

# FACTORS THAT INFLUENCE THE ADHERENCE TO THE SURGICAL SAFETY CHECKLIST

*Fatores que influenciam a adesão à lista de verificação de segurança cirúrgica*

*Factores que influyen en la adhesión a la lista de control de seguridad quirúrgica*

Carina Cavalheiro da Silva<sup>1,2\*</sup> , Andrea Diez Beck<sup>3</sup> , Elisabete Cristina Martins da Silva<sup>4</sup> , Thaís Pereira Pires Rodrigues<sup>4</sup> 

**ABSTRACT: Objective:** To identify the perception of professionals regarding the use of the Surgical Safety Checklist and map the factors that can enhance or weaken its completion and adherence. **Method:** Cross-sectional study with a mixed approach. Data collection was carried out by applying an interview with health professionals who work in a surgical center of a public hospital in the south of the country, from February to June 2019. **Results:** The following categories were listed: strengths and weaknesses in the application of the list; 96.6% strongly agreed that they felt safer to participate in procedures in which the checklist is applied and 90.2% agreed that it provides good communication. However, 39.9% disagreed that the entire team participates in its application and 69.9% agreed that the list is not always applied due to resistance or impracticality. **Conclusion:** The professionals recognize that the applicability of the list provides security for the surgical process, but one of the weaknesses was the low adherence of the team to carry out the proposed step by step. **Keywords:** Patient safety. Perioperative care. Checklist.

**RESUMO: Objetivo:** Identificar a percepção dos profissionais em relação à utilização da Lista de Verificação de Segurança Cirúrgica e mapear os fatores que podem potencializar ou fragilizar o preenchimento e a adesão. **Método:** Estudo transversal, com abordagem mista. A coleta foi realizada pela aplicação de entrevista com os profissionais de saúde que atuam em um centro cirúrgico de um hospital público de município do Sul do país, no período de fevereiro a junho de 2019. **Resultados:** Elencaram-se as seguintes categorias: potencialidades e fragilidades na aplicação da lista; 96,6% concordaram totalmente que se sentiam mais seguros em participar de procedimentos em que o *checklist* é aplicado e 90,2% concordaram que proporciona boa comunicação. Porém 39,9% discordam de que toda a equipe participe da aplicação e 69,9% concordam que nem sempre a lista é aplicada em função da resistência ou pouca praticidade. **Conclusão:** Os profissionais reconhecem que a aplicabilidade da lista proporciona segurança para o processo cirúrgico, porém uma das fragilidades foi a baixa adesão da equipe em realizar o passo a passo proposto. **Palavras-chave:** Segurança do paciente. Assistência perioperatória. Lista de checagem.

**RESUMEN: Objetivo:** Identificar la percepción de los profesionales sobre el uso de la Lista de Verificación de Seguridad Quirúrgica (LVSQ) y mapear los factores que pueden mejorar o debilitar el llenado y la adherencia. **Método:** Estudio transversal con enfoque mixto. La recolección se realizó mediante la aplicación de una entrevista a profesionales de la salud que laboran en un centro quirúrgico de un hospital público de una ciudad del sur del país, de febrero a junio de 2019. **Resultados:** Se enumeraron las siguientes categorías: potenciales y debilidades en la aplicación de la LVSQ; El 96,6% está totalmente de acuerdo en que se siente más seguro al participar en los procedimientos donde se aplica la LVSQ y el 90,2% está de acuerdo en que proporciona una buena comunicación. Sin embargo, el 39,9% no está de acuerdo con que todo el equipo participe en la aplicación y el 69,9% está de acuerdo en que la LVSQ no siempre se aplica, por su resistencia o poca practicidad. **Conclusión:** Los profesionales reconocen que la aplicabilidad de la LVSQ brinda seguridad al proceso quirúrgico, pero una de las debilidades fue la baja adherencia del equipo en la realización del procedimiento paso a paso propuesto. **Palabras clave:** Seguridad del paciente. Atención perioperativa. Lista de verificación.

<sup>1</sup>Universidade do Vale do Rio dos Sinos – Porto Alegre (RS), Brazil.

<sup>2</sup>Santa Casa de Misericórdia de Porto Alegre – Porto Alegre (RS), Brazil.

<sup>3</sup>Hospital Mãe de Deus – Porto Alegre (RS), Brazil.

<sup>4</sup>Associação Hospitalar Vila Nova – Porto Alegre (RS), Brazil.

\*Corresponding author: carina-cavalheiro@hotmail.com

Received: 02/12/2021 – Approved: 11/25/2021

<https://doi.org/10.5327/Z1414-4425202100040004>

## INTRODUCTION

Incidents caused by care failures directly impact the quality of care and patient safety. A third of adverse events (AE) cause serious or permanent harm, increasing hospital stays, care costs, and exposing patients to new risks<sup>1-3</sup>.

The Institute of Medicine (IOM) created, in 2001, six dimensions of quality of care, in which it recommends that patient care be safe, effective, patient-centered, timely, efficient, and equitable. One of the dimensions was patient safety<sup>4</sup>. Patient safety is understood as actions taken to minimize the risk of unnecessary harm to patients<sup>5</sup>.

Considering the high rate of surgical AE, in 2007 and 2008, the World Alliance for Patient Safety, in partnership with the National Health Surveillance Agency (*Agência Nacional de Vigilância Sanitária – ANVISA*) and the Pan American Health Organization (PAHO), launched the Second Global Challenge, entitled “Safe Surgery Saves Lives”, with the aim of improving quality standards in surgical care, stimulating the perception of professionals and involving the entire care team in this process<sup>6</sup>.

The surgical center (SC) is considered a critical and restricted area, characterized as a complex sector, where there is a multidisciplinary team, equipment, materials, and different technologies, making it a tense environment that requires a high degree of concentration and, although professionals are attentive and responsible, human beings are prone to errors<sup>7,8</sup>.

From January to December 2021, more than 180,000 incidents were reported by the Health Surveillance Notification System (*Sistema de Notificações em Vigilância Sanitária – NOTIVISA*). Of the AE reported, 895 were due to flaws during the surgical procedure, of which 4.80% were deaths<sup>9</sup>.

With the Second Global Challenge, the Surgical Safety Checklist (SSC) was created, with the main objective of strengthening safety practices and enabling better communication and teamwork in the areas involved in the surgical process<sup>6</sup>. The use of SSC helps the SC care team, enabling comprehensive patient assessment and minimizing the risk of AE. Considering that there are many factors that can lead the team to errors, such as errors in the laterality of the procedure, forgetting of compresses or other surgical materials inside the surgical cavity, hypovolemia due to lack of preparation for the risk of blood loss, among other events that may compromise patient safety<sup>10</sup>.

In a study carried out in 2017, with the objective of measuring adherence to the “Safe Surgeries Save Lives” program, from the perspective of 220 nurses from different regions of Brazil, the authors identified that adherence to the program’s objectives was adequate, but there are still weaknesses, mainly in the prevention of “never events”<sup>11</sup>.

According to another study carried out in a hospital in Minas Gerais, in 2019, which aimed to evaluate adherence to the safe surgery checklist in a medium-sized teaching hospital, it was found that of the 394 medical records evaluated, 90.72% had the checklist, however, no medical records were found with the checklist fully completed<sup>12</sup>.

Considering the relevance of the topic, the following guiding question emerged for carrying out this research: how has the adherence to filling out and executing the SSC items been, from the perspective of health professionals involved in the surgical procedures of a large public hospital, in the city of Porto Alegre, state of Rio Grande do Sul?

Understanding what the barriers are to not using the SSC, as recommended, and what are the beneficial points for adherence can generate improvement actions and, therefore, improve the safety of the patient, the team and the institution, avoiding errors, in addition to determining actions aimed at patient safety in the surgical process.

## OBJECTIVES

- To identify the perception of health professionals working in the surgical center regarding the use of the Surgical Safety Checklist;
- To map the factors that can enhance or weaken the completion and adherence to the Surgical Safety Checklist.

## METHOD

Mixed cross-sectional study, with a quantitative-qualitative approach, carried out from February to June 2019, in a large public hospital located in the south of the country, in the city of Porto Alegre. The SSC was implemented at the institution in 2011.

The research was carried out in accordance with ethical principles and the project was approved by the Research Ethics Committee (CAAE 03162918.1.0000.5344 and

03161918.1.3001.5530). Data collection was carried out by the first researcher, after approval by the ethics and research committees of the institutions involved, proponent and co-participant (Protocols No. 3.111.178 and No. 3.120.060, respectively), followed by Resolution No. 466/2012 of the National Health Council<sup>13</sup>.

Inclusion criteria were: health professionals (doctors, nurses, and nursing technicians) who work in the care of surgical patients in the SC participate in some stage of the SSC process, have worked at the institution for more than three months, and have consented to participate in the study by reading and signing the Informed Consent. Professionals who were on vacation, leave or away during the data collection period were excluded from the study.

All information and reports were kept anonymous, as well as the identification of each study participant.

Data were collected through the application of an *in loco* interview and during the interval between surgeries by the main researcher. For this, we used a questionnaire with questions created by the authors, structured and composed of four parts:

- Part 1: sociodemographic data and information on professional experience;
- Part 2: thirteen propositions about the SSC answered using a Likert scale. This scale was presented with five degrees of variation, with grade 1 – strongly disagree (SD) and the opposite extreme, grade 5 – strongly agree (SA); the intermediate point, grade 3 – neither agree nor disagree; and grades 2 and 4 – partially disagree and agree (PD and PA);
- Part 3: the participant was asked to assign a score from 0 to 10 regarding satisfaction with the application and compliance with the SSC by the team;
- Part 4: two open alternatives that constituted the qualitative data, with optional completion: What is your suggestion regarding the items that can be removed from the SSC or added to it? Space for comments that you deem relevant to the objectives of the work.

As for the quantitative data, the Excel<sup>®</sup> spreadsheet was used for storage and the Statistical Package for Social Sciences (SPSS), version 18.0 (SPSS Inc., USA) software for the analysis. Categorical variables were evaluated using absolute and percentage frequencies. For continuous variables, measurements of position (average, minimum, and maximum) and dispersion (standard deviation) were analyzed. To assess the

qualitative data, content analysis was used, which involves three steps: pre-analysis, material exploration, and interpretation of results<sup>14</sup>.

## RESULTS

Thirty health professionals participated, including 11 physicians (six anesthesiologists and five surgeons), five nurses and 14 nursing technicians (six surgical technicians and eight with basic training as nursing technicians).

Most participants were females (21 / 70.0%), aged between 25 and 60 years, mean of 38 years and standard deviation (SD) of 8.62.

The length of professional experience of 93.3% ranged between two and thirty years, with a mean of 12.7 years (SD = 8.2 years).

The team's responses regarding the SSC are presented in Table 1.

The results are presented according to the two categories of analysis emerging from the subjects' discourse: strengths and weaknesses identified in the SSC process. These findings were also related to the statements through the percentages with the Likert scale.

Understanding the reasons that may interfere and/or facilitate adherence to the SSC facilitates the development of strategies and actions to reduce risks. For this, it was necessary to understand and categorize the strengths and weaknesses of the SSC process. Therefore, the answers from parts 1 and 2 of the instrument were analyzed and divided into these two categories. Chart 1 shows the issues identified as potential.

It is also possible to perceive the weaknesses identified. It is believed that security-related issues go through several phases, and knowing them to act and propose improvements is essential to reduce errors. It is worth mentioning the issues listed in Chart 2 as weaknesses.

In part 3 of the instrument, the satisfaction of the team regarding the application and compliance with the SSC was questioned. The satisfaction rating scale ranged from 0 to 10, with 0 to 2 considered very dissatisfied, 3 and 4 dissatisfied, 5 and 6 indifferent, 7 and 8 satisfied, and 9 and 10 very satisfied. The average satisfaction score was 7.9, indicating that most professionals are satisfied with this process. However, attention is drawn to the fact that 26.6% (eight professionals) did not fill out this stage of the instrument (Figure 1).

**Table 1.** Professional's responses on factors that influence adherence to the Surgical Safety Checklist (n = 30).

Statements	DT*	DP <sup>o</sup>	NC,ND&	CP+	CT#
	n (%)	n (%)	n (%)	n (%)	n (%)
1. The SSC (checklist) provides security in the surgical process.	00 (0.0)	00 (0.0)	00 (0.0)	02 (6.6)	28 (93.3)
2. The SSC provides good interpersonal team communication	00 (0)	01 (3.3)	02 (6.6)	08 (26.6)	19 (63.3)
3. The entire surgical team (doctors, anesthesiologist, and nursing team) actively participates in all stages of the SSC, duly fulfilling their role.	05 (16.6)	07 (23.3)	04 (13.3)	11 (36.6)	03 (10.0)
4. I feel safer to participate in a procedure in which the SSC is applied, in relation to one in which it is not applied.	00 (0.0)	00 (0.0)	01 (3.3)	02 (6.6)	27 (90.0)
5. I understand the importance of using the SSC and, for this reason, I comply with all the steps determined in the LVSC document.	00 (0.0)	00 (0.0)	01 (3.3)	03 (10.0)	26 (86.6)
6. The SSC is very extensive and time-consuming to apply.	24 (80.0)	03 (10.0)	01 (3.3)	02 (6.6)	00 (0.0)
7. The SSC is not always applied due to the lack of practicality and/or resistance of some team members.	05 (16.6)	02 (6.6)	02 (6.6)	08 (26.6)	13 (43.3)
8. The SSC items are sufficient to perform a safe surgery.	03 (10.0)	04 (13.3)	00 (0.0)	14 (46.6)	09 (30.0)
9. It is necessary to remove items from the SSC.	23 (76.6)	03 (10.0)	02 (6.7)	02 (6.6)	00 (0.0)
10. It is necessary to replace SSC items.	16 (53.3)	03 (10.0)	03 (10.0)	05 (16.6)	03 (10.0)
11. It is necessary to add SSC items.	07 (23.3)	01 (3.3)	02 (6.6)	07 (23.3)	13 (43.3)
12. We always paused before anesthetic induction and surgical incision to check for all the items needed for the procedure.	10 (33.3)	08 (26.6)	04 (13.3)	06 (20.0)	02 (6.6)
13. Correct application of the SSC reduces the risk of adverse events.	00 (0.0)	00 (0.0)	00 (0.0)	04 (13.3)	26 (86.6)

\*Strongly disagree; <sup>o</sup>partially disagree; &neither agree nor disagree; +partially agree; #strongly agree.

**Chart 1.** Category 1: Potentialities identified in the SSC process, according to the statements raised in the data collection instrument.

(1) The SSC provides safety in the surgical process.
(2) The SSC provides good interpersonal team communication.
(4) I feel safer participating in a procedure in which the SSC is applied than in one in which it is not applied.
(5) I understand the importance of using the SSC and, for that reason, I comply with all the steps determined in the SSC document.
(6) The SSC is very extensive and time-consuming to apply.
(8) The SSC items are sufficient to perform a safe surgery.
(13) Correct application of the SSC reduces the risk of adverse events.

**Chart 2.** Category 2: Weaknesses identified in the SSC process, according to the statements raised in the data collection instrument.

(3) The entire surgical team (doctors, anesthesiologist, and nursing team) actively participate in all stages of the SSC, duly fulfilling their role.
(7) The SSC is not always applied due to the impracticality and/or resistance of some team members.
(12) We always paused before anesthetic induction and surgical incision to check all the items needed for the procedure.

In part 4 of the instrument, only 23.3% of the participants answered the two open alternatives, whose answers make up the discussion of this article. For this, participants were identified by letters and Arabic numbers, according to the group: N1, NT1, S1, A1, being N for nurse, NT for nursing technician, S for surgeon, and A for anesthesiologist. The sequence of numbers was defined according to the order in which the questionnaire was completed.

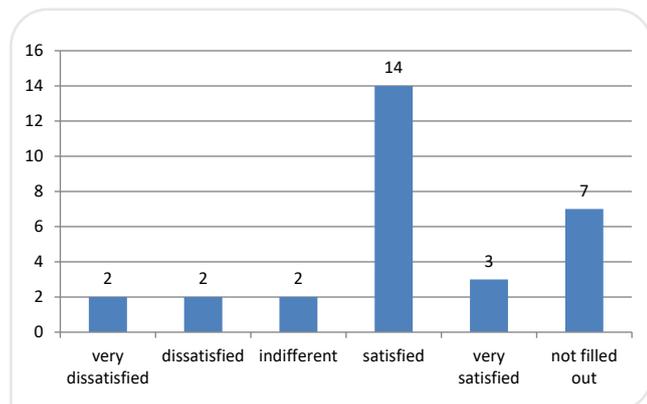
## DISCUSSION

The checklist is a tool with the purpose of reducing the rates of AE in surgical procedures<sup>15</sup>. Its use practically doubled the chance of users receiving surgical treatment with adequate standards of care<sup>16</sup>.

In view of the data found in the literature, it was found that when participants answered about the fact that the SSC provides safety in the surgical process, 93.3% strongly agreed, which demonstrates that the multidisciplinary team understands the safe processes and that its proper application minimizes risks and possible surgical complications.

It also appears, in statement 13, with which 86.6% of the participants fully agreed and 13.3% partially agreed that the correct application of the SSC reduces the risks of AE, as observed below:

*The nursing team has a good adherence to the completion of the checklist steps. I believe that the entire team (medical and nursing) understands the importance of risk mitigation that SSC can provide for a safe procedure (N1).*



**Figure 1.** Satisfaction of study participants regarding the application and compliance with the SSC by the team.

A study carried out in Porto Alegre, Rio Grande do Sul, with nursing professionals from the SC of a private hospital, showed that these professionals perceive the importance of applying the checklist and correlate it with patient and worker safety<sup>17</sup>. This is also demonstrated in statement 4, with which 90.0% strongly agreed. As they stated, they feel safer to participate in procedures in which the SSC is applied compared to those whose application is not registered.

One of the goals recommended by the use of the SSC is to improve the interpersonal communication of the multidisciplinary team, in addition to reinforcing existing safety practices<sup>8</sup>. Regarding statement 2, 63.6% of the participants strongly agreed and 26.6% partially agreed with the fact that the SSC provides good team communication.

Interpersonal communication is always a point to be improved, and the checklist allows the entire team to participate actively, but communication processes are still a challenge in the health area. Although most understand that the list provides good communication, it is perceived as a point to improve, as this is a factor that weakens the communication process. The observation of a participant recorded below illustrates this reflection: *“There are still, better yet, there still needs to be improved — a lot — the interpersonal relationship of the team in relation to respect mainly”*. (A2)

Despite understanding it to be a potent point in the perception of their activities, the hierarchy of care exists and can interfere with patient care.

In statement 5, about the fulfillment of all the steps determined in the SSC document, 86.6% strongly agreed, followed by 10.0% who partially agreed. This was seen as a potentiality of the process. However, while this answer is a security element, when compared with the answers obtained in statement 3, 16.6% strongly disagreed and 23.3% partially disagreed. The perception of the team members regarding the systemic character points to the difficulty of the participants to understand their roles and the vision of the best practices to obtain the best results.

One of the greatest difficulties encountered is the resistance and lack of interest of the medical team in carrying out the checklist<sup>17</sup>. The result of question 3, discussed above, demonstrates that there is a weakness in the adherence of the entire team to the application of the SSC, and the greatest difficulty found for good performance is in the team itself. As evidenced in the following observation: *“The SSC is not being applied correctly;*

*surgical teams pay no attention; employees should do their part out loud” (A5).*

In view of this scenario, we identified a deficiency in the adherence of part of the team to the application of the checklist or in considering all the steps, which constitutes a gateway to failures and AE. This also impacts interpersonal relationships, which can cause friction and/or embarrassment for other team members. In statement 7, 43.3% of the participants strongly agree and 26.6% partially agree that the SSC is not always applied due to the little practicality and/or resistance of some team members.

The following comments illustrate some difficulties encountered by the team in active participation: *“We need to improve the awareness of care teams, who often go through, or would like to go over, this stage (of the SSC questionnaire), in a hurry to start the procedure” (A3); “We still have surgeons who refuse to respond to the checklist. There could be continuing education in loco to raise awareness of these” (NT14); “It would be interesting if the medical team were more participatory in relation to the checklist, as its importance is often not taken into account” (NT5).*

The comments expose a concern on the part of the team due to the lack of adherence or the fact that some team members do not consider the SSC to be a necessary and useful procedure.

In part 1 of the data collection instrument, in relation to the training of professionals for the use of the SSC, 72.7% of the physicians did not remember or responded that they did not train for the use of the SSC; in relation to the nursing team, 94.7% answered that they were trained to use the SSC. This data leads us to reflect on the need to carry out training periodically, including the medical team, so that there is better approval of the use of the checklist and that all of the team actively participate in its application and with the same level of understanding. It can be inferred that the little involvement or the lower adherence of the medical team in this process are due to their non-involvement in the care processes of the hospital under study.

In statement 12, 59.9% disagreed with the pause before anesthetic induction and the surgical incision to verify safety items, as recommended in best practices. The World Health Organization (WHO) recommends that, before anesthetic induction, the sign in be performed to verify the safety of the procedure<sup>6</sup>. At this stage, anesthesia and nursing professionals must be present. Prior to the incision, a time out must be performed for further safety checks. This step involves all team members.

These steps are not performed due to the lack of adherence to the application of the SSC by some members of the surgical team, and one of the factors found was the lack of training that, consequently, leads to a lack of understanding of the usefulness of the SSC.

Asked if they identified the need to add items to the SSC, 43.3% of the study participants fully agreed and 16.6% included, in part 4 of the instrument, the demarcation of laterality. According to the following comment, the institution’s SSC follows the model recommended by the WHO: *“The SSC of this institution was recently reformulated, following the WHO model” (N5).*

However, in the instrument of the study institution, there is a field to describe the laterality of the procedure, but it does not specify whether the incision site is demarcated. In the SSC proposed by the WHO, there is a specific field to identify whether the demarcation was performed and another to confirm the surgical site with the patient. The WHO suggests that the SSC be adapted to the reality of each institution, and items can be added and/or modified, but it does not recommend removing the recommended items<sup>6</sup>.

Between January and December 2021, 11 cases of procedures performed on the wrong side of the body and 28 cases on the wrong site were reported in Brazil<sup>9</sup>. These data point to risks for patient safety, demonstrating the need to maintain the items recommended by the WHO, such as the demarcation of laterality, which improves the visibility of the surgical team and ensures that the procedure is performed in the correct surgical site.

## FINAL CONSIDERATIONS

The present study made it possible to analyze the recognition of the applicability of SSC by professionals and the benefits involved in the safety of the surgical process. Although contradictory, one of the weaknesses was the low adherence of the team to the step-by-step checklist and the perception of nursing professionals that the medical team can be more proactive and participatory in this process. On the other hand, it was evidenced that most physicians did not receive training or do not remember being trained to use the SSC, affirming the importance of this training, unlike nursing professionals, who claim their participation in the training.

It is believed that having a permanent education plan for the entire multiprofessional team can sensitize them and promote their better integration and, in this way, bring benefits

to all professionals involved in the surgical process, whether in communication, in the organizational climate and more satisfaction regarding this process, impacting on patient safety. Although it is reported by all professionals that the team of surgeons is the one with the lowest adherence to SSC, they recognize that the checklist provides more security for the practice of procedures.

It was identified that some items need to be added to the SSC, such as the demarcation of laterality and confirmation with the patient of the surgical site. Both are present in the SSC proposed by the WHO, which allows a better visualization of the surgical site by the care team, minimizing the risk of the occurrence of never events.

We understand that there are limitations in this study due to the fact that few surgeons participated, which could lead us to other results. However, it was possible to identify some weaknesses, allowing the promotion of actions that improve the effectiveness of SSC and the adherence of all professionals, positively impacting the safety of surgical patients in the institution.

## FUNDING

None.

## CONFLICT OF INTERESTS

There are no conflicts of interests.

## AUTHOR'S CONTRIBUTIONS

**CCS:** Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing — original draft, Writing — review & editing. **ADB:** Data curation, Formal Analysis, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing — review & editing. **ECMS:** Investigation, Resources. **TPPR:** Investigation, Resources.

## REFERENCES

1. Lanzoni GMM, Goularte AF, Koerich C, Reisdorfer E, Miotello M, Meirelles BHS. Eventos adversos e incidentes sem dano em unidades de internação de um hospital especializado em cardiologia. *Rev Min Enferm.* 2019;23:e-1184. <https://doi.org/10.5935/1415-2762.20190032>
2. Bates DW, World Health Organization. Patient safety research: introductory course: session 1. What's patient safety? [Internet]. 2010 [acessado em 25 set. 2019] Disponível em: [https://www.who.int/patientsafety/research/ps\\_online\\_course\\_session1\\_intro\\_1in1\\_english\\_2010\\_en.pdf](https://www.who.int/patientsafety/research/ps_online_course_session1_intro_1in1_english_2010_en.pdf)
3. Brasil. Ministério da Saúde. Conselho Nacional de Saúde. Gestão de riscos e investigação de eventos adversos relacionados à assistência à saúde [Internet]. Brasília: Ministério da Saúde; 2017 [acessado 20 fev. 2019]. Disponível em: <https://www.gov.br/anvisa/pt-br/centraisdeconteudo/publicacoes/servicosdesaude/publicacoes/caderno-7-gestao-de-riscos-e-investigacao-de-eventos-adversos-relacionados-a-assistencia-a-saude.pdf>
4. Brasil. Ministério da Saúde. Conselho Nacional de Saúde. Documento para referência para o Programa Nacional de Segurança do Paciente. Brasília: Ministério da Saúde; 2014 [acessado 18 set. 2019]. Disponível em: [https://bvsmms.saude.gov.br/bvs/publicacoes/documento\\_referencia\\_programa\\_nacional\\_seguranca.pdf](https://bvsmms.saude.gov.br/bvs/publicacoes/documento_referencia_programa_nacional_seguranca.pdf)
5. Brasil. Portaria nº 529, de 1º de abril de 2013. Institui o Programa Nacional de Segurança do Paciente (PNSP). *Diário Oficial da União.* 2013.
6. Organização Mundial de Saúde. Segundo desafio global para a segurança do paciente: Manual: cirurgias seguras salvam vidas (orientações para cirurgia segura da OMS) [Internet]. Rio de Janeiro: Organização Pan-Americana da Saúde; Ministério da Saúde; Agência Nacional de Vigilância Sanitária; 2009 [acessado 20 jul. 2019]. Disponível em: [https://bvsmms.saude.gov.br/bvs/publicacoes/seguranca\\_paciente\\_cirurgias\\_seguras\\_salvam\\_vidas.pdf](https://bvsmms.saude.gov.br/bvs/publicacoes/seguranca_paciente_cirurgias_seguras_salvam_vidas.pdf)
7. Mafra CR, Rodrigues MCS. Lista de verificação de segurança cirúrgica: uma revisão integrativa sobre benefícios e sua importância. *Rev Cuid Fund.* 2018;10(1):268-75. <https://doi.org/10.9789/2175-5361.2018.v10i1.268-275>
8. Associação Brasileira de Enfermeiros de Centro Cirúrgico, Recuperação Anestésica e Centro de Material e Esterilização. Diretrizes de práticas em enfermagem cirúrgica e processamento de produtos para a saúde. 7ª ed. São Paulo: Manole/SOBECC; 2017.
9. Brasil. Ministério da Saúde. Relatório de notificações dos estados – Eventos Adversos – Arquivos [Internet]. Brasil: Ministério da Saúde; 2021 [acessado 12 fev. 2022]. Disponível em: <https://www.gov.br/anvisa/pt-br/centraisdeconteudo/publicacoes/servicosdesaude/relatorios-de-notificacao-dos-estados>
10. Giannattasio MB, Taniguchi FP. Avaliação da segurança do paciente em cirurgia cardíaca de um hospital público. *Rev SOBECC.* 2016;21(3):125-31. <https://doi.org/10.5327/Z1414-4425201600030002>

11. Gutierrez LS, Santos JLG, Barbosa SFF, Maia ARC, Koerich C, Gonçalves N. Adherence to the objectives of the Safe Surgery Saves Lives Initiative: perspective of nurses. *Rev Latino-Am Enferm*. 2019;27:e3108. <https://doi.org/10.1590/1518-8345.2711.3108>
12. Marquioni FSN, Moreira TR, Diaz FBBS, Ribeiro L. Cirurgia segura: avaliação da adesão ao *checklist* em hospital de ensino. *Rev SOBECC*. 2019;24(1):22-30. <https://doi.org/10.5327/10.5327/Z1414-4425201900010006>
13. Brasil. Ministério da Saúde. Conselho Nacional de Saúde. Resolução nº 466, de 12 de dezembro de 2012. Aprova as diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos [Internet]. Diário Oficial da União. 2013;Seção 1 [acessado 7 dez. 2020]. Disponível em: <http://conselho.saude.gov.br/resolucoes/2012/Reso466.pdf>
14. Minayo MCS. O desafio do conhecimento: pesquisa qualitativa em saúde. 12ª ed. São Paulo: Hucitec; 2010.
15. Neta AF, Tonini NS, Luz MS, Martins LK, Oliveira RP, Santos P. Segurança do paciente e cirurgia segura: taxa de adesão ao *checklist* de cirurgia segura em um hospital escola. *Rev Nursing [Internet]*. 2019 [acessado 20 nov. 2021];22(259):3379-82. Disponível em: <http://revistas.mpmcomunicacao.com.br/index.php/revistanursing/article/view/436/411>
16. Mendes PJA, Araújo KCGS, Morgan PEM. Atuação do enfermeiro na prevenção de eventos adversos no centro cirúrgico, utilizando SAEP. Editorial BIUS [Internet]. 2020 [acessado 20 nov. 2021];19(13):1-17. Disponível em: <https://www.periodicos.ufam.edu.br/index.php/BIUS/article/view/7661>
17. Gomes CDP, Santos AA, Machado ME, Treviso P. Percepção de uma equipe de enfermagem sobre a utilização do *checklist* cirúrgico. *Rev SOBECC*. 2016;21(3):140-5. <https://doi.org/10.5327/Z1414-4425201600030004>

