.

In addition to the new skills that surgical center nurses have acquired as a result of technological innovation, activities relating to the direct care of patients are still part of...
surgical center nurses' duties. These activities include surgical positioning to prevent skin lesions, measures to prevent hypothermia (using blankets or heaters), and controlling surgical site infection.

Surgical center nurses still need to apply the Systematization of Perioperative Care to surgical patients, and to do that, they need to believe in its importance in effective nursing evaluation and intervention, keeping patient safety in mind and recognizing a nursing theory that scientifically supports their nursing system. In addition to this process's incorporation as one of the most important functions—which provides nurses with autonomy and security and assures them of their identities as surgical center nurses—it is also acknowledged that it is essential to have an adequately-sized staff in order to implement the system, as well as any other patient safety measures.

The international community's effort to create taxonomies that standardize nursing language needs to be included in the practice of nursing. Nurses have slowly gotten closer to nursing diagnosis. Although there are diagnoses similar to those from the taxonomy of North American Nursing Diagnosis Association (NANDA)\(^9\), there is a proposal focused exclusively on the surgical center, the Perioperative Nursing Data Set (PNDS). The advantage of using PNDS is the fact that it includes interventions and results that contain specifics of care in surgical centers.\(^1\) In Brazil, there is no news about its use in clinical practice, although there is a doctoral dissertation about this taxonomy.\(^9\)

As well as being one of the weaker points of nursing (since many services still only focus on the assessment of surgical and anesthetic risks), the Systematization of Perioperative Care must compete with nurses' other management activities to maintain the surgical center's dynamic and to ensure a safe environment for surgical procedures. At the same time, patient safety has been the most-discussed topic of this century, one which started in the United States and was slowly disseminated to the rest of the world. Issues related to the various spheres of patient surgical care question the safety of care, the procedure and the environment. The World Health Organization's program (World Alliance for Patient Safety) has also established specific protocols for the surgical center — like, for example, “Surgeries save lives,” — which have been adopted by surgical departments.

Accreditation processes have also been introduced into this century's nursing practice. The quality and equality of these processes brought a need for nurses to adapt to new rules and routines. In a highly competitive world geared towards attracting the best customers, hospitals have invested in accrediting their work procedures, and one of the places focused on is the surgical center.

The universal protocol of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) for the safety of surgical center clients has three stages. The first is preoperative verification, which aims to ensure that all relevant documents and information or equipment are available before the start of the procedure, are properly identified and labeled, are consistent with the record of patient identification and are consistent with each other, with patient expectations and with the staff's understanding of the patient, procedure and surgical site.\(^2\) The second relates to the marking of the surgical site and laterally targets patient safety, and the third relates to the pause before surgical incision (time out). These stages are a part of the protocols for the World Health Organization's “Surgeries Save Lives” program.

Nursing care during surgery, plus checkup activities, like operating room conferences, double checking the administration of medication, and the implementation of time out, have become part of a nurse's activity in the perioperative period. For this reason, the professional responsible for the room should always be aware of materials and equipment, and how they function, and nurses in supervisory roles should be aware of their subordinates' activities. Moreover, proactiveness and anticipating problems, as well as acknowledging vulnerability to mistakes, are elements integral to the culture of safety in every organization.\(^3,4,5\)

Surgical center nurses have a mixed skill-set, from primary prevention and materials provision capacities to a relationship with new technologies, updates, continuing technical education, administrative sector management activities, and assisting surgical center patients.

The various care activities related to technical evolution, as well as available diagnostic methods, are positive aspects, but there is still much to be done for these surgical procedures to become treatments that are safe and present less risk for patients. Nurses, as leaders, should stimulate educational development and promote team work so that they can achieve positive results in the care of surgical patients. In emergency surgery, nursing professionals must be able to
recognize critical situations beforehand and act quickly and safely with the goal of saving the life of the patient. A nurse's role is to concentrate on variables that affect a person's response to stressors, thereby minimizing the risk factors associated with them.

In the report “The future of nursing: leading change, advancing health” by Robert Johnson Foundation in conjunction with the Institute of Medicine, attention was drawn to the need for nurses to reach higher levels of education and training, and the authors proposed that, as a goal, 50 to 80% of nursing professionals have Bachelors degrees in the year 2020, and that the number of doctors and nurses double.

New technologies and the search for evidence that supports care practice make it necessary for nurses to become involved in research, and one way for professionals to develop methodological skills is through graduate courses. It is necessary to develop initiative so that nurses write about these new happenings, and so that knowledge can be disseminated and used by other nurses. The partnership between practicing professionals and academia could bring promising advances related to this idea. Not all nurses are research-inclined, but it is their duty to know how to access, read, and understand research in order to transform their work and practice using scientific evidence.

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Sousa CS, Gonçalves MC, Lima AM et al.

Advances in the role of surgical center...

Submission: 2013/04/26
Accepted: 2013/09/05
Publishing: 2013/10/15

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