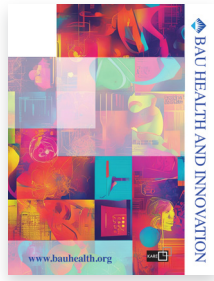
BAU HEALTH AND INNOVATION

Doi: 10.14744/bauh.2025.02418

BAU Health Innov 2025;3(2):86–90



Review

Operating Room Nursing and Malpractice

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Abstract

Operating rooms are places where advanced technological tools and equipment are used, various surgical techniques and methods are applied, and teamwork and making the right decisions quickly are important. Operating room nurses have important duties such as creating the necessary conditions for the environment where the operation will be performed, preparing the instruments and equipment before the operation, preparing the patient, performing and terminating the operation, and following the maintenance, cleaning, and sterilization of the instruments and equipment after the operation. Excessive workload, an insufficient number of staff, ambiguities in roles, long working hours, inadequate wages, working in a shift system, poor communication with health-care team members, and problems related to the management approach of managers reduce motivation and cause medical errors. The Joint Commission on Accreditation of Healthcare Organizations defines malpractice as damage to the patient as a result of inappropriate and unethical behavior of health-care professionals and inadequate and negligent behavior in professional practices. When we look at the undesirable events that operating room nurses may encounter: incomplete or incorrect transmission of information about the patient during patient transfer from the operating room to the clinic, cutting and piercing instrument injuries, wrong side surgery, forgetting a foreign body, surgical electrocautery burns, urinary catheter-related infections, transfusion errors, surgical site infections, drug administration errors, pressure wounds due to falls and immobility, pulmonary embolism, problems arising from medical devices, injuries, ventilator-associated pneumonia, and deep vein thrombosis. No studies evaluating the relationship between operating room nurses and malpractice were found in the literature. Further studies are needed to develop strategies to reduce/prevent malpractice rates, which have important consequences for patients and health professionals and are important markers of health-care quality, and to determine the attitudes and tendencies of health professionals toward malpractice.

Keywords: Malpractice, operating room nursing, safety, surgery.

Cite This Article: *Akaltun H, Azizoğlu H, Gürkan Z. Operating Room Nursing and Malpractice. BAU Health Innov 2025;3(2):86–90.*

Operating rooms are places where advanced technological tools and equipment are used, various surgical techniques and methods are applied, and teamwork and making the right decisions rapidly are important.[1,2] The operating room nurse works in an environment where basic life needs are determined according to medical and surgical principles and is responsible for the care of patients known to undergo physiologic changes.[3] Operating room nurses are the main health personnel in the implementation of care services in the operating room. Operating room nurses provide a wide range of services before, during, and after surgery. Operating room nurses must be excellent team members to ensure effectiveness and efficiency in patient care, which is their main responsibility.[4] Within the framework of legal understanding, all health professionals should perform their practices within the framework of the concept of "permissible risk" (complication). In this context, the health-care professional is obliged to take possible precautions before the application – except in emergencies. Even if negative consequences occur due to his/her action within the framework of the permissible risk, this situation does not impose an obligation on the employee.[5] This is due to the employee's compliance with the duty of care and attention. Lack of caution and carelessness is medically

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Submitted: January 26, 2025 **Accepted:** February 21, 2025 **Available Online:** August 11, 2025

BAU Health and Innovation - Available online at www.bauhealth.org

considered "medical malpractice."[6] Health-care professionals can commit any error, despite the concept of medical error being broader than malpractice. In an article published in 2016 in the United States of America, it was reported that deaths due to medical errors ranked third among all causes of death.[7] In the data obtained from European countries, it was determined that 8–12% of hospitalized patients were exposed to medical errors; more than 750 thousand medical errors occurred annually, and this caused approximately 3.2 million hospitalizations, 260 thousand permanent disabilities, and 95 thousand deaths.[8] In the literature, it has been reported that operating rooms, intensive care units, and emergency departments are higher-risk units in terms of medical errors and patient safety.[9] Although there is no comprehensive study on operating room-related medical errors in Türkiye, the findings of a study compiled from newspaper reports found that operating rooms ranked first among the units where medical errors were encountered, with a rate of 43.6% and 19.8% of patients underwent faulty surgery. Anesthesia-related errors ranked second with 8.1%.[10] In another study, it was found that 41% of surgical errors occurred in the orthopedics unit.[11] Looking at the clinical area where the medical error was applied, it was determined that 36.9% occurred in the operating room surgery department, and the most common type of medical malpractice was surgical malpractice, with 26.9%. When the type of medical malpractice reported in the newspapers within the scope of the study was examined, it was found that 14.6% (n=19) were due to incorrect drug administration, 12.3% (n=16) were due to incorrect diagnosis, 10.8% (n=14) were due to incorrect treatment, 26.9% (n=35) were due to incorrect surgery, 23.1% (n=30) were due to incorrect patient safety, and 12.3% (n=16) were due to other reasons.[12] In another study, it was found that the most commonly reported type of surgical error was failure to mark the surgical site/side (15.02%). This was followed by failure to verify the patient's identity information, surgical site, and surgical procedure (6.03%). These two types of errors accounted for approximately one-fifth (21.05%) of all reported surgical errors. Errors in the other group accounted for approximately one-third (34.53%) of all reported surgical errors. It is estimated that the rate of non-reporting of adverse events in health-care organizations varies between 50% and 96% annually.[6] The most common adverse events encountered in surgical units are; patient transfer from clinic to the operating room or from operating room to clinic; sharp and piercing instrument injuries, foreign bodies forgotten in the operation area, wrong side surgery, transfusion errors, administration of incorrect gas mixture in anesthesia, surgical site infections, urinary catheter related infections, pressure ulcers, drug administration errors, surgical electrocautery burns, laser-induced injuries, injuries due to falls and immobility, injuries caused by medical devices, ventilator-associated pneumonia, pulmonary embolism, and deep vein thrombosis.[13–15] Surgical nurses should keep complete records throughout the perioperative process and report all health-care processes (e.g., positioning, pressure ulcers, use of heat probes, presence of implants, drains, and wound dressing, number and duration of tourniquets if used, electro-surgical plate position, etc.).[15] Çakmak et al.[16] in their retrospective study on malpractice case files subject to the Court of Cassation, it was found that medical errors occurred mostly in the branches of obstetrics and gynecology and general surgery, and it was determined that medical errors were mostly caused by the selection of the wrong treatment method and surgical errors. The reason why surgical error notifications are lower compared to other errors may be explained by the perception that healthcare workers associate surgical error notifications with malpractice more, and the concerns of the workers about the possibility of being penalized. One of the malpractices encountered by operating room nurses is related to the counting of the materials used during the operation. Forgetting a foreign body in the body is interpreted as clear evidence of a lack of attention. In court jurisprudence, this situation has been evaluated as direct negligence, and an expert opinion was not even needed.[17] In 2020, a case of forgetting a sponge sheet in the patient's body was referred to the Court of Cassation. The defendants, including a nurse, were found negligent for forgetting a sponge sheet on the patient's body during surgery.[18]

When the patient is being prepared in the operating room, it is important for the patient to tell his/her own name and surname in order to determine the identity information more accurately and to reduce errors.[19]

To reduce/prevent injury during surgery, the body parts at risk should be emphasized verbally. In this way, the attention of the entire surgical team can be drawn, and the patient can be protected from pressure ulcers and other risks.[20]

Protecting the sterile field and maintaining sterility are listed among the duties of nurses in the regulations. The nurse must manage this process correctly, starting from preparing the materials to be used in the operation and continuing until the end of the operation. In a malpractice case, both the doctor and the nurse were found guilty and sentenced to imprisonment after an infection developed in the eyes of five patients who underwent eye surgery on the same day.[21]

Problems related to the transportation of surgical tissue specimens to the laboratory may generally arise from reasons such as non-coding of the material, incorrect coding,

and a lack of personnel to provide transportation. The safe surgical pathology specimen management process includes defining the place where the specimen will be taken, determining its boundaries, removing it, naming it, fixing it in the appropriate specimen container with protective solution, labeling it, sending it to the pathology laboratory, protecting the integrity of the specimen in all processes, and creating complete records.[15,22] In a meta-analysis study on the detection of errors in the surgical pathology specimen management process, it was found that 0.05% of the errors were due to incorrect or missing patient information in labeling the specimen and 7.7% were due to the absence of the request form or result report in a sample group in which more than 1,850 materials were followed.[23]

Another malpractice of operating room nurses is burns that may occur during surgery. Burns may occur due to devices used to heat the patient or cautery used during surgery.[15,19] Communication problems among health-care professionals are shown to be among the important reasons for the occurrence of medical errors. In a study, it was determined that teamwork, safety climate, and management understanding were effective in the medical error attitudes of surgical nurses and the causes of medical errors. Therefore, it is thought that maintaining teamwork, strengthening team spirit, and reducing communication barriers in health-care service delivery will have positive effects on reducing medical errors and increasing patient safety.[24] Studies have shown that the worst performance of healthcare workers occurs between 04:00 and 06:00 hours at night. It is thought that the sleep-deprived healthcare worker rushing to finish his/her work faster and to rest paves the way for malpractice. As a result of the decreased performance of healthcare workers, it is observed that aseptic techniques are not followed, erroneous drug administration increases, and patient needs are overlooked.[25] In a study conducted in 2011, 96% of the operating room nurses who participated in the study stated that they were exposed to the tense behaviors of surgeons in the operating room; 49% stated that they were negatively affected by this situation and that they were angry, and 52% stated that they could not show their anger.[26] In addition to the concepts of mobbing and crime, it should be kept in mind that the tensions experienced within the surgical team pose a great risk in terms of patient safety, and action should be taken accordingly. The work efficiency or motivation of a nurse who is subjected to mobbing decreases, which may directly lead to a decrease in the quality of care of patients/healthy individuals and malpractice.[27]

When medical errors were examined, it was reported that mortality rates due to anesthesia during surgery were higher in developing countries than in developed countries.[28] In the study of Merry et al.,[29] it was stated that a large portion of preventable anesthesia errors were human-induced. When we look at Türkiye, it has been observed that the operating room unit ranks first when the departments where medical errors occur are evaluated. It has been determined that approximately 20% of patients who will undergo surgical intervention have an erroneous operation. In a similar study, it was reported that most of the adverse events in the operating room occurred in orthopedic surgeries.[10,30,31]

Physicians, nurses, unit managers, or pharmacists may be responsible for medication errors.[6] Barcode management and handheld personal digital assistants increase medication administration safety. Providing real-time patient information, drug profiles, laboratory values, drug information, and documentation can reduce errors. Electronic medication management helps identify incorrect, skipped/canceled, or changed medication orders. Circumventing barcode procedures reduces safety at the point of care.[32] Errors such as the interaction of the drugs given to the patient with other drugs, miscalculation of drug doses, incorrect drug administration, drug monitoring errors, and unknowingly giving drugs that may cause interaction to a patient with an allergic history are considered within this scope. It is estimated that 34–56% of these errors are preventable.[6,11]

Studies have shown that the use of the safe surgery checklist (SCCL) improves patient safety by effectively alleviating the undesirable effects of surgery by decreasing the rate of performing the right procedure on the right patients, significantly reducing complication and mortality rates, improving teamwork and communication in the operating room, reducing unplanned returns from the operating room, and reducing the rate of wrong surgery.[33,34] SCCL is recommended as a tool that improves communication, cooperation, and patient safety among team members.[35] SCCL has an important role in preventing medical errors that occur due to communication deficiencies. In a study conducted by Haynes et al.,[34] it was found that the use of the checklist in emergency surgical interventions reduced complications. It was emphasized that the complication rate was 7% when more than half of the items of the SCCL were completed, while the complication rate increased to approximately 19% when less than half of the items were applied in the same study.

Falls may occur during and after surgery due to the effects of anesthesia. The operating room nurse should take the necessary precautions to prevent falls. The anesthesia and surgical team need to act together to prevent falls. The circulating nurse must be at the patient's bedside during the preparation phase of the operation, while the patient is given the operating position, and must take all necessary precautions. It is also stated that determining the risk of falls,

identifying the patient at risk of falling, taking precautions against falls, monitoring and reporting falls, informing patients and their relatives about this issue, using fall prevention warnings, and, importantly, using safe equipment are also mandatory in terms of patient safety.[36–39]

Conclusion

In reducing and preventing malpractices, which can have significant consequences for patients and health-care professionals and are serious indicators of health-care quality, it is also important to determine the situations that may cause medical errors in advance to make the necessary arrangements and to determine the attitudes and tendencies of health-care professionals toward medical errors. Due to the high number of malpractices affecting patient safety all over the world and their consequences of varying degrees of severity, it is necessary to develop more effective strategies for the prevention and management of malpractices.

As a result, we can list the malpractices encountered in the operating room as follows: failure to apply aseptic antiseptic techniques, communication problems, patient falls, failure to perform surgical pathology material management by the technique, failure to manage risks related to drug safety, equipment and material deficiencies, wrong-side surgery, forgetting a foreign body in the body, surgical burns, problems in transfusion of blood and blood products, unexplained events, and events caused by lack of experience and knowledge.

In operating rooms, factors such as work intensity, ignorance, inexperience, carelessness, and an insufficient number of nurses may not cause the steps of safe surgical practice to be skipped, causing harm to people receiving health-care services and the emergence of malpractices. Malpractices arising from the defective actions of operating room nurses lead to their legal responsibilities. In the prevention of these problems, effective use of the SCCL, good management of the operating room environment, keeping the necessary devices and equipment ready for use, not avoiding verbal verification in medication and other health-care practices, keeping complete records, protecting the patient's body integrity in patient transfers, respecting the privacy of the patient, taking care not to remove the catheter-drain and catheter, and establishing good relations within the team are of great importance.

Operating room nurses should know their duties and responsibilities and avoid practices that may cause negligence or error. The fact that there is a wide and complex legislation in health services requires frequent renewal of nurses' knowledge about their legal responsibilities. For this reason, institutions should definitely address the issue of legal responsibility in in-service training, and it should be repeated periodically. In order to create and maintain patient safety strategies, there should be specialization in institutions that train health professionals, and continuity can be ensured in training programs after graduation. Qualitative and quantitative studies in large samples can be conducted to determine the factors affecting malpractice, and measures can be taken.

Disclosures

Conflict of Interest Statement: All authors declared no conflict of interest.

Funding: The authors declared that this study received no financial support.

Use of AI for Writing Assistance: No AI technologies utilized.

Author Contributions: Concept – H.A., H.Az., Z.G.; Design – H.A., H.Az., Z.G.; Supervision – H.A., H.Az.; Data analysis and/or interpretation – H.A., H.Az., Z.G.; Literature search – H.A., H.Az.; Writing – H.A., H.Az.; Critical review – H.A., H.Az., Z.G.

Peer-review: Externally peer-reviewed.

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