

Post-Anesthesia Care Unit: between clinical monitoring and risk management in a changing perioperative setting

Sala de Recuperação Pós-Anestésica: entre a vigilância clínica e a gestão do risco em um cenário perioperatório em transformação

Unidad de Recuperación Postanestésica: entre la vigilancia clínica y la gestión del riesgo en un escenario perioperatorio en transformación

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The Post-Anesthesia Care Unit (PACU) plays a central role in perioperative care, during which the patient leaves the controlled intraoperative environment and undergoes a critical transition phase until clinical stabilization. Although historically associated with the immediate monitoring of complications, the PACU has evolved into a complex care environment that requires rapid decision-making, keen clinical judgment, and continuous risk management¹.

This scenario becomes even more challenging given the changes observed in recent years. Advances in anesthetic techniques, combined with an aging population and increasing patient complexity, have led to a more demanding care profile in the PACU¹.

Evidence regarding indicators and systematized data on anesthesia published in Brazil in 2025 revealed that the anesthetic population has consisted primarily of female patients with a mean age of 46.2, standard deviation ± 22.4 years, with age groups over 80 years — including centenarians — on the rise².

The American Society of Anesthesiologists (ASA) classification system, used since 1941 to assess pre-anesthetic comorbidities, shows a predominance of ASA I and II patients (84.06%), with systemic arterial hypertension being the most common comorbidity, followed by diabetes mellitus and dyslipidemia².

Outpatient anesthesia is used for elective procedures, in which patients are discharged within 24 hours, and currently, nearly half of all surgeries are performed outside the hospital without an inpatient stay. Organizations such as the ASA emphasize that the same level of post-anesthetic care must be provided to outpatient patients or those sedated for endoscopies, with discharge criteria established jointly by the anesthesiologist and the nursing team³.

In this context, the PACU is no longer merely a recovery space but an integral part of the anesthetic-surgical journey, in which the patient's anesthetic process is essential for a safe outcome⁴.

Early identification of complications occurs during the pre-anesthetic period, when the perioperative nurse collects data for the anesthetic-surgical process, identifying potential anesthesia-related risks, such as respiratory depression and hemodynamic instability; surgery-related risks, such as poorly controlled pain, nausea, and vomiting; as well as individual patient risks related to their comorbidities⁴.

The most frequently reported anesthetic incidents were those related to the airway, particularly the difficulty of intubation difficulties and the management of difficult airways, requiring the nurses specific knowledge and skills in this practice area².

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In a scenario where 90% of patients undergoing anesthesia are transferred to the Post-Anesthesia Recovery Area (PARA), the length of the patient's stay in this unit is an important indicator to monitor. We know that throughout the anesthetic-surgical process, nursing plays a leading role in the PACU. It is the nurse involved in the anesthetic process who is at the patient's bedside, continuously monitoring, assessing clinical signs, and coordinating care with the other teams¹.

In 2025, 233,190 patient follow-ups were conducted in the PACU, and the average number of visits by the anesthesiologist per patient was 1.46. The average length of stay of patients in the PACU was 1 hour and 12 minutes; therefore, the anesthesiologist visits the PACU fewer than twice on average (admission and discharge). Although the presence of an anesthesiologist in the PACU is recommended, a shortage of this professional has been observed, highlighting the importance of the nurse's role in this unit. In this context, the presence of perioperative nurses as members of the PACU team, together with specific training in postoperative care, post-anesthetic care, the management of complications, and postoperative and post-anesthetic emergencies, should be emphasized².

The use of validated scales, such as the Aldrete and Kroulik Index, combined with systematic clinical assessment, contributes to safer decisions, particularly at the time of discharge from the unit. Patient discharge is the responsibility of the anesthesiologist; however, it is operationalized by the nurse, who is responsible for patient transport and for ensuring a safe discharge, with discharge representing one of the Five Steps to Safe Patient Recovery⁴.

Despite its importance, the PACU still faces significant challenges, such as staffing levels, process standardization, and, above all, recognition of the complexity of the care provided. Unlike other critical care units, such as the Intensive Care Unit, there are still no specific national guidelines that objectively guide the composition of PACU, teams, which

results in considerable variability among institutions, increasing risks to patients, and highlighting the need for qualified perioperative professionals to work in this sector.

International recommendations, such as those from the American Society of PeriAnesthesia Nurses (ASPAN)¹, emphasize the need to adjust staffing levels according to patient complexity and care demands. In Brazil, the guidelines of the Federal Nursing Council provide an important foundation for considering patient classification systems, but their application in the PACU still requires adaptation to the dynamics of this environment⁵.

Another aspect worthy of attention is the use of technology to support patient care. Integrated systems, continuous monitoring, and data visualization tools have the potential to enhance the quality of care and improve decision-making. However, in practice, limitations related to system integration and the prioritization of these investments are still encountered¹.

In addition to direct care, the PACU also has a significant impact on hospital workflow. Prolonged patient stays, associated with bed shortages or operational issues, directly interfere with operating room productivity and the patient's anesthetic-surgical experience. Therefore, examining the PACU also means examining the efficiency of the system as a whole⁶.

Given this scenario, it is essential to recognize the PACU as a complex unit that requires qualified teams, well-defined protocols, and continuous investment in training. Strategies such as continuing education, simulation-based training, and competency development are important avenues for strengthening patient safety in this setting^{1,4}.

More importantly, discussing the PACU today means discussing the integration of patient care, management, and innovation. Valuing this space means recognizing its direct impact on clinical outcomes, the quality of care provided, and the patient's experience throughout the anesthetic-surgical process.

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