

# USE OF SCENARIOS FOR EDUCATION ABOUT PATIENT SAFETY IN A SURGERY CENTER

*Utilização de cenários para a educação sobre segurança do paciente em centro cirúrgico*

*Utilización de escenarios para la educación sobre seguridad del paciente en quirófano*

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**ABSTRACT: Objective:** To present scenarios in the nursing care and management practice related to the perioperative procedures as an educational strategy. **Method:** The population was composed of scenarios from a previous investigation. There was a secondary analysis of the information available. **Results:** Seven scenarios were identified representing the nurses work routine in relation to perioperative procedures. Of these scenarios, four describe situations that present adverse events that affected the patient, two near misses, and one contextualizing a risk situation. Three scenarios contextualized situations with elderly patients, and one with a pediatric patient. **Conclusion:** The scenarios may present care-related situations, providing reflections to minimize opportunities for error, improving the assertiveness of communication, providing clarification about concepts of quality and promoting the use of patient safety protocols.

**Keywords:** Patient safety. Operating room nursing. Health education.

**RESUMO: Objetivo:** Apresentar cenários da prática de enfermagem assistencial e gerencial relacionados aos procedimentos perioperatórios como estratégia educacional. **Método:** A população foi composta de cenários redigidos de uma investigação prévia. Foi realizada uma análise secundária das informações disponíveis. **Resultados:** Foram identificados sete cenários que representam o cotidiano de trabalho dos enfermeiros relacionado aos procedimentos perioperatórios. Desses cenários, quatro descrevem situações que apresentam eventos adversos que atingiram o paciente, dois *near misses*, e um contextualiza uma situação de risco. Três cenários contextualizavam situações com pacientes idosos e um com paciente pediátrico. **Conclusão:** Os cenários podem apresentar situações assistenciais e propiciar reflexões para minimizar oportunidades de erros, melhorar a assertividade da comunicação, propiciar esclarecimento sobre conceitos de qualidade e promover a utilização de protocolos de segurança do paciente.

**Palavras-chave:** Segurança do paciente. Enfermagem de Centro Cirúrgico. Educação em saúde.

**RESUMEN: Objetivo:** Presentar escenarios de la práctica de enfermería asistencial y de gerencia relacionados a los procedimientos perioperatorios como estrategia educacional. **Método:** La población fue compuesta de escenarios redactados de una investigación previa. Fue realizado un análisis secundario de las informaciones disponibles. **Resultados:** Fueron identificados siete escenarios que representan lo cotidiano de trabajo de los enfermeros relacionado a los procedimientos perioperatorios. De esos escenarios, cuatro describen situaciones que presentan eventos adversos que alcanzaron el paciente, dos *near misses*, y un contextualiza una situación de riesgo. Tres escenarios contextualizaban situaciones con pacientes ancianos y uno con paciente pediátrico. **Conclusión:** Los escenarios pueden presentar situaciones asistenciales y propiciar reflexiones para minimizar oportunidades de errores, mejorar la asertividad de la comunicación, propiciar aclaración sobre conceptos de calidad y promover la utilización de protocolos de seguridad del paciente.

**Palabras clave:** Seguridad del paciente. Enfermería de quirófano. Educación en salud.

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## INTRODUCTION

The history of patient safety is long and well known. *Primum non nocere*, the term attributed to Hippocrates (460AC-377AC) means, in Latin, “first do no harm”, and is generally used by professionals to refer to the need of preventing unnecessary risks, costs and harm to patients when they require health care<sup>1</sup>.

According to the World Health Organization (WHO), one out of ten patients in the world is a victim of errors and adverse events while receiving care and treatment<sup>2</sup>. Therefore, when talking about adverse events, seen as incidents that result in harm to the patient, it mandatorily implies thinking and proposing actions to be implemented to improve the structure, the process, and the result in the health care organizations, aiming at mitigating the harm to the patient. Educational processes both for professionals and patients and family are among those actions<sup>1,2</sup>.

In 1999, the report *To Err is Human: Building a Safer Health System* called the attention of training organizations to the need of reassessing curricula and of incorporating patient safety concepts for the education of students and professionals, exploring opportunities for the development of interdisciplinary practice<sup>1</sup>.

Fifteen years later, a new report stands out eight recommendations that should be implemented to speed up the improvements in patient safety in the health care universe. In this report, the importance of incorporating patient safety to education is recognized, highlighting that organizations should embrace and encourage this process, including aspects of this thematic in the school curricula, as well as in several levels of institutional training<sup>3</sup>.

In a worldwide movement addressed to patient safety, the Brazilian Ministry of Health launched the National Patient Safety Program (PNSP), which aims at monitoring and preventing the incidents that result in harm to the user in hospitals and other health units. Producing, systematizing, and disseminating knowledge about patient safety are some of its objectives<sup>4</sup>.

Therefore, education in patient safety implies developing learning experiences so that people can have the opportunity of using scientific evidence and being able to describe the components of patient-centered care, besides identifying the flaws in its practice to determine which actions should be adopted for their correction, as members of an interdisciplinary team<sup>5,6</sup>.

However, there is a mismatch between what should be done and what in fact happens in educational and care practices, leading to a challenge to professionals regarding how to teach patient safety. The subject is treated in a fragmented manner in the health and education system, and each of them tries to improve their work processes in their own way<sup>2,3</sup>.

The curriculum guide of patient safety from the World Health Organization is widely updated regarding the different aspects involving the teaching of patient safety, and advising the diversity of strategies for this process, quotes: lectures, reading material, tutorials, on-line activities, training of skills, videos, games, besides discussions based on case studies and scenarios reporting the practice<sup>7</sup>. However, by proposing scenarios, it is recommended that they come from real situations that allow to subsidize the deepening of the concepts presented, to debate a context that is likely to happen in the practice and to establish the best conducts to be adopted.

The scenarios may include unusual situations and may be presented to a specific professional category, but they should be sufficiently critical to lead to fast and short responses from the participants. The same content can also be discussed between different teams, in order to contextualize their work processes, creating different views about a specific fact<sup>7</sup>.

By proposing a scenario, besides the situation itself, it is possible to work with guiding questions that stimulate critical reasoning and debate between people. Different scenarios on adverse events and techniques to minimize opportunities of errors can be developed, such as the practice of briefing (lecture) and debriefing (posterior comments and recommendations). They allow the conduction of different questions, clarification of concepts, training of interpersonal communication assertiveness, and reflection about the use of patient safety protocols.

Since there is a global concern about patient safety in general, it is important to think about the surgery patient in particular. Around the world, about 240 million surgeries are conducted per year, and because of the increasing number of heart conditions, traumas and cancer, associated with the increasing life expectancy of the population, an increasing incidence of surgical conditions are expected in the following years. The assumption is that there is about 3 to 16% of surgical complications, resulting in seven million disabling situations, with mortality rates between 0.4 and 0.8%. The conclusion is that this will lead to an increasing

number of adverse events related to surgical procedures<sup>8</sup>. Therefore, the educational process in this field becomes urgent and important.

The objective of this study is to present scenarios of the care and management nursing practice related to perioperative procedures as an educational strategy.

## METHOD

This is a descriptive study whose population was composed of scenarios created for a previous investigation called "Adverse events in surgery patients: knowledge of nursing professionals", approved by the National Research Ethics Commission, and the record is the Certificate of Presentation for Ethics Appreciation (CAAE) 0047.0.360.360-09, in the National Ethics Research System. The study, whose information originated this paper, was cross-sectional and descriptive, developed in a surgery center of a private hospital in the city of São Paulo (SP). It involved nursing professionals who answered a questionnaire elaborated by the researchers and validated by three specialist judges in the surgery center (SC) area. Among the three parts of the questionnaire, this study used the revisit to scenarios which present situations of care practice in the surgery environment<sup>9</sup>.

In the occasion, it was used the strategy of documentary research for the creation of scenarios, based on the documents of the reports about the main adverse events that took place in the SC unit, and bibliographic review. For the review, the following descriptors were used: patient care, security management, surgical and operative procedures, surgical adverse events. The bases analyzed were Biblioteca Regional de Medicina (BIREME), Medical Literature Analysis and Retrieval System Online (Medline<sup>®</sup>), and Scientific Electronic Library Online (SciELO). Thirteen articles were selected in English and in Portuguese.

A secondary analysis of the information available was conducted, and the scenarios were discussed based on the publications contemplating the safety of the surgery patient.

## RESULTS

Seven scenarios, presented in Chart 1, were developed.

By the description of scenario 1, it is possible to approach three aspects: the schedule of two different procedures, in two different places, and at the same time; the delay in conducting an elective surgery procedure; and the patient exposed to fasting for more than 12 hours, emphasizing that an adverse event has taken place. Scenario 2 presents the occurrence of an

**Chart 1.** Description of scenarios.

Scenario 1	For one 12-year-old adolescent, with type 1 diabetes, the surgery was three hours late, because he was in an elective x-ray examination. After the examination, he was referred to the surgery center, once the surgery team was waiting for him. He received the pre-anesthetic. When the anesthetic procedure began, the patient was already fasting for more than 12 hours.
Scenario 2	A 25-year-old young woman was submitted to an aesthetic procedure that should last for four hours. Because of the patient's age, no comfort measures were adopted to prevent a pressure injury. When the anesthetic recovery began, it was observed that the patient had developed stage 1 injuries in the heel bone.
Scenario 3	An abdominal videolaparoscopy procedure was converted into an open surgery. The counting of pads was not conducted at the beginning of the procedure, and at its conclusion, the pads were not checked.
Scenario 4	A 68-year-old woman, smoker, was submitted to a major elective surgery. Neither antithrombotic socks nor the lower limb massager was used as a preventive measure for thromboembolism.
Scenario 5	A 60-year-old man entered the surgery center to perform a hemorrhoidectomy in an operating room with a temperature of 21°C (69.8°F). The procedure was predicted to last for 45 minutes, so no preventive heating strategies were adopted. The patient started anesthetic recovery with a temperature of 34.5°C (94.1°F).
Scenario 6	On a surgery day, two knee arthroscopies were scheduled. The room was arranged for the first surgery, which would be on the right knee, with the equipment placed on the left side. However, the patient who was called first should undergo an arthroscopy on the left knee. The medical team insisted on conducting the procedure, claiming there was no need to reorganize the room.
Scenario 7	A 78-year-old man was submitted to a colectomy due to rectal cancer. By removing the surgical piece, the circulating nurse asked the surgical technologist about its destination and was informed it should be disposed of. Three days later, the surgeon asked for a report of the pathological anatomy of this piece.

adverse event that affected the patient with the development of stage I pressure injury. Scenario 3 shows an incident that jeopardizes the safety of the surgical procedure. Since there is no information about whether or not a foreign body was forgotten, the situation is considered as a near miss, that is, an incident that has not affected the patient<sup>2</sup>. Scenario 4 exposes the situation of a patient at risk for the development of thromboembolism. Even if no signs of deep vein thrombosis have been verified, the patient requires observation and monitoring from the team to analyze if there was an adverse event or not. Scenario 5 deals with an adverse event that could have been prevented, related to hypothermia in an elderly patient. Scenario 6 exposes a risk situation for surgery on the wrong location; however, the fact did not occur, denoting a near miss. In scenario 7, there is an adverse event involving the patient, because there is no anatomopathological report, therefore generating doubt as to the conduct to be adopted to treat the patient.

The guiding questions for each scenario were:

1. Is this a perioperative adverse event? Possibility of response: yes or no;
2. Who is responsible for this event? Possibility of response: medical team; nursing team at the SC; nursing team at the unit; multidisciplinary team; all parties involved;
3. Should the event be notified? Possibility of response: yes or no.

## DISCUSSION

Education about patient safety both in schools and in care institutions is something new, which requires strategies related to the need for transformation in the traditional manner of teaching and learning<sup>5-7</sup>. The use of scenarios facilitates this exercise, once they enable a moment of reflection, the discussion of ethical issues and attitudinal competencies, and the reinforcement as to the implementation of procedures, protocols, and routines, being financially accessible to several institutions. Due to the repertoire of its content, they encourage the themes that can be developed in the simulation strategy<sup>10</sup>.

Three scenarios show situations with elderly people submitted to surgical procedures. This context can be well explored in the education about patient safety as population aging is a phenomenon observed in Brazil and around the world. Because of that, this is a population that has used

the health services more often, and, consequently, is subject to more risks and adverse events. With age, the patient is more prone to diseases and complications, and is submitted to more procedures, besides presenting a higher risk of death. Elderly people are biologically, socially and psychologically vulnerable, therefore requiring the health professional to address specific care for their need<sup>11</sup>.

Children and adolescents also represent a vulnerable segment, and a surgical approach was presented in one of the scenarios. This type of patient, who requires a complex network of demands for care and attention, also requires a constant exchange of experiences and knowledge of a multiprofessional group. Assertive communication is essential in order to promote safe care, which is relevant for the establishment of a good interaction between patients and their parents or people in charge and members of the care team<sup>12</sup>.

All situations exhibited in the scenarios are prone to be found in the work routine of an SC. The adverse event that took place in scenario 1 was the delay of the surgery and the patient's long period of fasting, without, however, presenting the consequences to the patient. These situations are likely to have a solution with the proper management of patient flow, ensuring that patients receive the adequate care, in the right place, at the right time, during the entire period<sup>13</sup>. Another measure to be discussed is the efficient change of shifts, using, for example, structured actions like the SBAR for the communication between shifts, services, and units. SBAR is an acronym of the words situation, background, assessment, and recommendation<sup>7</sup>. Also, in this scenario, it is possible to explore the need to implement protocols of fast abbreviation, especially for kids, once delays to begin the surgery and changes in the schedule of the rooms are common. Studies point out that the abbreviation of perioperative fast in patients who are candidates for elective operations is associated with the shorter time of hospitalization, and reduced postoperative complications<sup>14</sup>.

Scenario 2 presents the adverse event of the development of stage I pressure injury during surgery. Even though this is the initial stage of the lesion, this situation requires observation and monitoring measurements since conducts of prevention were not adopted. Placing the patient in the right position should be seen as an important procedure, and often, a complex one, involving several risks that should be observed with responsibility and competence; otherwise, it can compromise the patient's physical and mental health.

Studies show that the occurrence of lesions caused by pressure in elective surgery is high, the sacral-gluteal region is usually the most affected, and there is a higher incidence of stage II injuries<sup>15</sup>.

The situation in scenario 3 leads to the second challenge of WHO as to the safe surgery protocol establishment, especially regarding the use of a checklist observing three stages: sign-in (before anesthetic induction), time out (before the surgical incision), and sign-out (before the patient leaves the operation room)<sup>8</sup>. The obligatoriness of its implementation in Brazilian institutions is configured in the PNSP guidelines, and the conclusion of the counting of pads and instruments is emphasized in the specific protocol of the program<sup>4</sup>. The consequence of the non-observance of the proper count of pads may put the patient at risk. The description of foreign bodies retained in the abdominal cavity after a surgical procedure is scarce in the literature, and may be related to under-notification, because this situation exposes not only the surgical team, but the institution in general, possibly causing legal consequences for the parties involved. Events related to foreign body retained in the cavity are serious, and it is the role of the surgery and nursing team to prevent such risk<sup>16</sup>.

Scenario 4 allows a wide discussion and approach about the risk factors for the development of deep vein thrombosis in patients submitted to several surgical procedures, besides pointing out to the importance of implementing protocols of prophylaxis and the administration of its use. Deep vein thrombosis is a major cause of intra-hospital deaths in the world, and, paradoxically, the most preventable one. Protocols of prophylaxis have existed for more than 15 years and are not usually fulfilled<sup>17</sup>.

Scenario 5 shows a usual situation inside surgery rooms: the risk for hypothermia, that is, when the body temperature is below 36°C (96.8°F). This fact is related to the changes in thermoregulation caused not only by the anesthetic effect, responsible for the reduction of 20% in the metabolic heat production but also due to the cold environment of the room itself. Elderly patients have more risks of hypothermia. Therefore, preventive heating measures should be instituted. It begins with the monitoring of the patient's body temperature and the use of active heating systems, such as heating blankets, mattresses and clothes with circulation of hot water<sup>18</sup>.

Scenario 6 does not present an adverse event, but it allows to reflect about the roles of the different professionals working in the surgical procedure. In the case of

the medical team, it is possible to verify the objectivity for the resolution of a scheduling problem, without assessing the possibility of an error to occur. Concerning the nursing team, it is possible to observe the lack of positioning regarding the rules of safety, putting the patient at risk. These matters can be considered based on the implementation of a safe surgery checklist, to be used in any hospital, regardless of the procedure complexity level, assisting the teams to follow the critical safety steps in a systematic way. Studies mention the difficulties in implementing and using the checklist in Brazilian hospitals, reporting the lack of a leadership committed to this process, the shortage of resources and structure in the organizations and the inexistence of an organizational culture that values safety as some of the aspects found<sup>19</sup>.

Scenario 7 allows to consider three aspects: The routine established to dispose of surgical items; The lack of knowledge about the patient both coming from the surgical technologist and from the nursing team; The inefficient communication of the parties involved.

The implementation and use of the third stage of the safe surgery checklist point out to the obligatoriness of identifying any surgical sample obtained. Caring for this step would be a good barrier in order that the destination of the surgical piece is verified in an adequate moment, with the parties involved still inside the operation room. The proper identification of biopsies is essential for the process to be well conducted, without the need for a new procedure or without having to deal with doubts regarding the treatment guidelines. On the other hand, studies report that the lack of communication between the nursing team and the medical team is a strong reason for the occurrence of adverse events, suggesting that good health care depends on the effective communication between professionals. The inefficient communication can be conditioned to hostile behaviors from the surgical team, or feelings of intimidation from the nursing team, thus omitting important alerts that could prevent adverse events<sup>9</sup>.

The use of guiding questions is important since it allows professionals to reflect whether or not they know what is, in fact, an adverse event, and if it should be notified. Studies conclude that there are doubts about a specific situation being or not being considered as an adverse event, demonstrating the need to discuss these issues in the professional scope<sup>9</sup>. It is important to clarify the differences between incident, error, adverse event, sentinel event, among other terms used<sup>2</sup>.

Discussing the need for the notification of adverse events may bring to light the difficulties of treating the situations that affect the patient as a learning process. Sometimes, there are fears about the retaliation that may come due to the harm caused to the patients<sup>1-3,11,20</sup>, or perhaps, on the contrary, there is the underappreciation of the fact because the event did not affect the patient, which is called near miss, inhibiting preventive conducts to improve the care processes<sup>2,4,20</sup>.

Patient safety is not a responsibility of a single professional category, therefore the importance of discussing the roles of each one in the contexts of care. It is possible to imagine that the responsibilities for the situations presented may point only to the nursing team (for instance, the placement of prevention measures for thromboembolism, counting of pads or hypothermia) or to the medical team (for example, adaptation of the room, sending pieces for pathological anatomy, delay in starting the surgery). However, in the safety culture in the institutions, the roles complete one another in favor of the patient<sup>9,18</sup>.

The limitation of the study is related to the presentation of a few scenarios inside the perioperative context. New situations and the possibility of multiprofessional interlocations could be explored, encouraging other studies in the field.

## CONCLUSION

Seven scenarios involving the practice of care and management nursing related to perioperative procedures were shown, enabling an educational proposal to be adopted in care and educational health environments.

Four situations involving adverse events were mentioned, being two near misses and one in which the occurrence of harm to the patient is not clear, demonstrating that not all contexts are clear in the routine, with the possibility to state the occurrence of an adverse event or not. There are also three scenarios contextualizing situations with elderly patients and one pediatric patient.

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