

Safety checklist in outpatient surgery teaching.

Checklist de segurança no ensino de cirurgia ambulatorial.

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A B S T R A C T

This article proposes the use of a safe surgical checklist in the teaching of the discipline of Ambulatory Surgery during medical graduation. It discusses its benefits and potential implementation and adherence difficulties. It underscores the importance of developing a patient safety culture and active learning methodologies to train students for greater commitment and accountability with the quality of care provided to the community in the academic outpatient clinic of the school hospital.

Keywords: Checklist. Patient Safety. Ambulatory Surgical Procedures/education.

INTRODUCTION

Patient safety is a growing worldwide demand and because of its magnitude it needs to be assimilated in all spheres of medical training and practice¹. Among its goals are the safety of clinical and surgical procedures and full attention to the fundamentals and practices of safe surgeries²⁻⁴. The principle of not causing harm is attributed to Hippocrates and, in our country, disciplined by Article 1st of the Code of Medical Ethics which establishes that the physician is prohibited from causing harm to the patient, by action or omission considered as malpractice, recklessness, or negligence⁵.

In Brazil, National Patient Safety Program (NPSP) was established by Ministry of Health (MH) Ordinance n° 529/2013⁶. In 2014, Brazilian College of Surgeons (CBC) launched a safe surgery manual in order to reduce incidents and adverse health events⁷.

Surveys show that checklists used by medical teams of hospital surgical centers to verify important aspects of patient safety improve care

quality and reduce morbimortality^{8,9}. However, the known principles of surgical safety are still inconsistently applied¹⁰⁻¹⁴. Accidents, failures, or adverse health events can occur anywhere and with anyone, but it is estimated that in 95% of the cases they are caused by unsafe conditions and in 5% by human error⁴. In most of the time they do not cause damage, but in other situations they have serious, and even fatal, repercussions that could have been avoided^{8,11}.

Universities are trainers of human resources in health^{1,5,8} and it is fundamental to educate Medical students about their role and responsibility in the safety of the patient, environment, and surgical act. The care for health and safety^{1,3,5} and the documentation of these actions are tasks before which no doctor can be indifferent. Safety principles need to be experienced in medical training in order to achieve good safe surgery practices. In view of this, this article proposes a checklist model for application in undergraduate Medical courses in the context of outpatient surgery teaching at a school hospital in Curitiba-PR.

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METHODS

The discipline of Outpatient Surgery in question is developed through essentially practical activities, interspersed by one theoretical class per week with the purpose of guiding the study¹⁵. The teaching plan, work proposal, and pedagogical contract are presented in the first meeting and reinforced throughout the school year. In the first weeks, workshops on basic surgical and ambience techniques are offered, based on literature^{16,17}.

For in-home study, content is presented online through texts, scripts, slides, articles, and videos with basic concepts, exercises, links, and trusted sources of research. The important and current topics related to the discipline are strengthened through hybrid teaching, combining traditional methods with active learning approaches¹⁵, guided by Bloom's taxonomy¹⁸ (Figure 1).

The scenarios for practice are the outpatient clinics of a school hospital, equipped to perform small surgical procedures, carry out diagnosis, and/or treat patients attended by Brazilian Unified Health

System (SUS). All cases are previously analyzed through anamnesis and physical examination with a professor. In case of surgical indication, the relevant preoperative exams are requested and the details of the diagnosis, treatment, risks, and possible complications of the indicated procedure are explained to the patient. Two printed copies of the Informed Consent Term (ICT) are given to the patient or to the person who is responsible for him/her. No intervention is performed without the ICT, in compliance with the ethical and legal requirements of the professional practice⁵.

In case of urgency, the procedure can be performed on the same day of the first consultation; elective surgeries are preferably scheduled for a later date, so that the patient or the person who is responsible for him/her can reflect on the risks/benefits after verbal and written guidance and provide his/her phone number/contacts to be written down in the surgical scheduling book.

If the case is of clinical resolution or needs to be forwarded, proper forms are filled out. At the end of the surgery, students complete the

COGNITIVE, PSYCHOMOTOR, AND AFFECTIVE DOMAINS

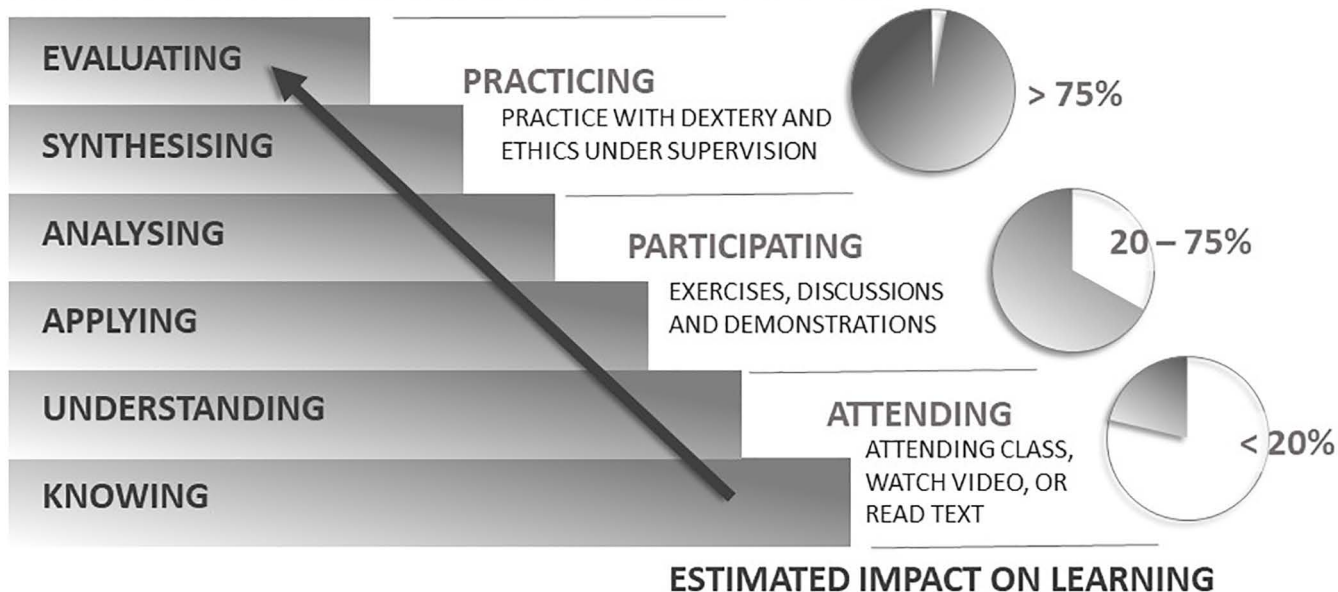


Figure 1. Bloom's taxonomy applied to Outpatient Surgery teaching and the estimated impact percentage on learning.

application for the histopathological examination in the hospital's online medical record system and fill out the surgery registration book and the record with the predetermined date for the patient to come back to hospital for consultation. Students also provide recipes/certificates together with their professors. In all cases in which parts of the surgical wound are removed, the request for histopathological examination is mandatory, and, in drainage of abscesses, a bacteriological examination of the secretion (Gram's method and antibiogram of blood culture) is requested.

The dynamics of participation in the surgical team is intended to enable the student to have better opportunities to construct the learning process under supervision, to train different functions and techniques, to elaborate medical documentation,

and to develop competences, attitudes, values, and ethics which are compatible with the practices of safe surgeries.

The proposed checklist model for the Outpatient Surgery discipline (Figure 2) was based on current protocols¹⁻⁴ and follows the principles of simplicity, wide applicability, and possibility of impact measurement. The protocol is divided into four fields to be filled at each surgical moment. Initially, the patient's data are obtained: name, weight, age, procedure to be performed, and location, with attention to laterality. Next, the name of the student who occupies each function of the outpatient surgical center must be filled in. After the patient and student identification phase, the other steps have questions that must be checked before the start of surgery, during surgery, and before discharge.

PACIENT'S NAME: _____ **WEIGHT:** _____ **AGE:** _____ **DATE:** ___/___/___ **ROOM:** ()I ()II ()III

SURGERY: () Mole electrocoagulation () Removal of skin lesions and attachments () incisional and excisional biopses
 () Drainage of abscesses () Excision of ingrown toenail () Foreign body with drawal () Other: _____

Place: _____ Adverse event () No () Yes, which: _____

STUDENT RESPONSIBLE FOR THE CHECKLIST: _____ **SUPERVISOR:** _____

Surgeon: _____ Anestheologist _____ Assistant: _____

Preoperative: _____ Postoperative: _____

Administrative: _____ Nursing Technician: _____

BEFORE STARTING THE PROCEDURE	DURING THE PROCEDURE	BEFORE DESCHARGING THE PATIENT
<p>PACIENT</p> <p><input type="checkbox"/> SURGICAL SITE CONFIRMED</p> <p><input type="checkbox"/> ICT SIGNED</p> <p>ALLERGY</p> <p><input type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p> <p>ANESTHESIA (CONTRAINDICATION TO VASOCONSTRICTOR USE)</p> <p><input type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p> <p>BLOOD PRESSURE: ___/___ mmHg</p> <p>MATERIAL AVAILABLE AND FUNCTIONING</p> <p><input type="checkbox"/> CAUTERY</p> <p><input type="checkbox"/> EQUIPMENT FOR INDIVIDUAL SAFETY</p>	<p><input type="checkbox"/> ALL TEAM MEMBERS PRESENTED THEMSELVES WITH NAME AND FUNCTION</p> <p><input type="checkbox"/> CRITICAL POINTS OF THE PROCEDURE REVIEWED</p> <p>BIOPSY MATERIAL IDENTIFIED AND IN ADEQUATE VESSEL</p> <p><input type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p> <p>INTERCURRENCE DURING THE PROCEDURE</p> <p><input type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p>	<p><input type="checkbox"/> SURGICAL DESCRIPTION PERFORMED</p> <p>ANATOMOPATHOLOGICAL EXAM REQUESTED</p> <p><input type="checkbox"/> YES</p> <p><input type="checkbox"/> NOT APPLICABLE</p> <p>PATIENT ASKED TO RETURN IN 7 DAYS</p> <p><input type="checkbox"/> YES</p> <p>PRESCRIPTION GIVEN TO PATIENT</p> <p><input type="checkbox"/> YES</p>

Figure 2. Safe surgery protocol for teaching-learning in medical undergraduate program.

Before starting the procedure, it is essential to obtain the confirmation of the surgical site with the patient and to ensure that he/she has signed the ICT, as well as to verify a history of allergy or contraindication to vasoconstrictor in anesthetic solution. Measurement of blood pressure is necessary at this time, since an alteration of it may contraindicate the use of vasoconstrictor. In this stage, a recount of resources and surgical materials is also performed, besides the verification of the availability of individual protection equipments for all surgical team members.

During the surgical procedure, it is recommended that all team members present themselves as previously determined in the identification chart and that the critical points of the surgery are reviewed. When necessary, the biopsy vessel must be identified and adequate for the size of the lesion. In addition, before finishing the procedure, it is crucial to report to the professor in charge any intercurrentence that may have occurred during the process, focusing on how and why the fact has happened, its triggers, and what specific points need improvement.

The last stage reinforces to the student the importance of the medical record, written in a complete, objective, and concise way, and the responsibility in requesting and completing complementary examinations. The request for a return in seven days is part of the Service routine, in which the same students who have performed the procedure do the postoperative, with the removal of stitches and guidelines, according to the evolution. The academic is still responsible to prepare the prescription under supervision and to orientate about alarm signals and the return before seven days, if necessary.

The student's assessment, adapted from literature¹⁷, can be performed through the Likert scale, with three items: has not performed, has partially performed, and has completely performed.

DISCUSSION

Patient safety actions are those produced by health and educational institutions that aim to reduce or eliminate risks in care that can cause harm to the patient^{1,4}. The health services provided by school hospitals must serve the community with safety and quality based on current scientific knowledge. This checklist proposal allows the standardization of surgical procedures and enables a safer and more coordinated participation of students in the academic outpatient clinic, supported by technical/scientific evidences^{1,4,6} and the National Curricular Guidelines (DCN)¹⁵.

Due to his/her responsibility in the team¹⁷, each academic has problems to solve, mobilizing different domains¹⁸ and decisions to make, in order to progress in the learning of dexterity and technical accuracy, medical communication, and humanization of the surgical assistance. It is essential to create spaces mechanisms for error containment and mutual support, which are propitious to communication, identification of failures, and analysis in group^{10,11} in order to restructure the process of education and professional qualification. Managing common conflicts in surgical settings, such as stress, among others, requires that professors value what is relevant, ask for results in a clear and coherent way, provide feedback, make pedagogical interventions, and articulate relationships with professional practice seeking to promote safe environment and acts.

Studies demonstrate several obstacles to safety protocol adherence^{10,12,19,20}. Research with health professionals has detected that 46.5% of the interviewees have not had training on safe surgery checklist¹⁹. Other research has revealed greater adherence in complex elective surgeries and a greater occurrence of incomplete filling in minor or emergency surgeries¹¹.

Simple procedures and interventions also have risks¹¹. Therefore, it is necessary to encourage the systematized teaching of safe care in order to sensitize students, since undergraduate program, on the importance of this teamwork and the advantages of promoting safety in surgery, fostering continuity and improvements in their everyday life and professionalization.

Among the limitations for adherence to the checklist in outpatient surgery teaching, we can list the motivation of the professor, the number of students, the availability of surgical cases, besides structural, socio-professional, and local administrative factors.

The checklist is a resource to educate future doctors and improve health care^{1,3}. However, in order to achieve the safety culture, it is indispensable

the permanent commitment of the entire hospital community and of each of the managers, directors, professors, students, professionals, patients, and employees in maintaining a system of adequate prevention, construction, and health care in order to ensure quality standards of teaching and of the surgical care provided.

CONCLUSION

The presented protocol has the potential to contribute to the learning of patient safety culture during Medical undergraduate program through the surgical training offered to students of Outpatient Surgery discipline. It also allows adaptations for emergency rooms, health units, and clinics, according to their care particularities.

R E S U M O

Este artigo propõe a utilização de um checklist de cirurgia segura no ensino da disciplina de Cirurgia Ambulatorial durante a graduação em Medicina. Discorre sobre seus benefícios e potenciais dificuldades de implantação e adesão. Ressalta a importância do desenvolvimento da cultura de segurança do paciente e das metodologias ativas de aprendizagem para treinar os estudantes para maior compromisso e responsabilidade com a qualidade da assistência prestada à comunidade no ambulatório acadêmico do hospital escola.

Descritores: Lista de Checagem. Segurança do Paciente. Procedimentos Cirúrgicos Ambulatórios/educação.

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