

# Nurses' conceptions regarding patient safety during surgical positioning



*Concepções das enfermeiras em relação a segurança do paciente durante o posicionamento cirúrgico*

*Concepciones de las enfermeras sobre la seguridad del paciente durante el posicionamiento Quirúrgico*

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## ABSTRACT

**Objective:** To know the conceptions regarding patient safety during their surgical positioning from the perspective of nurses in a Surgical Center.

**Method:** Qualitative descriptive exploratory study, with seven nurses from private hospital in southern Brazil in August 2018. Data generation using the Focus Group technique, with content analysis by Bardin.

**Results:** From the data analysis, six categories emerged: "patient safety", "surgical patient risks", "nurses in the operating room", "training", "involvement of the interprofessional" team and application of the risk assessment scale. The development of injuries resulting from positioning was identified as the greatest risk for the surgical patient, highlighting the presence of the nurse in the operating room as essential for the prevention of this risk, through patient assessment and staff training.

**Final considerations:** Nurses identified risk to patient safety in relation to surgical positioning and considered their presence in the operating room to be indispensable.

**Keywords:** Patient safety. Patient positioning. Perioperative nursing. Operating room nursing

## RESUMO

**Objetivo:** Conhecer as concepções em relação à segurança do paciente durante seu posicionamento cirúrgico sob a ótica das enfermeiras de um Centro Cirúrgico.

**Método:** Estudo exploratório descritivo qualitativo, com sete enfermeiras de hospital privado da região sul do Brasil, no mês de agosto de 2018. Geração de dados pela técnica de Grupo Focal, com análise de conteúdo de Bardin.

**Resultados:** Da análise dos dados emergiram seis categorias: "segurança do paciente", "riscos do paciente cirúrgico", "enfermeiro em sala cirúrgica", "capacitação", "envolvimento da equipe interprofissional" e "implementação da escala de avaliação de risco". Identificou-se como maior risco o desenvolvimento de lesões decorrentes do posicionamento, sendo a presença do enfermeiro em sala cirúrgica destacada como fundamental para prevenção deste risco, através da avaliação do paciente e capacitação da equipe.

**Considerações finais:** As enfermeiras identificaram riscos à segurança do paciente em relação ao posicionamento cirúrgico, considerando indispensável a presença dos mesmos em sala cirúrgica.

**Palavras-chave:** Segurança do paciente. Posicionamento do paciente. Enfermagem perioperatória. Enfermagem de centro cirúrgico.

## RESUMEN

**Objetivo:** Conocer los conceptos sobre seguridad en el posicionamiento del paciente quirúrgico desde la perspectiva del enfermero en un Centro Quirúrgico.

**Método:** Estudio exploratorio descriptivo cualitativo, con siete enfermeras de un hospital privado del sur de Brasil, en agosto de 2018. Generación de datos mediante la técnica de Focus Group, con análisis de contenido de Bardin.

**Resultados:** Del análisis de los datos surgieron seis categorías: "seguridad del paciente", "riesgos del paciente quirúrgico", "enfermeras en quirófano", "formación", "implicación del equipo interprofesional" e "implementación de la escala de valoración de riesgos". El desarrollo de las lesiones derivadas del posicionamiento fue identificado como el mayor riesgo para los pacientes quirúrgicos, destacándose la presencia de enfermeras en el quirófano como fundamental para la prevención de este riesgo, a través de la valoración del paciente y la formación del equipo.

**Consideraciones finales:** Los enfermeros identificaron riesgos para la seguridad del paciente en relación con el posicionamiento quirúrgico, considerando indispensable su presencia en quirófano.

**Palabras Clave:** Seguridad del paciente. Posicionamiento del paciente. Enfermería perioperatoria. Enfermería de quirófano

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## ■ INTRODUCTION

The Surgical Center is a critical and stressful environment and the work under pressure<sup>(1)</sup> can increase the risk of errors and adverse events in the patient<sup>(2)</sup>. Safe surgery includes the proper patient positioning, ensuring accommodation in a more anatomical way and with minimal tension, allowing the anesthesiologist access to the infusion lines and, mainly, good access to the operating field for the surgeon<sup>(1)</sup>. Every surgical position involves inherent risk due to the anatomical alteration necessary for good exposure of the operative site<sup>(1,3)</sup>, and the necessary immobility during the intraoperative period increases the risk for skin injuries, nerve and muscle injuries<sup>(1,3,4)</sup>. Special attention must be given for protection and pressure redistribution over skin areas that cover bony prominences, as patients can withstand a large amount of pressure for a short time, or a smaller amount of pressure for a longer period of time<sup>(1,5)</sup>.

Although the surgeon has the final word on surgical positioning, for access to the operating field, it is up to the nurse and the anesthesiologist to share the assessment and decision together with the surgical team regarding safe positioning<sup>(1)</sup>. The surgical nurse must know the specificities of each patient and the surgical position, and the preoperative assessment is essential for planning nursing care in the operating room with forecast and provision of positioners and cushions for protection<sup>(1,4)</sup>.

The Braden scale is an injury risk assessment tool, used in clinical and surgical patients admitted to health care services, through the verification of the following items: sensory perception, activity level, mobility and nutrition status, and exposure of the skin to moisture, friction and shear force<sup>(5)</sup>, however these factors do not include the particularities of the intraoperative period, such as position and surgical time, anesthesia and comorbidities<sup>(4,5,6,7)</sup>.

In 2013, a scale for assessing the risk of injury resulting from surgical positioning (ELPO)<sup>(7)</sup>, was created and validated in Brazil, including seven items: surgery time, surgical position, anesthesia time, support surface, comorbidities and age. The ELPO provides data to identify patients at risk and improve nursing care during the intraoperative period, being a valid instrument to assess risk and predict outcomes such as injuries resulting from surgical positioning<sup>(3,7,8)</sup>. A study with application of the ELPO scale in a sample of 378 patients identified that the highest risk of injury was associated with patients positioned in prone position and lithotomy<sup>(9)</sup>.

In this context, thinking of contributing to the improvement of patient safety during the intraoperative period, the following research question was outlined: what are the conceptions of nurses working in the Surgical Center

regarding safety during the positioning of the surgical patient? To answer this question, the research objective was to know the conceptions regarding patient safety during their surgical positioning from the perspective of nurses in a Surgical Center.

## ■ METHOD

This is an exploratory descriptive research, with a qualitative approach conducted through discussions in a Focus Group (FG), aimed at nurses working in a SC. In the report of this research, the consolidated criteria for reporting qualitative research were followed through the COREQ checklist<sup>(10)</sup>.

The field of action was a SC of a large private hospital located in Porto Alegre, RS. It has 17 rooms and serves 17 surgical specialties, namely: traumatology and orthopedics, neurology, general, gynecology, urology, plastic surgery, otorhinolaryngology, coloproctology, thoracic surgery, breast cancer, pediatric, cardiovascular, vascular, hand, head and neck, dentistry, maxillofacial surgery, and trauma. An average of 2,000 surgeries/month were performed in 2018 and 2019, of small, medium, and large size, with the exception of transplants.

The study population consisted by 13 nurses who work in the SC of this institution and perform care, leadership, and coordination functions. The researcher is a specialist in the Surgical Center and one of the care nurses of this SC, having been excluded from the study, so the population available to participate comprised 12 professionals. The inclusion criterion was to work for more than six months in the sector. Nurses who were on a medical certificate or on sick leave were excluded. The sample was for convenience and consisted by seven nurses who accepted the invitation to participate in the FG. As all study participants were female, the term female nurse was adopted for this research.

The FG was used as a qualitative technique for data generation, following a script for the three sessions conducted<sup>(11)</sup> in August 2018 (Chart 1). The meetings lasted a maximum of one hour, with an interval of one week between them, in a meeting room within the surgical area of the hospital institution. This has a space for organizing the group in a circle, facilitating the interaction of the participants. The researcher interacted with the group in order to get to know different points of view on the subject of patient safety in surgical positioning. No pilot test was performed.

In the week after each meeting, the researcher performed the audio transcription and data compilation, it was decided not to outsource this activity, due to the opportunity to get in touch with the transcription data. The transcriptions were sent by email in full to the study participants for reading

|                  | Focus Group Sessions   |  |   |
|------------------|--|--|---|
|                  | 1 <sup>st</sup> (08/09/2018)   | 2 <sup>nd</sup> (08/16/2018)   | 3 <sup>rd</sup> (08/23/2018)  |
|                  | - Presentation of the study objectives.<br>- FICF application.<br>- Session recording authorization. | -Transcription validation of the previous meeting  | - Transcription validation of the previous session.<br>- Presentation of the summary of previous sessions   |
| Discussion topic | Question: what is patient safety for you?  | Question: what is the importance of nurses in risk assessment?<br>- Nurses' knowledge of the ELPO scale. | Question: what is the best strategy for conducting and recording the risk assessment in surgical patients?<br>- Consensus for the implementation of the ELPO scale. |
| Closing          | Thanks for participating.  |  |   |

**Chart 1** – Focus Group sessions of the research of nurses' conceptions of a surgical center regarding patient safety. Porto Alegre, Rio Grande do Sul, Brazil, 2018.

Source: research data, 2018.

and validation. Regarding the transcription validation, only one participant made a reservation about a speech, which was documented through e-mail return. Triangulation was conducted in order to validate the data generated and transcribed with the study participants, and data analysis only started after this stage.

All participants were surprised by the language vices when reading the transcriptions, being clarified that the analysis would be elaborated from the content of the speeches and not on their literal expression.

The analysis was performed using Bardin's content analysis technique<sup>(12)</sup>, consisting of three stages: pre-analysis, material exploration and data processing and interpretation. In the first stage, fluctuating reading was performed, the researcher had initial contact with the text and allowed herself to be invaded by impressions. In the second stage, the material exploration and codification were performed. In the third and last phase, data interpretation. They were significant and valid, providing an opportunity to identify the units of records that were repeated, being grouped in an expression that represents the set. This form of analysis allowed the researcher to make inferences according to the data collected, breaking down into categories.

After data transcription and validation, two maps were assembled. The first included all the fully transcribed speeches of all the participants, each participant was identified with the letter P and a corresponding number from 1 to 7. This

map was divided into three columns, which corresponded to the three FG meetings and seven lines, corresponding to the seven participants. It was performed exhaustive reading of the speeches, horizontally (which corresponded to the speeches of each of the participants in the three meetings) and vertically (which corresponded to the speeches of all participants in each one of the meetings).

After the fluctuating reading of the transcribed speeches on the first map, the speeches on the same themes were highlighted with the same color highlighter pen, emerging the initial categories. After this stage, the material was cleaned, and a second map was constructed with the division of the speeches into categories. From the manual categorization of the FG data, it was used the webQDA® software (version 3.0) to group and select the most frequent words contained in the transcriptions. This resource helps in the analysis of qualitative data through collaborative and simultaneous access by researchers.

Regarding ethical issues, this research followed the standards established by Resolution 466/2012 and Resolution 510/2016 of the National Health Council, which regulate the specificities of research in the human and social sciences, having been duly registered in the *Plataforma Brasil* and approved by Research Ethics Committee of the higher education institution under CAAE nº 86027518.2.0000.5345 and of the hospital institution where the data was collected, under CAAE nº 86027518.2.3001.5330. The research objectives were

explained, and the Free and Informed Consent Form was applied. The confidentiality of the information, the participant's privacy and the protection of their identity were guaranteed. Data will be stored for five years and then destroyed.

## ■ RESULTS AND DISCUSSION

The analysis of data from the FG occurred in two stages: in the first, the manual map of transcriptions and categorization was built, and in the second, WebQDA® online software was used as a support tool for the analysis of these qualitative data.

From the manual maps, six categories emerged from the generated data: "patient safety", "surgical patient risks", "operating room nurse", "training", "interprofessional team involvement" and "ELPO scale implementation". The registration units (RU) identified in each category will be presented in the subchapters referring to each one of them. Chart 2 presents the categories and subcategories.

After manual categorization, the speeches were organized and selected, product of the transcriptions in categories, saved in plain text in Word® file. After review, data were entered into the WebQDA® software, maintaining manual categorization. Using the software, the most frequent words in the categories were selected. For this selection, words with five characters or more were filtered out with free code map generation (Figure 1), these resulting from the categories that emerged from the manually constructed maps.

At the end of the work, in the third meeting of the Focus Group, the nurses defined how the implementation of the risk assessment using the ELPO scale would take place.

### Patient safety

Through the interaction between the participants, issues related to safety and expression of the point of view of the group of nurses were discussed regarding the meaning of patient safety in their daily professional experience.

In the "patient safety" category, the two registration units (RU) that stood out were: do not harm and plan care, each one with five occurrences. For the study participants, the topic of patient safety is well known and identified as being of great importance, with care planning being identified as an essential aspect:

*... that no harm is caused to the patient, that he comes to the hospital, that he treat the disease that brought him here, but that he does not leave with anything more than he arrived at the hospital (P4).*

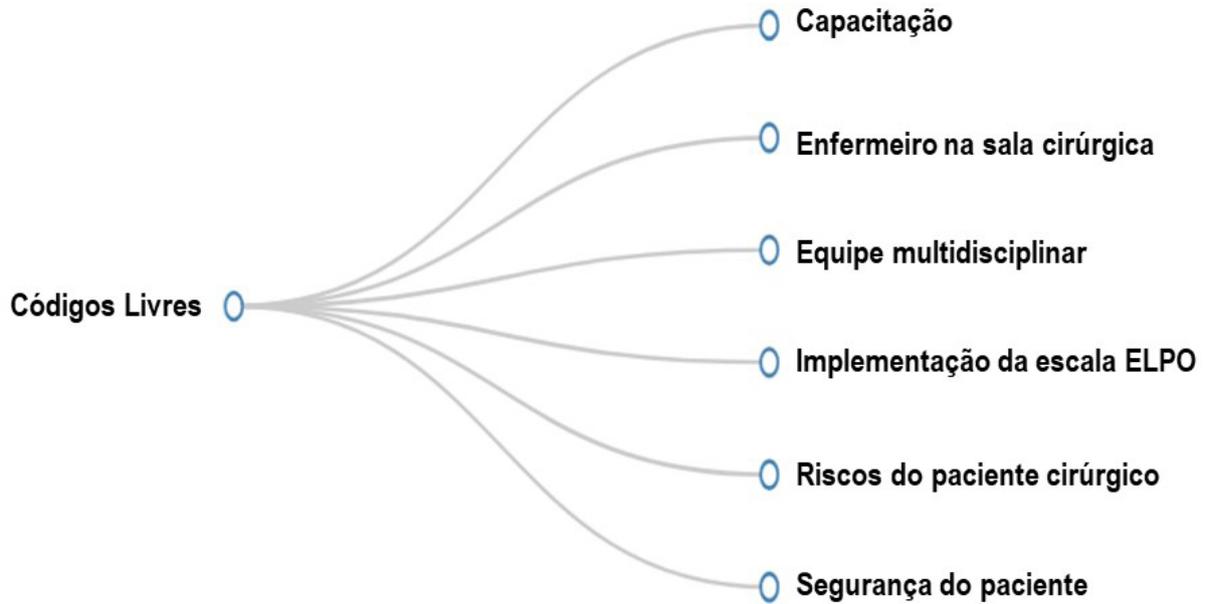
| Categories                         | Subcategories       |
|------------------------------------|---------------------|
| Patient Safety                     | ---                 |
| Surgical Patient Risks             | Complications       |
|                                    | Adverse Event       |
|                                    | Surgical Instrument |
|                                    |                     |
| Operating room nurse               | Importance          |
|                                    | Absence             |
|                                    |                     |
| Training                           | Team orientation    |
|                                    | Knowledge           |
|                                    |                     |
| Interprofessional team involvement | ---                 |
|                                    |                     |
| ELPO Scale Implementation          | Facilities          |
|                                    | Barriers            |

**Chart 2** – Categories and subcategories. Porto Alegre, RS, Brazil, 2018  
Source: research data, 2018.

*... patient safety is a set of actions and measures planned so that we can deliver safe care so that we cannot affect the patient with any type of adverse event...(P6).*

The effort in reducing the risks resulting from health care to the minimum possible can be translated as patient safety<sup>(13)</sup>. The search for this safety must be the result of the cooperation of all SC teams involved in this process, and not only of one professional category<sup>(2,14)</sup>.

The RU perform a checklist was recognized as important by the nurses:



**Figure 1** – Free code map. Porto Alegre, RS, Brazil, 2018  
Source: research data, 2018.

*... if we don't really do as it is on the checklist, there really is a lot of risk (P6), [and that] starts with simple actions, from the patient reception, which is his identification... (P1).*

The second global challenge for Patient Safety, Safe Surgery Saves Lives, aims at safety standards that can be applied in several countries, it provides a checklist as a universal protocol, recognized as an effective measure to reduce surgical risks<sup>(13)</sup>. This verification should start with the patient awake, whenever possible, and with patient identification, application of informed consent, laterality marking (when multiple organ) and confirmation of the procedure to be performed<sup>(1,2,13)</sup>. The adoption of an objective protocol facilitates compliance with the checklist and performance of the surgical pause (time out) before the incision<sup>(13)</sup>.

There is evidence of infection reduction in clean surgeries after the implementation of the safety checklist proposed by the WHO<sup>(15)</sup>. The safety checklist should not be seen as a step to be carried out mechanically or a form to be filled out, the nurse should assume the role of team leadership in the empowerment and commitment to patient safety<sup>(16)</sup>.

### Surgical patient risk

According to the perspective of all participants in this study, patients undergoing surgical procedures are subject to risks. In this category, three subcategories were identified:

“complications”, “adverse event” and “surgical instrument” (Chart 3).

The RU in the “complications” subcategory were: pain, bleeding, risk of death, compartment syndrome and other. In the other registration unit, the following surgical risks were grouped: hypovolemic shock, difficult airway, cardiac arrest, embolism and hypothermia, with only one occurrence each.

Within the subcategory “adverse events”, the RU of injury stands out, with 12 occurrences, being grouped the injuries in skin injury, by pressure and resulting from surgical positioning. The following events were grouped into “other”: nerve compression, wrong surgery, wrong limb, and wrong patient.

*... skin injury ranging from simple to a third-degree injury (P1).*

It was verified that skin injuries, pressure and resulting from surgical positioning were identified as the most frequent. According to the AORN<sup>(4)</sup>, all surgical patients are at risk of injury, a study with a sample of 378 patients of all surgical sizes<sup>(9)</sup>, identified a higher risk of injury associated with prone and lithotomy positioning, and not to the surgical size.

To achieve improvement in surgical patient safety, it is essential to identify patients at risk for positioning injury, developing care planning and implementing interventions to prevent injury<sup>(1,3,4)</sup>.

Regarding the RU on the routine use of the surgical checklist, the WHO<sup>(13)</sup>, reinforces the importance of a checklist,

| Category               | Subcategories       | Record Units (RU)                     | Occurrence |
|------------------------|---------------------|---------------------------------------|------------|
|                        | Complications       | Pain                                  | 4          |
|                        |                     | Bleeding                              | 3          |
|                        |                     | Risk of death                         | 3          |
|                        |                     | Compartment Syndrome                  | 2          |
|                        |                     | Increased length of stay              | 3          |
|                        |                     | Other                                 | 5          |
|                        |                     |                                       |            |
| Surgical Patient Risks | Adverse Event       | Injury Skin/Pressure/Positioning      | 12         |
|                        |                     | Human error                           | 5          |
|                        |                     | Anaphylactic shock                    | 4          |
|                        |                     | Infection                             | 3          |
|                        |                     | Non-compliance with routine/checklist | 5          |
|                        |                     | Burn                                  | 3          |
|                        |                     | Fall                                  | 2          |
|                        |                     | Other                                 | 4          |
|                        |                     |                                       |            |
|                        | Surgical Instrument | Missing                               | 5          |

**Chart 3** – Patient risk category. Porto Alegre, RS, Brazil, 2018  
 Source: research data, 2018.

as it helps to check steps that must be taken before starting the procedure, helping the team to work together and providing a standard. Even in different scenarios and different routines, this standardization can mean improvements for safety and saving lives<sup>(1,13)</sup>. This checklist must be applied at three times: before anesthetic induction (whenever possible, with the patient awake and participating this verification), before the surgical incision and before the patient leaves the operating room (with verification of the gauze count, compresses and needles)<sup>(1,13,14)</sup>.

The conference before the beginning of the surgical incision must be performed aloud, certifying the availability of

materials and equipment, if any discrepancies occur, this must be resolved before proceeding with the surgery, and must be performed even in urgent and emergency surgeries<sup>(13)</sup>.

In the “surgical instrument” subcategory, “missing” RU refers to the lack of material or equipment, identified by the participants of this study as a risk factor for surgical patients.

*... as an error in the assembly of the material's room not having been checked before the beginning of the surgery (P3).*

*... sudden anesthesia for longer time, waiting for the intensifier or waiting for an OPSM to arrive (P6).*

Conflicts regarding the management of these supplies are conducted by SC nurses<sup>(1,17)</sup>, who must master the scale for prior identification of this unavailability before compromising the quality of the procedure and patient safety<sup>(17)</sup>.

### Operating room nurse

In this category, two subcategories were identified: "importance" and "absence of nurses in the room". In the subcategory "importance of nurses in the classroom", the following RU stands out: professional empowerment, team recognition, presence in surgeries and patient assessment. In the "absence of nurses in the room" subcategory, it is highlighted the concern with trivialization or absence in less complex surgeries. The positioning and attitudes taken by nurses, in addition to their greater presence in the operating room, resulted in professional empowerment and recognition by the medical team and nursing technicians, according to the perception of nurses participating in the FG. They show that physicians have recognized this change in nursing care, resulting from the greater presence of nurses with patients and the team in the operating room.

*... I've already heard a compliment from a thoracic team that they said: wow, today was very good because the nurse was present to help us with positioning (P7).*

The trivialization/absence RU in less complex surgeries, of the subcategory "absence of nurses in the room", can also be interpreted as recognition of the importance of nurses being in the operating room even in simpler surgeries, because, according to the study participants, in some situations occur in minor surgeries.

*... simple... so, we trivialize it, and these are the times that it comes out with an injury (P1).*

It can be perceived the nurses' satisfaction with the empowerment and recognition they have achieved through their appreciation by the medical team.

*... it is still a novelty that we are taking care of the patient, within the operating room environment because the patient's owner is always the surgical and anesthetic team, and not the nurse" (P6).*

*... okay, now you are free to do whatever you want..., you can position it your way (P1).*

*... doctor, ... now we are going to position the patient's arms as soon as we finish, we will allow you to do the*

*trichotomy and position the legs. But the technician is not going to impose this way, not in a bad way, but I mean it is prioritizing that care that cannot be done later, it has to be now... (P3).*

Nurses are present inside the room in major surgeries, emergencies, surgeries involving pediatric patients, and full time in robotic surgeries. The presence of the nurse in the room allows for actions to be taken according to the particularities of each patient<sup>(18)</sup>. In the studied scenario, nurses divided the operating rooms between four professionals, both for care and for admission to care. Based on the division of rooms, the medical and nursing teams have a reference nurse for each operating room.

Through coordinated action with modification of attitudes and behavior of the group of nurses in the studied context, when making choices and being present in the room, it can be noticed the empowerment and recognition of the importance of this professional within the operating room.

The dimensioning of the SC nursing team can be performed considering the surgical size of the procedures attended, however the most used calculation is the number of professionals in relation to the number of rooms. It is suggested that the number of nurses to be 20% of the nursing team and 80% of technicians<sup>(1)</sup>. The Federal Council of Nursing (*Conselho Federal de Enfermagem - COFEN*) establishes the number of one nurse for every three elective operating rooms within 24 hours, and an exclusive nurse in the urgency/emergency room, according to the surgical size and degree of complexity<sup>(19)</sup>. It is necessary to think about the nursing team in terms of both the quantitative issue, with professionals who supervise and conduct care within the operating room, and qualitatively, for training and updating it<sup>(2)</sup>.

The organization and prioritization of care with a reference nurse in the operating room corroborates the SOBECC guidelines<sup>(1)</sup>, taking into account the patient's degree of complexity, participation in surgical positioning and follow-up in his transfer to the ICU.

### Training

In the "training" category, the following subcategories emerged: team orientation and knowledge. It stands out the RU train, educate and simulate with models within the "team orientation" subcategory.

According to the nurses, the importance of training teams is recognized, and this training should not necessarily take

place in formal learning environments, but also in everyday life, with guidance during surgical positioning.

*... that we can also train the technicians for this, right, for us to have not only our eyes but their eyes, their arms to help us, right... (P4).*

*so, if you guide the technicians themselves... there, look, you always have to put a pad on the heel, for example, they will... they won't leave with an injury (P1).*

*... that's what we had said before, it's to train the team, you know, for simple surgeries and maybe having teams... the ideal would be positioning teams, setup team, team of... but to train teams since the new ones to the oldest ones because they also trivialize, like us, sometimes minor surgeries... (P6).*

The nursing team recognizes the challenge of the continuing training of the team and the importance of this education, and corroborates the view that the training of a prepared team and an adequate structure provides surgical patients with safe care<sup>(1,13)</sup>. According to the team, training with the use of dummies and simulation favors learning.

*... and we use the mannequins ourselves and do as we do in robotics... (P6).*

*... at least I'm very visual, when we visualize, we learn more... (P6).*

Simulation is a technique used for learning through guided experiences, it can be performed with live mannequins or synthetic models. This educational strategy favors the opportunity to learn with an approximation of real experience. Teaching and learning with the use of mannequins proved to be effective, favoring their transition to practical patient care and increasing patient and team safety<sup>(18)</sup>.

### Interprofessional team involvement

In the category "interprofessional team involvement", two RU were identified: prior planning and participation and assessment in surgical positioning.

The involvement of the interprofessional team, in the view of the participants, was a big change, and it has been important this planning of the medical team together with the nursing team:

*... I think that the doctor's participation in this planning, if it's something that escapes the daily routine of a surgery that he/she performs more often, to plan, to sit with the nursing... (P5).*

The participation of the medical team in planning prior to the procedure was highlighted by the nurses as a paradigm shift, resulting from the empowerment of nursing, contemplated in recent years, through the work and awareness of the nursing team, by appropriating this important role inside the operating room.

*... I think it's a gratification, because it's the team's patient, it's ours now, it's a paradigm shift" (P6).*

The movement towards safety requires the involvement and participation of all the team involved, with a focus on the patient, without a hierarchy of positions<sup>(2)</sup> in a harmonious and joint work, aiming at the success of the surgical procedure and guaranteeing a care free of damages.

All members of the surgical team: nurses, anesthesiologists, surgeons and assistants, are responsible for the surgical positioning, this interprofessional activity should ensure the comfort and safety of patients<sup>(4)</sup>. Previous simulation of surgical positioning can be used before specific procedures such as robotic surgeries with the participation of nurses, nursing technicians, anesthesiologists and surgeons<sup>(18)</sup>.

### ELPO Scale Implementation

Facilities and barriers were identified (Chart 4) for the implementation of the assessment of risk of injury resulting from positioning, the importance of which for care planning being pointed out as facilities.

*...the ELPO, and the scale, maybe it will help us to provide this care in terms of injury, positioning, but also our planning, as a nurse for our patients. I think this makes our work even easier, right, because when we plan, we will also be able to organize our time and optimize, perhaps better... (P2).*

The main barriers mentioned for implementation were in relation to the nurse's routine, time and availability, as illustrated in the reports:

*... nurse's availability to be able to give this priority to have this time to stay in the room, right, what else... (P1).*

Even causing additional time to position the patient, in the view of the participants, the medical team recognizes the importance of the positioning performed by the nurse.

*... despite the time we take, they [doctors] stay very satisfied with the positioning of robotics... (P3).*

| Category                  | Subcategories | Record Units (RU)                 | Occurrence |
|---------------------------|---------------|-----------------------------------|------------|
|                           | Facilities    | Care Planning                     | 7          |
|                           |               | Easy application                  | 2          |
|                           |               | More nurses in the sector         | 1          |
| ELPO Scale Implementation |               | Previous knowledge                | 1          |
|                           | Barriers      | Routine/time/Nurse's availability | 12         |
|                           |               | Suitable positioner               | 3          |
|                           |               | Medical team                      | 1          |
|                           |               | Nurse's knowledge                 | 1          |

**Chart 4** – ELPO scale implementation category. Porto Alegre, RS, 2018

Source: research data, 2018.

With the construction and validation<sup>(7)</sup>, in 2013, of the ELPO Scale, surgical nurses have a resource for assessing this population<sup>(1)</sup>. A risk assessment tool does not necessarily include all the factors that put patients at risk for injury, but it can determine the cumulative effect when summing up risk factors<sup>(4)</sup>, in addition to assisting in the planning and directing available resources.

Through the use of the ELPO scale for risk assessment, patients at higher risk of developing injuries resulting from surgical positioning are identified, thus justifying expenses and the use of technologies for prevention such as adhesive and positioning devices<sup>(1,7)</sup>.

Safety in surgical positioning is a challenge for perioperative nurses regarding the assessment and planning of care in surgical positioning. The assessment of the risk of injury resulting from positioning provides support for the planning and assistance of the individual needs of the patient and the surgical procedure, contributing to the reduction of this risk<sup>(1,4,8,20)</sup>.

It is identified that most of the works were published in abstracts at scientific events that took place after 2017, inferring that the construction and validation of a scale based on the literature and the look at the Brazilian reality, mobilized the community of surgical nurses for the specificity of this care.

At the last meeting of the Focus Group, it was defined by the group of nurses that the operationalization to implement the risk assessment in the SC, through the ELPO scale, will be conducted as a pilot project, starting with major surgeries,

with the presence and participation of the nurse within the room during patient positioning.

*... we can start with major surgeries, which are the ones that we end up staying longer (P6).*

The form created by the nurses with filling in the risk assessment using the ELPO scale, initially, will not be part of the patient's medical record, being used to collect the data for the pilot project. However, the information contained in the assessment of risk of injury resulting from positioning will be registered in the patient's electronic medical record in the form of intraoperative nursing evolution.

After the pilot project, the form created by the nurses for risk assessment using the ELPO scale will be sent to the Institution's Medical Record Committee for consideration, for inclusion in the patient's electronic medical record.

As a limitation of the study, it is highlighted the impossibility of participation by all nurses due to the routine flow of the surgical environment, as well as having been limited to only one professional category.

## ■ FINAL CONSIDERATIONS

This study allowed us to know the conceptions of professionals working in the SC regarding patient safety in positioning. The nurses identified the risks to which the patient is exposed during the intraoperative period and consider the

presence of the nurse in the operating room to be important to help with the patient positioning and to involve the interprofessional team. Furthermore, they emphasize the importance of implementing the ELPO scale to assess the risk of patients during the intraoperative period.

It is suggested as a proposal for future studies, to investigate aspects related to the presence and performance of nurses in the activities of direct care provided to patients in the operating room, monitoring outcomes related to the prevention and occurrence of adverse events.

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