

# NURSE'S ROLE IN CLEANING PROCESS AT A MATERIAL AND STERILIZATION CENTER

*Atuação do enfermeiro no processo de limpeza em um centro de material e esterilização*

*Función de la enfermera en el proceso de limpieza en un centro de materiales y esterilización*

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**ABSTRACT: Objective:** To examine the role of nurses in the process of cleaning hospital materials in the Material and Sterilization Center. **Method:** Experience report that emerged from the activities developed in the discipline “Supervised Practice in Material and Sterilization Center”, Lato Sensu Postgraduate Course “Nursing in Surgical Center, Post-Anesthesia Recovery and Material and Sterilization Center” of a private university in Rio Grande do Sul. **Results:** The nurse’s role in the cleaning process occurs in response to the needs of the sector, such as training the team, promoting the use of personal protective equipment, participating in the acquisition of equipment and supplies, certifying cleaning methods, understanding the complexity of surgical instruments, participating in water quality control and rinsing, drying, lubrication and inspection of materials, and choosing the indicators to verify the quality of the processes, according to current law. **Conclusion:** This study provided an insight into the responsibilities inherent to the nurse’s work in the Material and Sterilization Center, which reflects the safety of the patient. **Keywords:** Nurses. Nurse’s role. Sterilization. Materials management, hospital.

**RESUMO: Objetivo:** Contextualizar a atuação do enfermeiro no processo de limpeza de materiais hospitalares em um Centro de Material e Esterilização. **Método:** Relato de experiência que emergiu das atividades desenvolvidas na disciplina “Prática Supervisionada em CME”, do Curso de Pós-Graduação Lato Sensu “Enfermagem em Centro Cirúrgico, Recuperação Pós-Anestésica e Centro de Material e Esterilização” de uma universidade privada no Rio Grande do Sul. **Resultados:** A atuação do enfermeiro no processo de limpeza ocorre frente às necessidades do setor, tais como qualificar a equipe; estimular o uso dos equipamentos de proteção individual; participar da aquisição de equipamentos e insumos; qualificar o método de limpeza; conhecer a complexidade do instrumental cirúrgico; participar do controle de qualidade da água, do enxágue, da secagem, da lubrificação e da inspeção dos materiais; e escolher os indicadores para comprovar a qualidade dos processos, conforme as legislações vigentes. **Conclusão:** Este estudo proporcionou ampliar conhecimentos sobre as responsabilidades inerentes à atuação do enfermeiro no Centro de Material e Esterilização, o que reflete em segurança para o paciente. **Palavras-chave:** Enfermeiros. Papel do profissional de enfermagem. Esterilização. Administração de materiais no hospital.

**RESUMEN: Objetivo:** Examinar el papel de las enfermeras en el proceso de limpieza de los materiales del hospital en el Centro de Materiales y Esterilización. **Método:** Informe de la experiencia que surgió de las actividades desarrolladas en la disciplina “Práctica Supervisada en el Centro de Materiales y Esterilización”, Lato Sensu Curso de Postgrado “Centro de Enfermería en Cirugía, Recuperación Post-Anestesia y Centro de Materiales y Esterilización” de una universidad privada en Rio Grande do Sul. **Resultados:** El papel de la enfermera en el proceso de limpieza ocurre en respuesta a las necesidades del sector, como capacitar al equipo, promover el uso de equipos de protección personal, participar en la adquisición de equipos y suministros, certificar métodos de limpieza, comprender la complejidad de Instrumentos quirúrgicos, participando en el control de calidad del agua y enjuague, secado, lubricación e inspección de materiales, y seleccionando los indicadores para verificar la calidad de los procesos, de acuerdo con la legislación vigente. **Conclusión:** este estudio proporcionó una perspectiva de las responsabilidades inherentes al trabajo de enfermeros en el Centro de Material y Esterilización, que refleja la seguridad del paciente. **Palabras clave:** Enfermeros. Rol de la enfermera. Esterilización. Administración de materiales de hospital.

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## INTRODUCTION

The Material and Sterilization Center (MSC) is concerned with the processing of health care products (HCP), with sufficient quality and quantity for patient care and safety. It is the sector responsible for the cleaning, inspection, packaging, sterilization, storage and distribution of HCP to the consumer units<sup>1</sup>.

The MSC, classified as level II and according to the complexity of the materials it processes, calls for the separation of the reception and cleaning area from the others<sup>2</sup>. With the purpose of making surgical procedures less invasive and traumatic, the design of surgical instruments has evolved over time, making them more complex. Thus, there is a need for a critical cleaning process that produces reliable results and optimization of the work processes<sup>3</sup>, since the effectiveness of the disinfection or sterilization process requires that HCP be subjected to a methodical cleaning process, either manual or automated, to ensure the removal of organic and inorganic contaminants.

In the MSC, the nurse is responsible for coordinating the team and activities developed, evaluating and participating in the cleaning process steps, shaping the staff, contributing to the prevention and control of adverse events, guiding the service users, implementing good practices for the processing of HCP, and standardizing the use of products, materials and equipment. He / she also works in conjunction with infection control, to plan and validate the phases of the processing of instruments and materials, leading to a reduction in the rates of infection related to health care (IRHC)<sup>1</sup>.

The responsibilities of nurses in the MSC are often unknown in the eyes of professionals who work in different sectors of health care institutions and who fail to recognize this reality.

## OBJECTIVE

To report the experience of the nurse's role in the cleaning process in a hospital MSC class II of a private hospital in the rural region of Rio Grande do Sul, Brazil .

## METHOD

This was a descriptive, narrative study of the experience report type, where the purpose to describe the work carried out

by the nurse in an MSC class II, according to the Resolution of the Collegiate Board (RDC) No. 15/2012. This experience report dealt with a scientific and methodological production that reflects the description of professional experiences that contribute to the area of teaching, research, care and extension<sup>4</sup>.

The study site was in a medium-sized private hospital, located in the northwest region of the state of Rio Grande do Sul, which has 112 beds and performs on average 380 surgeries per month and sterilizes around 22,166 items monthly, considering the demand for hospital admissions and surgical procedures.

This study developed from the interests of the discipline "Supervised Practice in MSC" of the Lato Sensu Postgraduate Course "Nursing in Surgical Center, Post-Anesthesia Recovery and Material and Sterilization Center," at a private university in the state of Rio Grande do Sul, whose agenda addresses the possibility of postgraduate students experiencing the activities in an MSC. The discipline "Supervised Practice in MSC" has a 20-hour workload and aims to combine theory and practice. It should be emphasized that the activities proposed by the discipline go from management actions in nursing to care measures, and that the interfaces of these educational practices are presented in this report.

Because it was an experience report, there was no need to use an informed consent form. However, prior permission from the hospital's management was requested to perform the curricular training. In addition, no data will be released that make it possible to identify the hospital or the professionals who work there, as recommended by Resolution No. 466/2012 of the National Health Council (CNS).

## RESULTS

The MSC where the training was carried out has a team of 15 nursing technicians, where the size of the team was based on the size of the hospital. A nurse was part of this team, and he / she performed his / her activities exclusively in this sector. This professional followed the activities carried out by the nursing team, to conduct training in the appropriate practices, while guiding other professionals about care in the transportation and storage of materials after use.

The nurse responsible for the MSC in question participated in periodic meetings of the Hospital Infection Control Service (SCIH) and was involved in the planning and validation

of processes related to HCP and in the analysis of the quality of the water used in rinsing. This nurse was also a part of the Multiprofessional Committee for the Processing of Materials and Equipment.

Emphasis was placed on the nurse's incentive to conscientiously use personal protective equipment (PPE) in the cleaning area for the prevention of occupational accidents. Meanwhile, the nurse standardized the following as PPE: nitrile gloves or non-slip rubber gloves, goggles, waterproof apron, hat, closed-toe shoes for exclusive use, disposable mask and proper clothing.

Regarding the management of products for the cleaning of materials and equipment, an inventory was recommended at the beginning of each shift, guided by the nurse and developed by a nursing technician, especially regarding the availability and validity of detergents in the cleaning area, aimed at avoiding possible failures in the process.

The sector nurse standardized the concentration, dilution, and validity of high-level chemical and enzymatic detergents. This information was posted in the sector for employees to see, for recommendation of good practices. Regarding the qualification of the equipment, weekly and annual preventive maintenance was standardized.

Complex instruments were dismantled whenever possible and washed piece by piece, gently scrubbing. All HCP were subjected to manual cleaning. After cleaning and manual rinsing, the products were subjected to automated cleaning, rinsing and lubrication in the ultrasonic washer, and the processed products were then approved by the nurse.

The ultrasonic washer cavitation tests were performed, interpreted and recorded weekly by the nurse, and the automated and manual cleaning tests twice a week in two different shifts to determine if there was contamination on the material and whether detergent residue had been properly removed.

The nurse professional also did a quarterly inventory of the arsenal of HCP, submitted requests for replacement of materials, equipment and instruments, and validated the quality of the processed items. One of the most frequent process failures on receiving was the delivery of surgical boxes with missing items.

## DISCUSSION

The analysis of the results highlighted the variety of activities that make up the cleaning area of the MSC, which requires the involvement of the nursing staff and

effective communication for the proper steps in the process. With regard to communication, interpersonal relationships and teamwork in the MSC, the nurse is the coordinator of the team and forms a web of relationships while maintaining contact with collaborators<sup>5</sup>.

The nurse plays an important exclusive role in the MSC unit in the supervision of daily activities and standardization of products and work procedures, along with the preparation of protocols and guidance of employees, which contributes to good practice in all the stages in the processing of HCP, infection control and, consequently, providing users with safe care<sup>6,7</sup>.

Regarding the flow of HCP, the importance of alignment is seen through protocols<sup>2</sup>. Considered were the nurse's involvement in committees and the use of physical and technical barriers, favorable points for the development of the team's work.

Regarding the standardization of PPE, an earlier study carried out at the hospital level noted that the main accidents in this type of sector included those related to employee carelessness, such as high-level disinfectants in the eyes and accidents with sharps<sup>8</sup>. A similarity was found between the PPE mentioned in that study and that used in the daily practice of the sector in question here, showing concern about the well-being of professionals.

As regards the management of the incoming materials used in the cleaning area, standardization is essential, so that there are no breaks in the process due to a lack of needed material or incorrect dilution<sup>9</sup>. The management of these items in the hospital under study was standardized by the nurse, with the approval of the Multiprofessional Committee.

In the cleaning of HCP, the law specifies that these items must be dismantled, whenever possible.<sup>1</sup> After cleaning and manual rinsing, the materials need to be sent for automated cleaning, rinsing and lubrication, in accordance with current law, which is on the need to complement manual cleaning<sup>2</sup>. The Association of PeriOperative Registered Nurses (AORN) also recommends the use of cleaning equipment and emphasizes that this needs to have advantages over manual cleaning by reducing biological and ergonomic risks<sup>10</sup>.

After cleaning, there is a need for rinsing thoroughly to remove contamination and detergent residue, drying and visual inspection. These steps are also important for instrument storage<sup>5-11</sup>. It was observed in the MSC studied that there was compliance with the current legal

recommendations and the availability of an ultrasonic washer as well.

As for the tests required to release the equipment for use, they should include the evaluation of temperature and time parameters, compared to the data obtained in the qualification<sup>3</sup>. The nurse is also responsible for the training of the nursing team, regarding the handling of the equipment, the selection of HCP that can be processed and their quality after handling.

With regard to the management of the arsenal of materials in a hospital, there is a lack of studies in the literature that theoretically address the complexity of the activities performed in the MSC, considered the heart of health care institutions.

## FINAL CONSIDERATIONS

This study made it possible to understand the nurse's role in an MSC, especially in the cleaning area, since this is an essential step in the processing of hospital materials. The performance of this professional is increasingly evident in the work processes of the hospital area, mainly due to the role in the organization of the processes, with regard to the prevention of IRHC and patient safety. The nurse handles the work management, following the current law, with a wealth of detail about the areas that make up the sector, aimed at the assessment of the team, use of PPE, acquisition of incoming materials, maintenance of equipment, and choice of process quality indicators, among other tasks.

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