



EORNA 2026 Full Programme

Thursday, 14 May, 2026, 17:30 - 19:00

Orlando A, Orlando B

OC | Opening Ceremony

Friday, 15 May, 2026, 8:00 - 18:00

ePoster Hall

ePoster | ePoster Viewing

Friday, 15 May, 2026, 8:10 - 8:55

Koločep

RT01 | Round Table 1 | prevention of perioperative hypothermia

For the round table, three panelists from three different countries will be included.

This approach ensures diverse perspectives and provides visibility to participants from various countries.



Friday, 15 May, 2026, 8:25 - 8:55

Orlando B

S01 | Session 1 | Clinical Practice

62 A BIOMETRIC AND VISUALISED STUDY OF RESEARCH ON PERIOPERATIVE HYPOTHERMIA

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Background: Perioperative hypothermia is a common and preventable complication that increases morbidity and mortality in surgical patients. Despite the importance of interventions to prevent this condition, the development process and research trends of scientific publications on the subject have not been systematically analyzed.

Objective: This study aimed to perform a bibliometric and content analysis of studies on perioperative hypothermia.

Methods: The Web of Science database was used to collect research data. First, the Web of Science was searched using the keywords 'unwanted hypothermia', 'accidental hypothermia', 'perioperative hypothermia', 'inadvertent perioperative hypothermia', and 'forced-air warming.' Only English-language articles and systematic reviews published between 1980 and 2025 were selected. The search was limited to emergency medicine, critical care medicine, general internal medicine, surgery, anesthesiology, cardiac cardiovascular systems, peripheral vascular disease, nursing, orthopedics, geriatrics gerontology, gastroenterology hepatology, oncology, and obstetrics gynecology. Data were analyzed using VOSviewer and Bibliometrix programs.

Results: A total of 1.279 publications contributed by 5.260 authors were analyzed in this study. It was determined that the most Web of Science Categories on the subject was 'Anesthesiology,' which received a total of 13.758 citations, and received the most publications (93) and citations (2470) in 2024. In addition, it was determined that publications on this subject were made in 70 countries, and the most productive country in terms of the number of documents was the USA. The keywords most frequently mentioned by the authors in the publications were 'hypothermia (430)', 'accidental hypothermia (121)', 'cardiac arrest (79), and 'perioperative hypothermia (71).' The countries with the most publications were the USA (367), Japan (97), and Germany (96), and the author with the most publications and citations was Sessler DI (29 and 4154).

Conclusion: Studies on perioperative hypothermia are increasing. This study draws attention to the most studied topics of perioperative hypothermia.



240 Examination of pain and factors affecting pain in patients who underwent abdominal surgery based on drain usage

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Background

Drains are tubes generally used during the operation for prophylactic and therapeutic purposes. Patients may experience pain due to the drain.

Objectives

Examining pain and factors affecting pain in patients who underwent abdominal surgery based on drain usage

Methods

The correlational study design was used in the research. The research was conducted with 201 patients in a hospital's General Surgery Clinic. The Research data were collected using the Descriptive and Clinical Information Form and Visual Analog Scale. The data were evaluated with multiple linear regression analysis.

Results

The average age of patients who underwent abdomen surgery was 50.29 ± 14.85 (min=18, max=85), and 72.2% had undergone laparoscopic surgery. It was determined that the patients' systolic blood pressure, diastolic blood pressure, pulse, and SpO₂ after drain removal were statistically significantly higher than their values before drain removal ($p < 0.05$). Patients' pain scores during the drain removal were higher than before removal ($t = -8.824$, $p < 0.001$). For pain levels before drain removal in patients being female ($\beta = -0.109$, $p = 0.048$), satisfaction with pain management ($\beta = -0.110$, $p = 0.039$), and pain levels in the last 24 hours associated with drain use ($\beta = 0.569$, $p = 0.000$) were identified as significant predictors. Similarly, for pain levels during drain removal, the level of fear related to drain removal ($\beta = 0.159$, $p = 0.011$) and pain levels before drain removal ($\beta = 0.517$, $p = 0.000$) were significant predictors.

Conclusion

It was found that pain levels before and during drain removal in patients were affected by gender, physical and psychological factors associated with the drain, and satisfaction with pain management, depending on drain usage. Regularly evaluating the pain related to drain usage in pain management, considering significant factors, and applying strategies to reduce the fear of drain removal may significantly improve general care.



Friday, 15 May, 2026, 8:25 - 8:55

Orlando A

S02 | Session 2 | Education

155 AO Trauma delivers training for operating room personnel based on needs

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Background

Operating room personnel (ORP) are vital members of the surgical team. However, global shortages of trained ORP, coupled with increasing clinical demands and limited opportunities to leave their practice for continued education, represent a critical barrier to maintaining high standards in perioperative care. AO Trauma, the world's largest global community in trauma and orthopedic surgery has long recognized the importance of targeted ORP education. Globally in the last 10 years, approximately 320 AO Trauma Courses Principles of Fracture Management for ORP were organized in the world and 7 of them were in Slovenia. AO Trauma educational activities for ORP have been implemented already since 1985 and delivered in Slovenian and English.

Objectives

To accommodate the need for more flexible, practice-integrated learning, AO Trauma has introduced since May 2015 AO In-Hospital for ORP. This is a modular based educational offering for AO faculty which facilitates the organization of short educational events at point-of-care. With over 500 workplace-based educational events globally and 34 of them organized in Slovenia, AO In-Hospital for ORP became a well-established educational initiative. The University Medical Centre Ljubljana, the General Hospital Novo Mesto, and the General Hospital Nova Gorica have a well installed program to support this hospital-based education. AO In-Hospital for ORP emphasizes how combining comprehensive courses with modular, workplace-based training can overcome logistical and workforce constraints, ensuring equitable access to high-quality education.

Conclusion

Event evaluations show that 99% of the participants of the AO Trauma courses and the AO In-Hospital for ORP, would recommend these educational sessions to their peers. Through interviews it becomes clear that during courses the focus lays on knowledge transmission and skills training whereas behavioural change is greatly appreciated and made possible in the hospital-based educational sessions when teams come together to upscale their knowledge.



216 The Effect of Web Designed Education Performed Using Mobile Application on Self-Care Power, Self-Efficacy and Quality of Life Undergoing Knee Replacement Surgery

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Background

Providing web-designed education to patients after discharge following knee arthroplasty is essential for managing the risk of complications and ensuring patient safety, as it enables continuous access to information regarding postoperative home care after hospital discharge.

Objectives

The aim of this study is to determine the effect of a web-designed educational (WTE) program applied to patients who have undergone knee arthroplasty on self-care agency, self-efficacy, and quality of life.

Methods

This study employed a prospective, randomized controlled design and was registered on ClinicalTrials.gov under protocol ID NCT06306027. This study, conducted as a master's thesis, was supported by the Scientific and Technological Research Council of Türkiye (TUBİTAK) with project number 223S589. It was conducted at the Orthopedics and Traumatology Clinic of Konya City Hospital between January 2024 and October 2024, involving 67 patients (WTE group: n=33; control group: n=34). Patients in the control group received routine, unstructured discharge education as part of standard clinical care. In contrast, patients in the WTE group received the same discharge education, followed by a structured WTE program that was administered for one month starting on the 15th day after discharge. Data were collected using the Self-Care Power Scale (SCPS), the Self-Efficacy Scale (SES) and the Quality of Life Scale (SF-36)".

Results

The groups were homogeneous with respect to demographic and clinical variables. In the pre-test, no statistically significant differences were found between the WTE and control groups in the mean scores of the SCPS, SES and SF-36 ($p>0.05$). However, in the post-test, the WTE group showed a statistically significant increase in the mean total and subscale scores of all three instruments compared to the control group ($p<0.05$).

Conclusion

The WTE program was found to be effective in improving self-care agency, self-efficacy, and quality of life in patients following knee arthroplasty.



Friday, 15 May, 2026, 9:00 - 10:00

Orlando B

PS01 | Priority Session 1

Legacy meets GenAi- personalizing nursing education with AI

Biljana Filipović

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Friday, 15 May, 2026, 10:30 - 11:30

Orlando B

S03 | Session 3 | Clinical Practice

63 Investigation of Operating Theatre Pressure Injury Risk and Influencing Factors in Patients Undergoing Open Heart Surgery: A Single-Center Cross-Sectional Study

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Background Open heart surgery patients face high pressure injury risks due to prolonged immobility, anesthesia, and physiological changes. Studies in Turkey show a 24-25% incidence, mostly Stage I within 24 hours post-op. Nurses often lack knowledge, and prevention measures are insufficient.

Objectives This study was conducted to determine the risk of operating theatre pressure injury and the factors influencing this risk in patients undergoing open heart surgery.

Methods Ethical approval was obtained before starting the study (Approval No: 2022/110). The study was conducted as a cross-sectional study between January 15, 2023 and April 1, 2023. The sample of the study consisted of 147 patients who underwent open heart surgery at a university hospital in Şanlıurfa. The research data were collected using the Patient Identification Form and the 3S Operating Theatre Pressure Injury Risk Diagnosis Scale. Data were collected one day prior to and on the day of the surgery. SPSS 23.0 (IBM) was used for data analysis, and $p < 0.05$ was considered the threshold to be statistically significant. This study utilized the STROBE checklist for reporting purposes.

Results The average age of the patients was 61.51 ± 11.66 , with 63.1% being male and 40.6% having completed secondary education. Significant factors found to affect the risk of intraoperative pressure injury included a high body mass index ($p = 0.005$), prolonged surgery duration ($p = 0.001$), and moderate hypothermia ($p = 0.030$). Although the overall risk of pressure injury was found to be moderate, undergoing surgery for 6 hours or more ($p = 0.001$) and having a high BMI ($p = 0.005$) were determined to significantly increase this risk.

Conclusion This study showed that the risk of pressure injury in patients undergoing openheart surgery is influenced by body mass index, surgery duration, and hypothermia. Preventive measures should be enhanced, especially for patients with prolonged surgeries and high BMI.



69 Developing a Normothermia Care Bundle to Improve Perioperative Patient Outcomes: A Delphi Study

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Background

Inadvertent perioperative hypothermia (IPH), defined as a core temperature below 36 °C, remains a frequent complication despite existing practice guidelines (PGs), affecting up to 56% (Mendonça et.al. 2021) of surgical patients. Normothermia Care Bundles (NCBs)—sets of evidence-based interventions—have improved outcomes internationally but have not been studied in Finnish operating units.

Objectives

The aim was to identify and prioritize effective interventions for maintaining normothermia and to develop a context-specific NCB to support guideline implementation in Finnish operating units.

Methods

A three-round Delphi study (Keeney et.al. 2011) was conducted with 47 experts, including perioperative nurses, anesthesiologists, clinical nurse specialists, and educators from all five Finnish university hospitals and universities of applied sciences, as well as additional experts identified through a literature review. A pre-tested questionnaire was developed by aligning the Finnish PG (2022) with international guidelines. Data were analyzed using descriptive statistics and intraclass correlation (ICC).

Results

An evidence-based NCB was developed through expert consensus. Final data collection is ongoing, and full results will be published by the end of 2025.

Conclusion

This is the first study to develop an NCB tailored to Finnish operating units. The bundle offers a practical tool to support the prevention, identification, and management of IPH, with the potential to enhance patient safety and perioperative care quality.

References

- Keeney, S. Hasson, F. McKenna, H. 2011. The Delphi technique in nursing and health research. West Sussex. Wiley-Blackwell. ISBN 978-1-4051-8754-1.
- Mendonça, F. Ferreira, J.D.S. Guilardi, V.H.F. Guimarães, G.M.N. 2021. Prevalence of Inadvertent Perioperative Hypothermia and Associated Factors: A Cross-Sectional Study. *Therapeutic Hypothermia and Temperature Management*, 11(4), 208-215. <https://doi.org/10.1089/ther.2020.0038>



191 Global Trends in Evidence-Based Nursing Approaches to Total Joint Arthroplasty

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Background

Total knee and hip arthroplasty are among the most commonly performed surgeries globally, with nursing care playing a vital role in patient outcomes. Incorporating evidence-based practices (EBPs) into perioperative nursing is essential for improving recovery, minimizing complications, and ensuring high-quality care. Despite increasing scholarly interest, a comprehensive bibliometric overview remains lacking.

Objectives

This study aimed to evaluate the global and national nursing literature on evidence-based approaches to total knee and hip arthroplasty using bibliometric methods, identifying key research trends, collaboration networks, and thematic focuses.

Methods

A bibliometric analysis was conducted on July 15, 2025, via the Web of Science Core Collection. The search strategy included: “total knee arthroplasty” OR “total knee replacement” OR “hip arthroplasty” AND “nursing” AND “evidence-based.” From 72 initial records, 58 met inclusion criteria (English, nursing-related, EBP-focused). Data were analyzed using Web of Science tools and VOSviewer to map co-authorships, bibliographic coupling, co-citations, and keyword networks.

Results

The 58 publications received a total of 952 citations, averaging 16.41 citations per article, with an h-index of 17. A significant increase in both publications and citations has been observed since 2016. Schwartzkopf Ran was the most prolific author, contributing 3 articles. Co-authorship maps revealed tightly connected collaboration clusters, particularly around authors like Barnett, Adrian and Wilson, Jennie. Keyword co-occurrence highlighted two dominant themes: (1) surgical risk factors (e.g., obesity, complications, hip arthroplasty), and (2) evidence-based nursing practices (e.g., pain management, patient care). Co-citation analysis identified Kurtz (2007) and Liberati (2009) as foundational references in orthopedic outcomes and evidence synthesis, respectively.

Conclusion

Evidence-based nursing research in arthroplasty is expanding, with a focus on safety, pain management, and patient-centered care. Future efforts should encourage publication in high-impact journals, interdisciplinary collaboration, and broader systematic reviews to fill existing gaps and enhance clinical nursing science.



11 Adoption of Clinical Reasoning Support Strategies in the Post-anesthesia Context: Results of a Delphi Study with Experts

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Background

Clinical reasoning in perioperative nursing is challenged by unpredictability, complexity, and time-sensitive decisions. Supporting strategies can enhance nurses' decision-making, contributing to patient safety and care quality, especially in the Post-Anesthesia Care Unit (PACU).

Objectives

To identify and validate strategies that support clinical reasoning in the perioperative setting, evaluating their relevance, applicability, and acceptance among expert nurses.

Methods

A modified e-Delphi study was conducted in two rounds with Portuguese perioperative nurse experts. A total of 20 nurses participated in Round 1, and 14 completed Round 2. Strategies were assessed for Relevance and Applicability on a 5-point Likert scale. Consensus was defined as $\geq 75\%$ agreement. Strategies were classified as Rejected (R), Not Recommended (NR), or Accepted (A). Qualitative comments enriched data interpretation.

Results

All 14 proposed strategies were accepted after two rounds. The "Reflective Journal" was accepted after adapting its structure and integrating it with clinical supervision. "Multi-Criteria Decision Analysis" was viewed as methodologically sound but operationally complex. "NEXUS®" raised concerns about scope of nursing autonomy and interprofessional boundaries but was still accepted. The "Decision Tree for Restriction" was accepted with recommendations to adapt pre-hospital protocols for intra-hospital use. Expert feedback emphasized the need for strategies that are feasible within PACU dynamics, promote team reflection (e.g., debriefing), and consider available resources.

Conclusion

The panel reached consensus on the acceptance of all 14 strategies to support clinical reasoning in perioperative care. Strategies that promote structured reflection, interprofessional communication, and decision-making were highly valued. Future implementation should consider organizational support, time constraints, and integration into existing clinical workflows.



Friday, 15 May, 2026, 10:30 - 11:30

Koločep

S04 | Session 4 | Environmental sustainability

185 ASSESSMENT OF SURGICAL NURSES' KNOWLEDGE, ATTITUDES, AND PRACTICES REGARDING SUSTAINABILITY

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Background: Operating rooms generate high energy use and medical waste, emphasizing the need for surgical nurses to adopt sustainable practices. However, research on their sustainability-related knowledge, attitudes, and behaviors is limited, and the impact of demographic factors remains underexplored, hindering the integration of sustainability into nursing practice.

Objectives: The aim of this study is to determine surgical nurses' knowledge, attitudes, and behavior levels regarding sustainability and to evaluate the relationship between these variables and demographic characteristics.

Methods: This cross-sectional descriptive study included 456 nurses working in surgical clinics of public and private hospitals across seven regions of Türkiye. Regional diversity was considered to examine how health policies, patient profiles, and institutional structures influence sustainability perceptions. The required sample size was calculated using G*Power 3.1 with 95% power and 5% error margin, accounting for possible sample losses. Data were gathered via an online survey using the Nurse Introduction Form and the Nursing Sustainability Attitudes Survey. Statistical analyses were performed in Jamovi v2.6.26, considering normality and variance homogeneity.

Results: Participants had a mean age of 34.2 ± 6.8 years and 10.1 ± 5.4 years of experience. Most were female (82.7%) and worked in public hospitals (82%). The mean sustainability attitude score was 47.8 ± 8.5 . Low scores on items 8 and 9 indicated difficulty in addressing unsustainable practices. Attitude scores significantly varied by education and work type ($p < 0.05$), with higher scores among those with postgraduate education and over 10 years of experience. Gender and unit of employment showed no significant effect on sustainability attitudes.

Conclusion: Surgical nurses demonstrate general awareness and positive attitudes toward sustainability; however, these are not consistently reflected in practice. Limited knowledge and institutional barriers hinder implementation in areas like waste segregation and energy conservation. Findings emphasize the need for integrating sustainability into nursing education and in-service training.



201 Climate benefits of third-party device remanufacturing in perioperative care: a systematic review of life-cycle analyses

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Background

The healthcare sector's environmental footprint, especially Scope 3 emissions from single-use medical devices (SUDs), is substantial. Commercial remanufacturing of SUDs (rSUDs) could mitigate this impact, but robust evidence is needed.

Objectives

To quantify greenhouse-gas (GHG) emission reductions when rSUDs replace original equipment manufactured SUDs, and to compare process-based life-cycle assessment (LCA) findings with routinely used environmentally extended input–output (EEIO) models.

Methods

We conducted a narrative review of peer-reviewed or ISO-conformant LCAs directly comparing rSUDs with equivalent SUDs. Inclusion required cradle-to-grave boundaries, transparent GHG reporting and third-party remanufacturing. Device category, modelling assumptions and GHG outcomes were extracted, and mean percentage change in GHGs calculated. Price differentials were converted to EEIO-based GHG factors (0.208 kg CO₂e per 2018 USD) for cross-model comparison.

Results

Four studies covering eight devices—electrophysiology catheters, operating-room energy instruments and patient-care consumables—met criteria. rSUDs reduced cradle-to-grave GHG emissions by 23–60% (mean 42%). Raw material extraction and manufacturing dominated SUD emissions, whereas electricity use and packaging were principal contributors for rSUDs. Sensitivity analyses showed renewable electricity and higher remanufacturing yields amplified benefits, while transport distance, mode and sterilisation method had minor influence. EEIO-derived savings diverged from process LCA values by -7% to +2200%, limiting suitability for product-level decisions.

Conclusion

Third-party remanufacturing of single-use medical devices delivers substantial GHG reductions and represents an immediately actionable strategy for environmentally sustainable perioperative practice. Healthcare organisations should embed rSUD procurement within decarbonisation plans and complement organisation-wide EEIO inventories with product-specific LCAs. Broader LCA coverage and optimised circular-economy practices could unlock further environmental gains. More research is needed to determine if the environmental benefits extend to additional types of devices.



237 Reusable versus Disposable Forced Air Warming : a comparative study of thermal performance as a first step toward more sustainable practices

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Background

Perioperative hypothermia increases the risk of surgical complications making effective patient warming essential. Disposable forced air warming blankets, while effective, contribute significantly to healthcare waste and environmental impact. Reusable alternatives may offer similar efficacy while reducing environmental footprint, but their thermal performance requires rigorous evaluation

Objectives

To assess the safety and effectiveness of reusable textile blankets as an alternative to disposable forced air warming blankets, as a first step toward developing more sustainable perioperative practices

Methods

An in vitro, prospective, head-to-head comparison of heating performance in full-body and upper-body designs, using three blanket types in a simulated operating-room scenario- disposable single use (DSU), light reusable cotton (LRC) and Heavy Reusable Cotton (HRC). A single forced-air-warmer was set to 38°C for all tests, -simulating normothermic (37°C) and hypothermic (25°C) patient conditions, measuring surface temperatures at six anatomically relevant points across the simulated body. Laboratory-based simulation in a controlled environment mimicking operating room conditions with ambient temperature maintained at 20±0.5°C. Surface temperature and temperature homogeneity were measured at six anatomically relevant points across the simulated body

Results

Heavy cotton blanket provided the highest and most homogenous surface temperature in full-body (36.7 ± 0.6°C) (DSU = 35.4± 1.1°C; LRC = 35.7± 1.7°C) designs (p<0.05) and upper-body (35.5± 0.5°C) (DSU = 35.4± 0.5°C; LRC = 34.9± 2.4°C) designs (p<0.05). Unsafe temperature elevations were not recorded for any of the test configurations. Statistical analysis revealed significant differences between blanket types (p<0.05), with Heavy Reusable Cotton consistently outperforming both disposable single-use and light-reusable cotton options in terms of temperature distribution

Conclusion

Carefully designed reusable blankets may provide a safe and environmentally friendly alternative to disposable forced-air-warming blankets, potentially reducing costs and environmental impact. Additional research examining infection control, durability through multiple laundering cycles, and comprehensive life cycle analysis would further validate these promising findings



222 Investigation of Individual and Institutional Ecological Knowledge and Behaviors of Nurses Working in Operating Rooms and Intensive Care Units

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Background

The healthcare sector accounts for significant environmental waste, with operating rooms and intensive care units notably increasing medical waste. Nurses working in these units are critical in reducing environmental impact through environmentally responsible practices.

Objectives

This study aims to determine the awareness of intensive care and operating room nurses regarding their social and work environment.

Methods

A descriptive and cross-sectional study was conducted between July 2024 and May 2025 with participants from 183 operating rooms and intensive care units nursing at northern Türkiye. “Nurse Awareness Scale,” “Nurse Professional Ecological Behavior Scale,” and “Personal Ecological Behavior Scale” were used as data collection tools.

Results

In the study, the mean perception score of the Nurse Awareness Scale (NAS-1) was found to be 27.88 (SD = 8.98), while the mean behavior score (NAS-2) was 34.73 (SD = 9.48). The mean perception score of the Nurse Professional Ecological Behavior Scale (NPEBS-1) was 15.86 (SD = 5.01), and the mean behavior (NPEBS-2) score was 16.36 (SD = 5.17). For the Personal Ecological Behavior Scale (PEBS-1), the mean perception score (PEBS-2) was 27.95 (SD = 7.38), and the mean behavior score was 28.61 (SD = 8.07). A moderate positive correlation was found between NAS-1 and NAS-2 scores ($r = 0.56$, $p < .00$), while a high positive correlation was observed between NPEBS-1 and NPEBS-2 scores ($r = 0.56$, $p < .00$). Additionally, a very strong positive correlation was identified between PEBS-1 and PEBS-2 scores ($r = 0.82$, $p < .00$).

Conclusion

The study reveals significant positive correlations between nurses' environmental awareness and behaviors. The strong correlation observed in personal ecological behaviors indicates that higher environmental awareness promotes responsible actions. These results underscore the importance of environmental awareness in advancing sustainable practices in healthcare.



Friday, 15 May, 2026, 10:30 - 11:30

Orlando A

S05 | Session 5 | Leadership / Management

305 Operating Room Nurse Well-Being In Focus: A Bibliometric Exploration of Research

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Background

The well-being of nurses, especially those working in high-stress environments such as operating rooms (ORs), has become a growing focus in healthcare research. Understanding the evolution of academic interest in this area is essential for identifying knowledge gaps, dominant themes, and global research priorities.

Objectives

This study aimed to conduct a bibliometric analysis of the scientific literature on nurse well-being, with a specific focus on OR settings, to evaluate publication volume, geographic trends, thematic clusters, and research evolution over time.

Methods

A systematic search was performed across PubMed, Scopus, and Web of Science databases for peer-reviewed publications from 2009 to 2024. Keywords included “nurse well-being,” “operating room,” “burnout,” “stress,” “resilience,” and “mental health.” Bibliometric indicators such as publication frequency, keyword co-occurrence, country of origin, and thematic mapping were analyzed using VOSviewer and descriptive statistical techniques.

Results

A notable increase in publications was observed after 2020, likely driven by heightened awareness of nurse well-being following the COVID-19 pandemic. The most prolific countries were China, the United States, Iran, Australia, and Türkiye. Dominant themes identified included stress and burnout, mindfulness-based coping strategies, organizational support, leadership, and pandemic-related psychological impacts. Leading journals in this area were *International Journal of Nursing Studies*, *Journal of Clinical Nursing*, and *Nursing Outlook*.

Conclusion

This bibliometric analysis demonstrates increasing global attention to nurse well-being in OR contexts. While scholarly output has expanded, notable gaps remain, particularly regarding interventional and cross-cultural research. These findings can guide future research agendas and support policy and institutional strategies aimed at fostering a resilient nursing workforce, particularly in high-pressure environments like the operating room.

Keywords:

Nurse Well-Being, Operating Room Nurses, Bibliometric Analysis, Burnout, Stress, Resilience



24 Burnout and resilience among operating room nurses - a job satisfaction survey

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Background

The operating room is an environment that is both challenging and demanding, thus may induce or elevate levels of occupational stress in operating room nurses. On top of that, the healthcare system is currently struggling to retain and attract operating room nurses. This survey is enrolled in KEEPCARING, a visionary project funded by the European Union, dedicated to enhance wellbeing and resilience of healthcare professionals in EU hospital settings. The project focuses on reducing stress and preventing burnout among healthcare workers by developing innovative, co-created solutions.

Objectives

The objective of this survey is to investigate operating room nurses levels of burnout symptoms, job satisfaction, leadership influence, individual, team and organizational stressors in their work life. The aim is to achieve an overview of current challenges in their work life balance, and thereby creating a foundation of knowledge to better retain and attract operating room nurse staff, improve their wellbeing and resilience in future hospital settings.

Methods

Online individual survey

Results

Approximately 100 perioperative nurses have answered the survey, and the results of factors influencing their work-life balance will be presented at the conference.

Conclusion

The results of this study shows that challenges exists, operating room nurses experiences burnout symptoms, their leaders leaderships style influences their work environment, their work-life balance is challenged and the operating room is a stressful working environment. Future projects within the KEEPCARING project aims to build a healthier workforce, combining non-digital, digital and AI-driven approaches to address individual, team and organizational stressors.



194 Dark Personality Traits in Hellenic Healthcare: The Case of Specialized Units

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Background

Empirical studies indicate that leadership traits aligned with Machiavellian tendencies are deemed unsuitable within the healthcare sector. Healthcare managers bear the critical responsibility of safeguarding the stability of their organizations, whereas healthcare providers prioritize delivering high-quality care to patients.

Objectives

This study focused on exploring the dynamics of supervisor-subordinate relationships within specialized units, including operating rooms, anesthesiology, central sterilization departments, and intensive care units, as well as their influence on employee job satisfaction.

Methods

This research employed a prospective descriptive correlational design, conducted across three major hospitals located in Athens. The study sample comprised 294 hospital employees. A Data Recording Sheet was utilized to document demographic parameters and work-related attributes. Job satisfaction was measured using a Numeric Analogue Scale ranging from 0 to 10, where "0" indicated "complete dissatisfaction" and "10" denoted "maximum satisfaction," and the Minnesota Satisfaction Questionnaire. The exploration of Machiavellian tendencies was carried out using the MACH IV scale, which evaluates the interplay between personality characteristics, unethical behavior, and workplace stress, and the Dirty Dozen scale, designed to explore employee dark triad personality traits.

Results

The study included 18.5% male and 81.5% female participants, with 28.9% falling within the 31-40 age group. Higher levels of Machiavellianism were positively associated with greater satisfaction ($\rho=0.127$, $p = 0.027$) and increased narcissism ($\rho=0.256$, $p<0.001$). Meanwhile, satisfaction levels showed a negative correlation with the moral perspectives of healthcare professionals ($\rho= -0.113$, $p=0.048$).

Conclusion

This research explores the influence of Machiavellian leadership on employees in general, with particular attention to those exhibiting Machiavellian traits, while also analyzing the reciprocal interactions between these groups. The study's outcomes offer meaningful perspectives on managing the intricate relationships between Machiavellian leaders and their teams, aiming to foster a more balanced and constructive organizational environment.



210 Quality in Ambulatory Surgery: Nurses' Perspective

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Background

Ambulatory surgery (AS) is expanding globally, transforming healthcare delivery through increased efficiency and patient benefits. Despite its growth, limited data exists on the quality of care provided and how to assess it. Evaluating quality indicators sensitive to nursing interventions (QISNI) in AS is crucial, as they offer objective data to guide improvements in care.

Objectives

To characterize perioperative nurses' perception of QISNI in AS.

Methods

A questionnaire was developed to assess QISNI from nurses' perspectives. It demonstrated good psychometric properties, internal consistency of 0.88, and six dimensions. It was implemented in 2024 with 222 Portuguese perioperative nurses. The link was distributed through head nurses of Ambulatory Surgery Units (ASUs).

Results

The 26-item questionnaire uses two 4-point Likert scales (frequency and agreement). Most respondents were female (77%), with an average age of 45 years, 22.3 years of professional experience, and 8.9 years in AS. Item means ranged from 1.96 to 3.76, with standard deviations between 0.490 and 1.057, indicating some variability. Only 11 items scored above 3.00, revealing extensive improvement needs. Highest-rated items involved verbal postoperative instructions to patients/caregivers ($\bar{x}=3.76$ and $\bar{x}=3.70$), with low variability and consistent positive perceptions. Lowest-rated items concerned nurses' participation in policy decision-making ($\bar{x}=1.96$) and career progression opportunities ($\bar{x}=1.98$). Items with the most divergent responses concerned written and updated care plans ($\bar{x}=2.64$; SD=1.057) and use of nursing models ($\bar{x}=2.61$; SD=0.976). The most consistent response was regarding the low incidence of perioperative falls ($\bar{x}=3.75$; SD=0.490). The dimensions "Nursing care" ($\bar{x}=3.59$) and "Intraoperative safety" ($\bar{x}=3.57$) were positively rated. "Nurse involvement" ($\bar{x}=2.23$) and "Work organization" ($\bar{x}=2.63$) scored lowest. Others averaged 2.76, reflecting overall negative perceptions.

Conclusion

This research presents practical utility by diagnosing nurses' perspectives on the quality of AS care, supporting the development of improvement initiatives. In addition, we highlight the contribution of developing and validating an instrument.



Friday, 15 May, 2026, 11:30 - 12:30

Orlando B

S06 | Session 6 | Clinical Practice

192 The Effect of Preoperative Anxiety on Postoperative Pain in Surgical Patients

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Background: Surgical stress and anxiety not only delay patient recovery during the preoperative period but also negatively impact postoperative pain. For postoperative recovery, nurses should implement measures to reduce preoperative anxiety as part of postoperative pain management measures. In this context, preoperative anxiety levels should be determined and their relationship with pain should be examined.

Objective: The research was conducted in order to determine the effect of preoperative anxiety on postoperative pain in surgical patients.

Methods: This descriptive cross-sectional research was conducted with 152 patients who will undergo surgery at the General Surgery Clinics of Çukurova University Balcalı Hospital. The "Patient Identification Information Form" and the "Surgical Anxiety Scale" were used as data collection tools in the study, and the pain level was measured with the "Numerical Pain Assessment Scale".

Results: When the Surgical Anxiety Scale scores were examined, the patient's anxiety in the preoperative period was found to be mild to moderate (26.76 ± 15.34), and it was found that the sub-dimension with the highest average was health-related anxiety (10.93 ± 6.43). The average of the highest pain intensity of the patients in the last 24 hours after surgery was 7.18 ± 2.35 with during mobilisation. When the pain levels of the first 24 hours after surgery were examined, a moderate and high correlation was found in the scale sub-dimensions of all hours and a positive direction in the total score ($p=,000$).

Conclusion: As a result, postoperative pain increased as preoperative anxiety increased. It is thought that postoperative pain control will be supported by reducing anxiety in the preoperative period. In this context, it is recommended to add patient-specific anxiety-reducing measures to the postoperative analgesia applications in patients with moderate and high anxiety levels during the preoperative period to the treatment and care for postoperative recovery.

Key words; Anxiety, Pain, Preoperative Anxiety, Postoperative Pain, Nursing.



158 Effects of Nursing Interventions for Pain Management After Thoracotomy: A Systematic Review Study

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Background

There is no systematic review in the literature evaluating the effects of nursing care, including pharmacological and non-pharmacological approaches, on thoracotomy pain management. Therefore, systematically identifying and comparing these interventions may provide valuable insights for clinical practice and support future research.

Objectives

This study aimed to determine the effects of nursing interventions for thoracotomy pain.

Methods

In this systematic review study, a total of eight electronic databases, including PubMed, CINAHL, Web of Science, Scopus, Cochrane Library, Ovid MEDLINE(R), TR-Dizin, and Dergi Park, were searched to find relevant studies published between 2003 and January 2024. These databases were searched for the following search terms, including "Nursing Care", "Nurse", "Thoracotomy", "Pain", and "Pain management", to identify the effectiveness of nursing interventions for thoracotomy pain. The PICOT-SD method was used to determine the compatibility of the pieces with the eligibility criteria.

Results

Nine articles with 521 participants in total are included in this systematic review. Education was the most frequently used intervention for the pain management of thoracotomy patients. Other interventions were cold application, Transcutaneous Electrical Nerve Stimulation (TENS), and chest tube dressing. Cold application and preoperative education decreased the thoracotomy patients' pain significantly. However, TENS caused a significant decrease in one study, and different dressing types did not cause statistically significant differences in pain.

Conclusion

This systematic review revealed that education, TENS, and cold application can help decrease thoracotomy pain, whereas the dressing type did not. Also, more nursing interventions about the pain management of thoracotomy patients are needed.



54 "Beyond the Drapes: Embedding Trauma-Informed Care in the Operating Theatre"

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Background

The perioperative environment is often fast-paced, high-pressure, and procedurally driven, which can unintentionally deprioritise holistic and person-centred care. Trauma-informed care (TIC) recognises the widespread impact of trauma and seeks to create safe, compassionate, and empowering environments for all individuals. However, awareness and application of TIC principles within operating theatres remain limited. This gap can affect both patient outcomes and staff wellbeing, especially given that trauma may be re-triggered by invasive procedures, loss of control, or perceived threats during the perioperative experience (Fraser et al., 2014; Purkey and Patel, 2018).

Objectives

This project aimed to:

1. Increase awareness and understanding of trauma-informed care among perioperative staff.
2. Identify current gaps in practice and knowledge.
3. Implement practical strategies to embed trauma-informed approaches in the theatre setting.
4. Evaluate the impact on both staff awareness and patient experience.

Methods

A multi-phase approach was used. Initial staff surveys assessed baseline knowledge and attitudes towards TIC. A tailored educational programme was delivered, including workshops, visual aids in staff areas, and scenario-based learning. Focus groups and debrief sessions encouraged staff reflection and discussion. Feedback mechanisms captured perceived changes in practice and patient interactions. Collaboration with patient experience teams ensured that lived experience was included in staff training.

Results

Post-intervention surveys showed a measurable increase in staff awareness of trauma-informed principles, with 87% of respondents reporting improved understanding. Staff reported increased confidence in recognising trauma triggers and adapting communication and behaviour accordingly. Challenges included embedding TIC in time-constrained situations and overcoming misconceptions about its relevance in theatre (Green et al., 2015).

Conclusion

Integrating trauma-informed care into the perioperative setting is both necessary and achievable. Awareness-raising initiatives significantly improved staff understanding and patient experience. Ongoing education and organisational support are critical to sustaining trauma-informed practices in theatre environments, where they are often overlooked but highly impactful.



106 Organ procurement from the perspective of Operating Theatre Nurses

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Background

During organ procurement, perioperative nurses provide patient care and safeguard the donor's dignity and rights. Caring for a donor in the operating theatre can be mentally and physically challenging. Previous research suggests that organ procurement is traumatic for perioperative nurses. There is a paucity of literature describing how these nurses perceive organ procurement and deal with the challenges involved. Thus, a basic understanding of their perceptions and main concerns is warranted.

Objectives

To explore operating theatre nurses' experiences and perceptions of organ procurement.

Methods

Two Swedish studies were performed. The first used grounded theory and included 10 operating theatre nurses, nine of whom self-identified as female and one as male, with an average age of 51.8 years. The second phenomenographic study included 15 female operating theatre nurses with a mean age of 50.2 years. Both studies were conducted in university and regional hospitals, reflecting Sweden's diverse range of hospital settings and geographic areas.

Results

The main concern of operating theatre nurses is optimum organ procurement involving a social process comprising four stages: brace oneself, facilitate, procurement and completion. They prepare for the organ procurement, share their knowledge with the rest of the team and make technical preparations to enable efficient organ procurement. Finally, they bring the process to a close by ensuring a dignified farewell for relatives. Organ procurement is perceived as an ethical responsibility and moral duty that requires personal learning and team support. During the procedure, perioperative coordination and communication are considered vital.

Conclusion

Operating theatre nurses are involved in a distinct social process to ensure optimum organ procurement. The procedure is characterised by ethical tension involving the team members' ability to communicate and support each other.



Friday, 15 May, 2026, 11:30 - 12:30

Koločep

S07 | Session 7 | Environmental sustainability

202 One directive, ten rules: how regulatory fragmentation hinders environmental sustainability in European perioperative care

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Background

Extensive, peer-reviewed life-cycle assessment and economic research shows that remanufacturing single-use medical devices (SUDs) can significantly reduce greenhouse-gas emissions and hospital procurement costs, advancing EU goals for decarbonisation, affordability, supply-chain resilience, and the development of a circular economy. Yet, under Article 17 of the Medical Device Regulation (MDR), regulatory responsibility for remanufacturing rests with individual Member States, producing a patchwork of sometimes-conflicting rules on classification, liability, and logistics. European Commission reports evaluating the implementation of the MDR have revealed that this regulatory fragmentation is a major impediment to the success of remanufacturing and other sustainability initiatives.

Objectives

Comparing the attempts to roll out SUD remanufacturing programs in two EU countries, this case study examines how divergent national frameworks shape perioperative practice; and distils principles for regulatory harmonisation as a necessary basis for the development of a circular economy in European healthcare.

Conclusion

In Ireland, effective national regulations enabled a hospital and commercial remanufacturer to partner to collect, remanufacture, and safely redeploy SUDs within existing sterile-services workflows. In Italy, by contrast, early planning of a similar program stalled because overly complex and onerous regulations, particularly surrounding device collections, render safe and commercially-viable remanufacturing impractical. The comparison shows that even where clinical, procurement, and other hospital staff are eager to implement carbon- and cost-reducing programs, regulatory coherence is the decisive factor in their viability. EU-level harmonisation and standardization of device regulations would unlock remanufacturing and, by extension, considerable environmental and economic benefits across perioperative care.



130 Bibliometric analysis of scientific publications on environmental sustainability in operating rooms

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Background

Climate change is nowadays recognized as a serious global health threat rather than an environmental one. Due to high energy use, anesthetic gas emission and medical waste generation, operating rooms are among the units that contribute the most to environmental degradation in healthcare systems.

Objectives To identify the main research trends, country-author collaborations, influential publications and thematic structures in the field by conducting a comprehensive bibliometric analysis of scientific publications on environmental sustainability in operating rooms.

Methods A bibliometric analysis was performed using the Web of Science Core Collection. The dataset was obtained by searching English-language articles using keywords such as “operating room,” “environmental sustainability,” “green surgery,” and related terms. A total of 162 eligible articles published between 1998 and 2025 were included. Data were analyzed using quantitative bibliometric techniques and visualized through VOSviewer software.

Results The analysis covers 162 publications with a significant increase in the last decade. The most productive country is the United States and the most productive journal is Surgical Endoscopy and Other Interventional Techniques. The most cited study was cataract surgery and life cycle assessment by Thiel et al. (2017) with 173 citations. Co-citation and authorship analyses showed that McGain, Sherman and Eckelman play central roles in the field. Three main thematic clusters were identified: (1) environmental impacts of surgical processes, (2) carbon footprint and life cycle assessments, (3) global sustainability and methodological frameworks. The average number of citations per publication is 13.84.

Conclusion The findings suggest that academic interest in sustainable OR practices to reduce carbon footprint, improve waste management and implement life cycle assessments will increase. Future studies will adopt a more holistic approach to sustainability that includes ethical, economic and political dimensions. Interdisciplinary collaborations and policy-level contributions will be decisive in the development of green practices in surgical settings.

289 Evaluation of Newly Graduated Nurses' Knowledge, Attitudes, and Behaviors Regarding Perioperative Environmental Sustainability

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Background: Today, healthcare services have significant environmental impacts due to high levels of waste generation and energy consumption. In resource-intensive areas such as operating rooms, implementing environmentally sustainable practices is of great importance. Nurses can play an active role in this process by contributing to the implementation of eco-friendly practices.

Objectives: This study aims to evaluate the knowledge, attitudes, and behaviors of newly graduated nurses regarding perioperative environmental sustainability.

Methods: This descriptive and cross-sectional study was conducted with 105 newly graduated nurses from the Central Anatolia region of Turkey. Data were collected using a “Personal Information Form” and the “Perioperative Environmental Sustainability Knowledge, Attitude, and Behavior Scale,” both developed by the researchers based on the relevant literature.

Results: The mean age of the participants was 22.34 ± 0.83 years. The majority were not members of environmental organizations (87.6%), had not participated in scientific research (85.7%), and stated that environmental sustainability education was insufficient (75.2%). However, 65.7% reported that they were able to incorporate sustainability principles into their nursing practices. The average scores obtained from the scale developed by the researchers were as follows: knowledge sub-dimension (6 items (min=6, max=30)) 20.95 ± 4.05 , attitude sub-dimension (7 items (min=7, max=35)) 27.80 ± 3.71 , behavior sub-dimension (7 items (min=7, max=35)) 27.50 ± 3.89 . The total scale score ranged from 20 to 100, with a mean score of 76.26 ± 9.78 . The reliability coefficient of the scale was 0.911.

Conclusion: Newly graduated nurses were found to have a good level of knowledge and a sensitive attitude and behavior regarding perioperative environmental sustainability. However, it is suggested that integrating environmental sustainability into undergraduate nursing curricula and providing more comprehensive training may enhance knowledge levels and raise awareness, thereby positively influencing attitudes and behaviors.

Recognizing Leadership in Sustainable Perioperative Care: EORNA-Ansell Sustainability Project Fund Winner Reveal

Recognizing of outstanding initiatives that aim to drive meaningful change in sustainable perioperative care, culminating in the announcement of the inaugural Sustainability Project Fund winner.



Friday, 15 May, 2026, 11:30 - 12:30

Orlando A

S08 | Session 8 | Patient Care and Anesthesia

321 Determination of Fear and Anxiety Levels in Neurosurgical Patients Scheduled for Day Surgery

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Background

Day surgery is a surgical approach in which patients are operated on and discharged on the same day. In this process, the fear and anxiety experienced by patients are significant factors that can affect surgical outcomes and patient satisfaction. Therefore, understanding and supporting the emotional needs of patients in the preoperative period is of great importance.

Objectives

The aim of this study is to determine the levels of preoperative fear and anxiety in neurosurgical patients scheduled for day surgery.

Methods

A descriptive, cross-sectional, and prospective study was conducted with 145 outpatients scheduled for elective neurosurgical day surgery. Patients were classified as ASA I-II-III according to the American Society of Anesthesiologists. The sample size was determined using a known population formula. Data were collected between April 15, 2024, and May 30, 2025, using a demographic form, the Surgical Fear Questionnaire (SFQ; 8 items, 2 subscales), and the Surgical Anxiety Questionnaire (SAQ; 17 items, 3 subscales). Ethical approval was obtained prior to data collection. Data were analyzed using SPSS version 25.

Results

The mean age of participants was 55.29 ± 10.35 years, and 65.5% were female. The most common procedures were epidural injection (54.5%) and median nerve decompression (22.1%). The mean SFQ score was 22.59 ± 14.90 , and the mean SAQ score was 15.89 ± 11.41 . The most commonly reported fears were health deterioration (mean: 3.6/10) and incomplete recovery (mean: 4.1/10). A weak but significant negative correlation was found between age and recovery-related anxiety ($r = -.201$, $p = 0.015$).

Conclusion

The study found that patients experienced significant fear and anxiety related to surgery, with concerns about not



fully recovering and health deterioration being the most prominent. In addition, as age increased, anxiety related to recovery decreased. These findings highlight the importance of providing psychological support before surgery.

115 The Relationship Between Perception of Feeling Safe and Postoperative Recovery in Patients Undergoing Surgery with Regional Anesthesia: A Descriptive Study

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Background

Patients' emotional and psychological experiences during surgery can significantly affect their recovery. Especially in regional anaesthesia where patients are conscious, providing a feeling of safety is important for both intraoperative comfort and postoperative recovery.

Objectives

This study aimed to examine the relationship between patients' perception of feeling safe during surgery and postoperative recovery in individuals undergoing surgery under regional anesthesia.

Methods

This descriptive and correlational study was conducted between February 1 and June 30, 2025, in a public hospital in Istanbul. A total of 308 patients who underwent elective surgery with regional anesthesia were included. Data were collected using the "Patient Information Form," "Feeling Safe During Surgery Scale," and "Postoperative Recovery Index." Data were analyzed using descriptive statistics, Mann-Whitney U test, Kruskal-Wallis H test, and Spearman correlation analysis.

Results

Patients reported a high level of feeling safe during the surgical process ($M=115.72\pm 10.50$), while their postoperative recovery was generally at a moderate difficulty level ($M=1.69\pm 0.36$). A low-level negative significant correlation was found between feeling safe and postoperative recovery scores ($r= -0.157$, $p<0.001$). The domain with the greatest difficulty was physical activity.

Conclusion

Feeling safe during surgery under regional anesthesia positively affects the postoperative recovery process. Therefore, enhancing perioperative nursing practices—especially preoperative patient education and supportive communication—may improve patient perceptions of safety and contribute to better recovery outcomes, particularly for those undergoing surgery for the first time.



31 A comparison of acupuncture vs placebo for post discharge nausea and vomiting prophylaxis: Randomized placebo-controlled, patient and observer blinded trial

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Background

Along with the rise in ambulatory surgery and accelerated hospital admission, post operative nausea and vomiting (PONV) and discharge nausea and vomiting (PDNV) are gaining greater attention. PDNV has shown incidence rate from 10% to 37%, and higher in patients with multiple risk factors. PDNV is a common cause of readmission and economic burden.

Objectives

This randomized, placebo-controlled, patient and observer blinded trial (RCT) was conducted to determine whether acupuncture at the points of P6, ST 36 and Lv3 are effective in preventing PDNV compared to placebo acupuncture.

Methods

Patients (n=129) scheduled for arthroscopic knee surgery and ACL reconstruction were randomly assigned to two groups, receiving either acupuncture (n=69) or placebo acupuncture (n=60). The intervention was conducted at the PACU after surgery.

Results

The incidence rate of PDNV was the main outcome measure, which showed no statistically significant difference between the groups (overall average; 6.17% had PNDV after acupuncture, 13.33% placebo, p=0.09). The difference was more pronounced for female patients (24% had PDNV after acupuncture, 50% placebo, p=0.03).

Conclusion

The RCT demonstrated a trend towards a reduction in frequency of PONV and PDNV, when comparing acupuncture vs. placebo acupuncture. However, there were no statistically significant difference between the groups. A subgroup analysis of females receiving acupuncture vs. placebo acupuncture showed a significant reduction of the incidence of PDNV.



270 A systematic review of nurse anesthetists' role in on-table extubation of pediatric cardiac patients

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Background

On-table extubation (OTE) of pediatric patients after surgery for congenital cardiac diseases is receiving renewed interest in accordance with positive international experience; experienced nurse anesthetists contribute greatly in such procedures.

Objectives

To identify the role and significance of nurse anesthetists during OTE of pediatric cardiac patients.

Methods

This was a systematic review using the PRISMA guidelines. Relevant databases in the fields of health and nursing (MEDLINE, CINAHL, EMBASE, Cochrane Library, Google Scholar) were searched for articles in English, Greek, French, and German published between 2000 and 2025. Studies focusing exclusively on adults or including adults and children without discrete data were excluded, as were pharmacological/medicinal studies and books. Full-text articles were retrieved if study abstracts were deemed relevant. Keywords used were: on-table extubation, pediatric, cardiac, anaesthetist, nursing, nurse, pharmacology and boolean operators.

Results

Six studies fulfilling our criteria were identified; two further articles were retrieved from reference lists for a total of eight studies. Of these, three were doctoral theses, two were reviews, one was a pilot of a randomized controlled trial and one was a web-based survey of pediatric cardiac anesthesiologists; finally, one study reported results of a non-randomized protocol on OTE. Quantitative synthesis of results was not possible due to heterogeneity and a small number of studies. Qualitative narrative synthesis provided little information on the exact role of nurse anesthetists, with the exception of doctoral theses that acknowledged their importance and underlined their pivotal role in controlling factors potentially delaying extubation. Studies reported employment of experienced trained nurses in postoperative anesthetic care units; still, there was no information as to their exact role.

Conclusion

There is a notable lack of evidence regarding the role of nurse anesthetists in OTE procedures of pediatric cardiac surgery. Further research is needed to explore their integration within the multidisciplinary care framework.



Friday, 15 May, 2026, 12:45 - 13:45

Orlando A

ePoster01 | ePoster Session 01

269 Swedish guidelines and recommendations for preparing surgical instrument before surgery

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Background

The Quality Council within the Swedish Operating Room Nurses Association is author of evidence-based Guidelines and Recommendations with the aim to promote high quality and safe perioperative nursing care.

Postoperative infections are today the third most common form of healthcare-associated infections, which means costs for healthcare and suffering for patients.

Checking and preparing surgical instruments before surgery could be an infection prevention measure carried out by an operating room nurse.

Preparation of sterile surgical equipment can be done in the operating room or in a preparation room where they will be covered with surgical drapes that will reduce bacterial contamination of the surgical equipment before the patient is brought into the operating room. Preparing surgical equipment in good time leads to efficient use of the operating room which reduce stress for operating room staff.

Objectives

Describe the work process of producing guidelines and the Swedish recommendations for preparing surgical instrument before surgery.

Methods

The work process for producing guidelines is based on an evidence-based model. Data was collected through systematic reviews of literature, local routines and standards collected through members in SEORNA, advice from experts in perioperative nursing, published adverse events, and reviews of international guidelines.

Results

The use of sterile covers to protect sterile surgical equipment from bacterial air contamination while waiting for operations to start is common practice in Sweden although there has not previously been a recommendation on time limit.

Conclusion The guideline has been updated based on recent Swedish studies showing that prepared surgical instruments protected by sterile drapes can be stored in an operating room with approved ventilation for 15 hours. The evidence-based guidelines serve as a foundation to maintain patient safety and high-quality perioperative nursing care. Operating room nurses have evidence-based guidelines to rely on in their daily work.



443 Experiences with Surgical Patient Positioning: Roles, Responsibilities, and Challenges

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Background

Appropriate patient positioning on the operating table during surgery is vital for optimal anatomical exposure, access to essential equipment, patient comfort and to minimize the risk of injuries. Patient positioning has been described as a shared responsibility of the entire surgical team. Research on roles and responsibilities in patient positioning during surgery is sparse.

Objectives

The aim was to explore how representatives from the different professions in the surgical team experience roles, responsibilities, and challenges in positioning the surgical patient.

Design

The study had a qualitative design, including 16 individual, semi-structured interviews,

Methods

Participants included surgeons (n=4), anesthetists (n=4), operating room nurses (n=4) and nurse anesthetists (n=4) in a hospital in Southeastern Norway. The data were analyzed using Braun and Clarke's six-step Reflexive Thematic Analysis.

Result

Three main themes with subthemes were identified, namely 1) A teamwork approach, with subthemes a) facilitating surgery, b) performing actors 2) A patient safety issue, with subthemes a) risk patients, and b) procedural challenges; and 3) Lack of a systematics, with subthemes a) various approach to second time-out, and b) documentation and feed-back issues.

Conclusion

Appropriate and safe positioning during surgery is a common responsibility of all members of the surgical team. Even if surgeons assumingly are the main responsible, operating room nurses have a greater performing part of patient position. Different health professionals emphasized different risk patients, risk procedures, and perceived challenges. This suggests a correlation with distinct professional domains, tasks and competencies within the surgical context.



213 Clinical supervision in the Surgical Center: a relationship between experience, safety and professional development

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Background

The supervising nurse has a challenging role in a highly complex environment such as the surgical center, requiring self-knowledge and a combination of technical and interpersonal skills.

Objectives

To understand the evidence on the importance of effective clinical supervision practices in perioperative nursing.

Methodology: An integrative literature review was conducted using the EBSCOhost and PubMed databases. The Mesh terms were used: Preceptorship, nursing education, teaching methods, and perioperative nursing, restricted to the period 2019 to 2025. A total of 23 articles were found, with 5 remaining after reading the title and abstract.

Results: Innovative strategies are essential to address challenges in the clinical setting and improve the quality of perioperative care through continuous updating, strengthening leadership, and interprofessional collaboration. Effective clinical supervision facilitates learning, promotes critical reflection, and contributes to the development of new skills. The role of the clinical supervisor is crucial in guidance, mentoring and professional preparation. The connection between theory and practice strengthens nurses' training and performance in the perioperative setting.

Discussion: Clinical supervision helps students develop confidence and facilitate their transition to nursing. Students feel more confident performing procedures, increase their competency, and are able to apply theory to clinical practice, as well as develop critical thinking. Clinical experience, teaching skills, and the ability to establish interpersonal relationships are essential elements in selecting a clinical supervisor.

Conclusion

Clinical supervisors possess knowledge and skills in teaching, socialization, and assessment methods, contributing to changing and improving aspects of clinical teaching, thus enabling the successful transition of supervisees to professional practice. It is essential that perioperative nurses proactively contribute to the production of knowledge and research, contributing to the advancement of clinical supervision through their technical competence and knowledge in the perioperative context.

Keywords: Clinical supervision; Nursing education; Teaching methods; Perioperative nursing



226 Surgical Nursing Training in Robotic Surgery: Is Our Training Necessary?

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Background

Laparoscopic surgery transformed surgical practice in the 1990s due to its minimally invasive approach and faster recovery times, although it limited vision and precision. In the early 2000s, robotic surgery improved these limitations by offering 3D vision, articulated instruments, and tremor reduction, increasing safety and effectiveness. This advancement demands updated training for the surgical nursing role.

Objectives

The main objective is to evaluate the need for and effectiveness of specialized training in robotic surgery for perioperative nurses. Secondary objectives include analyzing the role of surgical nursing during robotic procedures and identifying specific competencies.

Methods

A quantitative analytical study was conducted, combining open and closed questions answered by 64 surgical nursing professionals in Madrid, Valencia, and Barcelona, along with a literature review including articles from 2019 to 2025.

Results

A high percentage of respondents have worked as scrub nurses in robotic surgery, demonstrating significant participation. However, the vast majority show a lack of specific technical knowledge about the robot models they work with, and therefore do not have an in-depth understanding of the equipment. Despite this, they agree that specific training is essential to fully understand procedures, equipment, and responsibilities, ensuring patient safety and reducing emotional burden.

Conclusion

Robotic surgery requires nurses who are well-trained and up to date. It is recommended to implement training programs, certification, and continuous practice to strengthen technical competence and staff autonomy, adapting to current technological challenges.

285 Debriefing value in simulated perioperative nursing practice

Liliana Mota^{1,2}, Fernanda Príncipe^{1,2}

¹ *Escola Superior de Saúde Norte da Cruz Vermelha Portuguesa, Nursing, Oliveira de Azeméis, Portugal;* ² *RISE-Health, Nursing, Porto, Portugal*

Background

Simulation is a pedagogic strategy that include a hypothetic representation of clinical reality. Debriefing in simulated



practice is a learning method that allows reflection on what happened in the simulation scenario and requires the active participation of students. The debriefing values are the psychosocial, cognitive and affective dimension, for their impact on the development of competences. Debriefing in simulated practice is a learning method that allows reflection on what happened in the simulation scenario and requires the active participation of students. The debriefing in simulation practice is a very important moment of learning because the students have the opportunity to develop their instrumental or non-instrumental skills. In this area it is fundamental recognize the value of the debriefing to incorporate them in centre of the pedagogical process.

Objectives

To evaluate the value of debriefing in the simulated practice of perioperative nursing during master degree.

Methods

Quantitative study. Data were collected using a questionnaire (Simulation Debriefing Assessment Scale). Participated 166 students of perioperative master degree, after the classes that used the simulation methodology. Data analysis was performed using SPSS® software according variables nature.

Results

The majority of participants were female (83.1%), with a mean age of 24 years. Participants presented high mean values in the psychosocial value of debriefing (4.04), cognitive value (4.31) and affective value (4.32). There are differences with statistical significance in the value attributed to debriefing (psychosocial, affective and cognitive) depending on the course students attend.

Conclusion

The debriefing associated with the simulation is valued by the perioperative nursing in terms of affective, cognitive and psychosocial values.

428 Finnish nursing curricula alignment with the European Operating Room Nurses Association scrub and circulating competencies

Petra Nissinen

Savonia University of Applied Science, Kuopio, Finland

Background

Perioperative nursing competence requirements are increasing due to technological intensity in the operating room and rising patient safety expectations. European Operating Room Nurses Association (EORNA) guidance provides a competence benchmark for scrub and circulating practice.

Objectives

To examine how scrub and circulating perioperative competencies are described in Finnish nursing curricula, to compare curricular content with the EORNA competence framework and to identify congruence, partial alignment and omissions.

Methods

Publicly available curriculum and course-unit documents from Finnish universities of applied sciences (n=18) were analysed using qualitative document analysis (total course units n=52) and deductive content analysis with an a priori



coding matrix derived from the EORNA framework. Units of analysis included learning outcomes, content descriptions, teaching/assessment methods, and placement descriptions. Competence elements were coded as present, partially present, or absent.

Results

Perioperative content was identified in all institutions (n=18) across analysed course units (n=52). Aseptic practice (present n=32/52) and patient safety (present n=30/52) were most consistently addressed. Explicit circulating-role competence appeared more often (present n=15/52) than explicit scrub-role competence (present n=5/52). Instrumentation (present n=7/52) and sterile field management (present n=9/52) were unevenly represented, suggesting variable role-specific preparation across curricula.

Conclusion

Finnish nursing curricula provide perioperative foundations, but explicit scrub and circulating competencies align inconsistently with the EORNA framework, particularly for scrub-role elements. The findings support clearer role-based learning outcomes and structured intraoperative learning opportunities to improve comparability and patient safety preparedness. Moreover, the findings underscore the need for an internationally coherent alignment that delineates role-specific perioperative nursing competencies alongside the structural and pedagogical principles governing the preparation of operating room nurses. Such harmonized international guidance would enhance the quality, comparability, and patient-safety-related robustness of perioperative nursing education.

66 AN INNOVATIVE SUSTAINABILITY PROJECT: WASTE SEGREGATION AND RECYCLING IN THE SURGICAL UNIT OF HOSPITAL UNIVERSITARI MUTUA TERRASSA

Laura Diaz Co, Barbara Carmona Pomada, Hamid Azaroual el Bachiri, Nuria Nieto Lorente

Hospital Universitari Mutua Terrassa, Terrassa, Spain

Background

Hospital Universitari Mútua Terrassa (HUMT) launched an innovative Project in its Surgical Unit (SU) aimed at reducing its carbón footprint, through responsible waste management practices.

Objectives

The main objective was to assess the impact of an intervention promoting the segregation of non-hazardous plastic and paper waste in the perioperative setting over a six-month period.

Secondary objectives included quantifying the volumen of segregated wasste and evaluating staff engagement and motivation towards sustainable practices.

Methods

A quasy-experimental pre-test/post-test study was conducted involving 350 professionals from the SU. A multidisciplinary team led the intervention, which included surveys, staff training sessions, visual awareness campaigns, and a comprehensive waste inventory. Designated containers for paper and plastic were installed in all operating theatres (n=17), recovery rooms (n=3), and procedure rooms (n=2).



The intervention was implemented in three consecutive phases:

1.
Phase 1 (1 week-pilot): training on clean plastic and paper segregation in the pre-incision, without recycling.
2.
Phase 2 (4 months): active recycling of pre-incision waste to consolidate segregation practices.
3. Phase 3 (1 month): full segregation and recycling waste throughout the entire surgical procedure.

Each phase was evaluated through checklists and surveys (Likert scale 0–10), requiring a minimum score of 7 to proceed. The final stage included waste weighing, compacting, and transport.

Results

A total of 267 responses were collected (267/350): 60% from nursing staff and assistants, 29% from physicians, and 11% from other roles. Staff showed strong support (average 9), project satisfaction (8.8), infrastructure adequacy (7.5), belief in segregation (9.3), and consensus that hospitals should implement such systems (10). Daily segregation reached 63 kg of paper and 55 kg of plastic, reducing the carbon footprint by 85%.

Conclusion

The Project was successfully implemented, achieving high levels of staff engagement and effective waste segregation practices.

224 GreenCare: Perception and Behaviour of the Perioperative Team in Outpatient Surgery

Marlene A. Piçarra¹, Carla R. Silva², Rita Maria B. Silva³

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Background

Outpatient surgery currently accounts for around 70% of surgical activity in Portugal, known for its accessibility, quality, and cost-effectiveness. However, Operating Rooms (ORs) remain among the main sources of hospital waste and greenhouse gas emissions, significantly contributing to the carbon footprint of healthcare organisations. In this context, it is imperative to rethink care delivery and integrate sustainable practices into surgical activity. Transitioning to green surgery requires not only structural changes, but also the mobilisation of the perioperative team as active agents in the sector's decarbonisation.



Objectives

To understand the perceptions and behaviors of the perioperative team in reducing their environmental footprint, promoting a roadmap for eco-friendly practices in outpatient surgery.

Methods

A quantitative, descriptive, cross-sectional study was conducted with a non-probabilistic sample of 102 perioperative professionals. Data collection was performed using a questionnaire validated by 11 experts through the e-Delphi technique. The instrument covered topics such as sustainability knowledge, waste sorting, resource management, medication handling, low-carbon anaesthetic practices, and environmental motivation.

Results

Participants demonstrated high environmental awareness: 88% valued effective waste sorting, 75% supported replacing disposables with reusables, and 61% preferred low-impact anaesthetic techniques. Main barriers identified were the lack of training and institutional protocols. The GreenCare Checklist consolidates these practices into a clear and actionable format aligned with green surgery principles. The GreenCare Checklist was developed as a guiding tool for sustainable practices in the perioperative setting, currently in testing phase, with potential for future implementation across other ORs.

Conclusion

The perioperative team plays a critical role in decarbonising surgical care. While structural and educational gaps persist, the GreenCare Checklist emerges as a strategic tool to support internal audits, standardise sustainable actions, and integrate environmental criteria into daily practice. Outpatient surgery must evolve towards sustainability with the perioperative team leading the way.

349 Sustainability in the operating rooms of the University Hospital Center Rijeka, Croatia

Mateo Gašpert, Eli Šuperina Mandić, Marinka Vlah, Tihana Gašpert

University Hospital Rijeka, Rijeka, Croatia

Background: Concept of sustainability in operating rooms encompasses the application of practices that reduce negative environmental impacts without compromising patient safety. Despite this, research on the implementation level of sustainable practices in Croatian operating rooms remains limited.

Objectives: To examine and describe sustainable practices applied in the operating rooms and to identify opportunities for improving environmentally responsible behavior.

Methods: This research was descriptive. Surgical clinic employs two head nurses in the operating rooms, both of whom participated in the study. Data was collected using a standardized form based on the “Greening the OR Checklist,” which was adapted and translated for the needs of the Croatian context. The questionnaire contains four main domains: organizational development, waste reduction and prevention in the operating room, environmentally preferable purchasing in the operating room, and use of materials and built environment.

Results: Fourteen items (30.4%) from the checklist have been in place for over a year, primarily within the domain of waste reduction and prevention. Currently, nurses are actively working on implementing items in the



environmentally preferable purchasing domain. The organizational development domain has not yet been widely recognized in Croatia; however, the checklist is raising awareness among nurses about the importance of forming green teams and educating staff on the benefits of sustainable practices. This increased awareness has the potential to support the implementation of all checklist items over time.

Conclusion: This was a single-center study, providing an initial insight into the implementation of environmentally sustainable practices among all operating room nurses. In the future, the study will be extended to operating rooms across Croatia. The checklist used in this study can serve as a practical orientation tool for all operating room nurses. It offers a structured approach to support the development of greener operating rooms and the promotion of environmentally responsible healthcare practices.

394 Evaluation of waste generation and disposal in Operating Rooms

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Universidade de São Paulo, Escola de Enfermagem, São Paulo, Brazil

Background

In hospitals, the Operating Rooms (OR) are one of the sectors that produces the most healthcare waste, and for waste management to be optimized, both generation and disposal need to be conscious and accurate. It is necessary to understand the difficulties and barriers related to the generation, segregation, and disposal of waste.

Objectives

To observe the process of waste generation and disposal in OR, considering the assembling of the OR, the surgical procedure execution, and the period following the patients' exit from the OR.

Methods

A quantitative, observational, and cross-sectional study was done, which included a sample of 50 surgeries observed during a period of six months. Data collection encompassed the type and duration of procedures, the number of staff in the OR, as well as data related to waste generation, including the amount of adequate and inadequate disposals made per unit in each type of container. Information regarding the physical structure and organization of the OR, including the arrangement and availability of waste containers, was also recorded.

Results

The study showed that waste generation and disposal vary according to the stage of the surgical procedure, suggesting that factors such as specific occupational assignments and the physical arrangement of the collectors directly influence compliance with adequate disposal. Furthermore, more than half of the disposals made in infectious waste containers were carried out inadequately because they could have been discarded as ordinary waste and even recycled.

Conclusion

The segregation of healthcare waste represents a significant challenge in the OR, given the barriers observed in its



segregation. The findings highlight the need for targeted interventions that encompass educational initiatives, reorganization of internal workflow processes, in order to reduce waste generation and optimize the segregation of healthcare waste in the OR, which is one of the largest generators of waste within hospitals.



Friday, 15 May, 2026, 12:45 - 13:45

Orlando B

Medtronic

ES01 | MedTronic Symposium

Driving Surgical Smoke Safety Together: Evidence, Action, and Global Recognition for Your Team

Presented by: Association of PeriOperative Registered Nurses

Dr. Lisa Spruce, DNP, RN, CNOR, CNS-CP, EBP-C, APRN, FAAN, Senior Director of Evidence-Based Perioperative Practice, AORN Golden, CO, USA

Hannah Campbell, BA, MS, CSM, Program Manager, AORN, Houston, TX, USA

Sponsored by: Medtronic

Presentation Outcome

By the end of this presentation, attendees will understand the evidence, risks, and best practices related to surgical smoke safety and gain a clear understanding of how AORN's Go Clear™ Award is expanding to the EU. Attendees will learn how the award program aligns with evidence-based guidelines, what participation looks like for European facilities, and how the program supports consistent, sustainable smoke evacuation safety across diverse healthcare settings.

Presentation Learning Outcomes

By the end of this presentation, attendees will be able to:

1. Describe how surgical smoke is generated.
2. Recognize the health risks surgical smoke poses to perioperative team and patients.
3. Identify evidence-based strategies and best practices for reducing exposure to surgical smoke.
4. Explain how facilities can be implemented and sustain compliance with smoke evacuation practices.
5. Describe the steps and structure of the AORN Center of Excellence in Surgical Safety: Smoke Evacuation Program and how organizations progress through the pathway toward recognition.



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6. Understand how the Go Clear™ Award supports and recognizes organizations worldwide for achieving and sustaining smoke evacuation safety.



Friday, 15 May, 2026, 14:00 - 14:30

Koločep

IW02 | B Braun Hands-on Workshop (1)

Hands-On Wound Closure

Improve Your Skills with Sutures and Glue is an interactive practical session designed to strengthen participants' skin-closure techniques. Attendees will practice intradermal closure on skin pads using knotless sutures, followed by hands-on application of a tissue adhesive for skin closure. The session provides step-by-step guidance, allowing participants to refine their skills in a controlled environment and gain confidence with both suture-based and adhesive-based closure methods. This workshop is intended to enhance technical proficiency and support safe, effective skin-management practices.



Friday, 15 May, 2026, 14:00 - 15:00

Orlando B

PS02 | Priority Session 2

The state-of-art of perioperative nursing research in Europe

Kristiina Junttila

HUS Helsinki University Hospital, Nursing Research Center, Helsinki, Finland



stryker

Friday, 15 May, 2026, 14:15 - 15:15

Orlando A

IS01 | Stryker Symposium

Redefining the operating room: responding to the evolving safety, efficiency & sustainability demands

Speaker: **Nina Schellekens** – European Brand Manager, Neptune – Stryker

Time: 14:15 – 14:35

Topic: Hidden risks in the OR: What needs to change?

- Current challenges in OR Waste Management
- Hazards of surgical smoke
- Risks and inefficiencies of fluid waste management
- Impact on nurse safety, workflow and environment
- The need for integrated solutions

Speaker: **Isabel Verniers** – former OR Manager – Chief of staff to the CO-CEO/COO at Maria Middelaers, Belgium

Time: 14:35 – 15:15

Topic: Driving change in the OR: A hospital perspective

- Real-world perspective: challenges in hospital settings
- How to successfully implement innovative solutions
- Overcoming barriers (budget, adoption, workflow change)
- Best practices & lessons learned
- Impact on safety, efficiency and sustainability



Friday, 15 May, 2026, 14:30 - 15:00

Koločep

IW02 | B Braun Hands-on Workshop (2)

Hands-On Wound Closure

Improve Your Skills with Sutures and Glue is an interactive practical session designed to strengthen participants' skin-closure techniques. Attendees will practice intradermal closure on skin pads using knotless sutures, followed by hands-on application of a tissue adhesive for skin closure. The session provides step-by-step guidance, allowing participants to refine their skills in a controlled environment and gain confidence with both suture-based and adhesive-based closure methods. This workshop is intended to enhance technical proficiency and support safe, effective skin-management practices.



Friday, 15 May, 2026, 15:30 - 16:45

Koločep

S09 | Session 9 | Education

14 Enhancing Patient Safety in the Operating Room: Reporting Adverse Events and Near Misses

Layla T. Khalilia

emek medical center, yafat annaserah, Israel

Background

Reporting adverse events and near misses is a key component in improving patient safety. In high-pressure and fast-paced environments such as operating rooms, staff may hesitate to report incidents due to fear of blame or punishment. Creating a supportive and transparent culture can turn reporting into a powerful tool for risk reduction, learning, and continuous improvement.

Objectives

This study aimed to evaluate whether promoting a safety culture among operating room nursing teams would increase the frequency and quality of reporting adverse events and near misses. It also explored whether staff would feel safe and supported when reporting mistakes, without fear of negative consequences

Methods

Between 2022 and 2024, an educational intervention was implemented for OR teams. Activities included regular training sessions and refreshers, quarterly presentations of departmental incident data, case reviews for team learning, and two major unit-based projects focusing on near-miss reporting related to inadequate preoperative patient preparation. The initiative encouraged open discussion of mistakes, offered psychological support through trained “second victim” advocates, and included participation in risk management workshops. Staff received updates and quizzes through departmental WhatsApp groups. Data were analyzed from computerized and manual reporting systems.

Results

A significant increase in reporting was observed over time. Reports included:

- 2021: 87 adverse events, 135 near misses
- 2022: 157 adverse events, 133 near misses
-



2023: 112 adverse events, 170 near misses

2024: 96 adverse events, 137 near misses

During the period, 20 training sessions were conducted, 20 events were presented in staff meetings, and 10 sessions were led by the risk management unit. Twelve staff members completed external risk and safety workshops. Most staff reported feeling safe to report incidents.

Conclusion

Encouraging reporting strengthens patient safety and fosters a culture of transparency and learning. Continued education, supportive frameworks, and trust-building are essential for sustainable improvement.

43 Techno-Pressure in the Operating Room: Technostress as a Risk Factor for Patient Safety Attitudes

Gamze Tuncer Unver¹, Ezgi Seyhan Ak², Yeliz Culha³

¹ Ondokuz Mayıs University, Faculty of Health Sciences Department of Nursing Administration, Samsun, Turkey; ² İstanbul University-Cerrahpasa, Florence Nightingale Faculty of Nursing Surgical Nursing Department, İstanbul, Turkey; ³ İstanbul University-Cerrahpasa, Florence Nightingale Faculty of Nursing Fundamental Nursing Department, İstanbul, Turkey

Background

The use of technological systems in the operating room has become essential to patient safety, yet these systems can also be sources of stress for healthcare professionals. Technostress, defined as stress arising from the use of technology, may impact safety attitudes among operating room healthcare professionals.

Objectives

The aim of this study was to examine the effects of healthcare professionals working in operating rooms' perceptions of technostress creators, their personal and professional characteristics, and their attitudes toward safety.

Methods

The study was conducted using a cross-sectional and correlational design. Data were collected from 153 physicians and nurses working in operating rooms via an online survey. The "Participant Information Form," "Technostress Creators Scale for Healthcare Professionals," and "Safety Attitudes Questionnaire-Operating Room" were used to collect data. Data were analyzed using SPSS 25 software.

Results

The subscales of techno-overload and techno-invasion were found to be negatively and significantly correlated with all subscales of safety attitudes ($p < .01$). Techno-complexity, on the other hand, showed a positive and significant correlation ($p < .01$). According to multiple regression analysis, techno-overload, techno-complexity, technology-related stress levels during surgery, and operating room experience explain 50.4% of the variance in safety attitude scores ($p < .001$).



Conclusion

Stress experienced with technological systems in the operating room is an important factor affecting patient safety attitudes. In particular, technology-related workload and intervention pressure increase negative attitudes, while complexity can provide a positive cognitive contribution at a certain level. Therefore, it is recommended that technology adaptation training and supportive strategies be developed for healthcare professionals.

245 Building consensus on Perioperative Safety Indicators: A Swedish Delphi Study

Anette Nyberg^{1,2}, Maria Jirwe^{3,4}, Ami Fagerdahl⁵, Volker Otten⁶, Michael Haney², Birgitta Olofsson^{1,6}

¹ Umeå University, Department of Nursing, Umeå, Sweden; ² Umeå University, Department of Diagnostics and Intervention, Anaesthesiology and Intensive Care Medicine, Umeå, Sweden; ³ Swedish Red Cross University, Department of Health Sciences, Stockholm, Sweden; ⁴ Karolinska Institutet, Division of Nursing, Department of Neurobiology, Care Sciences and Society, Stockholm, Sweden; ⁵ Karolinska Institutet, Södersjukhuset, Department of Clinical Research and Education, Stockholm, Sweden; ⁶ Umeå University, Department of Diagnostics and Intervention, Orthopaedics, Umeå, Sweden

Background

Eliminating avoidable harm in healthcare remains a global challenge. In Sweden, surgical complications account for 30% of events causing permanent patient harm. Monitoring how the care is provided, the actual care given, and its outcome in perioperative setting is essential for improving patient safety. However, this is hindered by the lack of standardised information structures and consensus on practical monitoring methods.

Objectives

To identify, define, and reach consensus on perioperative patient safety indicators within a Swedish context.

Methods

A modified Delphi study was conducted with 22 experienced operating room nurse specialists to reach consensus on perioperative patient safety indicators. Participants rated the importance of various statements related to patient safety during the perioperative phase. Data were collected online between November 2022 and April 2023 using a questionnaire developed from a preceding study.

Results

Consensus was achieved on 73 out of 103 statements across the three-rounded Delphi, encompassing both process (74%) and structure (26%) indicators. Key areas of consensus included the significance of professional competence, effective communication, and teamwork in promoting perioperative patient safety.

Conclusion

This study highlights the complex challenges of ensuring patient safety in the operating room and underscores the value of a balanced approach that integrates both structure and process indicators. The results demonstrate how the integration of clinical experience with current, evidence-based knowledge among operating room nurses can contribute to safer surgical care. This integrated approach not only improves patient outcomes and supports sustainable practices but also promotes effective collaboration and cultivates a culture of continuous learning and



professional development. The study offers practical guidance and a structured framework for evaluating perioperative care processes, providing valuable insights for clinical practice.

72 How to Prepare for a Fire in the Operating Room

Merja Jutila^{1,2}, Niina Perälä^{1,3}

¹ The Wellbeing Services County of Ostrobothnia, Vaasa Central Hospital, Operating Department, Vaasa, Finland; ² University of Turku, Faculty of Medicine, Turku, Finland; ³ Seinäjoki University of Applied Sciences, Social and health sector, Seinäjoki, Finland

Background

[A fire in the operating room (OR) can have serious consequences for the patient, staff, and the organization. Previous studies have shown that misconceptions hinder fire prevention. It is often assumed that fires do not occur in modern hospitals, and if one does occur, it could not have been prevented. There is also a belief that fires do not happen in our hospital, but if one did, the entire staff would know how to respond. However, fires can be prevented by training staff to recognize and mitigate risks and to act appropriately in the event of a fire.]

Objectives

[The goal was to ensure that OR staff are prepared to respond to a fire by organizing a “Fire in the Operating Room” training day. The training day aimed to provide both theoretical knowledge and hands-on sessions for responding to fire emergencies. The training day was structured so that in the morning, staff received theoretical instruction on fires, their causes, prevention, and appropriate actions during a fire. Afterward, the staff was divided into smaller groups. These groups participated in safety walkthroughs in the OR, a OR fire drill, and a fire safety orienteering activity. The simulation exercise tested the applicability of a national protocol in our OR's. During the fire safety orienteering, staff located checkpoints based on a safety system floor plan. At each checkpoint, they received additional information, for example, about initial fire extinguishing equipment. In the afternoon, staff were invited to provide anonymous feedback on the training content and the effectiveness of the fire protocol.]

Conclusion

[Based on the feedback, the training day was a success. It provided knowledge, skills, and confidence to act in a fire situation. It was also observed that the national protocol action card requires adjustments to be fully effective in our OR's.]



103 The use of valid and reliable screening tools for detecting delirium in surgical patients

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¹ Monash University, School of Nursing and Midwifery, Melbourne, Australia; ² Monash University, School of Nursing and Midwifery, Melbourne, Australia; ³ Deakin University, School of Nursing and Midwifery, Geelong, Australia; ⁴ Deakin University, School of Nursing and Midwifery, Geelong, Australia

Background

Delirium is a serious neuro-cognition disorder affecting around a fifth of older patients admitted to the Post-Anaesthetic Care Unit (PACU). There is limited research evidence or diagnostic validation of these tools in large, representative populations specific to the PACU.

Objectives

1. Evaluate the diagnostic test accuracy of the two-delirium screening tools;
2. Assess the association of postoperative delirium and ability to perform activities of daily living (ADL);
3. Explore nurses' perceptions of the usability of delirium screening tools.

Methods

A prospective cohort study was conducted to evaluate the diagnostic test accuracy of two delirium screening tools among older surgical patients admitted for major surgery at a metropolitan hospital. Patients were followed up for five days to explore the association of postoperative delirium and ability to perform ADL. A qualitative study explored the clinical utility of two screening tools using focus groups.

Results

A total of 271 patients were recruited, 44 (16.2%) patients developed new episode of delirium in PACU. The 3D-CAM had a sensitivity of 100% (95% CI 92.0 to 100.0) while the 4AT had a sensitivity of 93% (95% CI 81.7 to 98.6) in the PACU and during the first 5 days post-operatively. Postoperative delirium was independently associated with a decline in ADL. PACU nurses confirmed that the 4AT tool was easy to use, with nurses in the surgical wards preferring the 3D-CAM because the tool can be used for ongoing delirium assessment.

Conclusion

The 3D-CAM and 4AT are feasible and valid screening tools to detect delirium in older people in the PACU. Screening for delirium ensures delirium is identified during the early stages of the postoperative period and a timely comprehensive plan can be implemented.



Friday, 15 May, 2026, 15:30 - 16:45

Orlando B

S10 | Session 10 | Technology and Innovation

26 Robotic Radical Prostatectomy (Senhance vs da Vinci) – Our Experience

Ivana Jović, Ivanka Gelo, Martina Pekčec, Dijana Petrić

University Hospital Centre Zagreb, Urology, Zagreb, Croatia

Background

Since the advent of robotic surgery, its use in urology-especially for prostate cancer-has expanded rapidly. Growing utilisation of different robotic platforms demands a comparative assessment of their clinical and operational performance. At the Department of Urology, University Hospital Centre Zagreb, the first robotic-assisted radical prostatectomy (RARP) was performed with the Senhance system in 2019; the da Vinci system was introduced in 2024.

Objectives

The aim of this study was to compare clinical outcomes (operative time, length of hospital stay) and the experiences of operating-room team members (surgeons and scrub nurses) when performing radical prostatectomy with the Senhance and da Vinci robotic systems.

Methods

All RARP procedures from May 2019 to April 2025 were reviewed retrospectively. Quantitative variables were compared using the Mann–Whitney U test; subjective impressions of surgeons and scrub nurses were collected through structured interviews and analysed thematically.

Results

A total of 1,004 RARP procedures were analysed (Senhance = 854; da Vinci = 150). Operative time: Senhance median 190 min (range 120–315) vs da Vinci 135 min (75–400); $p < 0.001$.

Length of stay: Senhance median 4 days (3–20) vs da Vinci 3 days (2–13); $p < 0.001$. Scrub nurses reported that working with Senhance was more dynamic and technically demanding, while their role with da Vinci was simpler and more standardised. Surgeons rated da Vinci as more ergonomic and precise, whereas Senhance required greater manual coordination.

Conclusion

The da Vinci platform provides significantly shorter operative times and hospital stays, indicating higher clinical efficiency and ergonomic benefit for surgeons. Conversely, the Senhance system affords scrub nurses a greater degree of technical engagement. Operating teams should tailor



workflow and staffing to the specific demands of each robotic system to maximise safety and surgical efficiency.

316 Perspectives of Perioperative Nurses on Artificial Intelligence, Machine Learning, and Scrub Nurse Robots. A Survey in Thessaloniki, Greece.

Iordanis Stefanidis¹, Anastasia Ntavrani², Dimitris Poulis³

¹ Ippokratio General Hospital, General Operating Theater, Thessaloniki, Greece; ² AHEPA Hospital, General Operating Theater, Thessaloniki, Greece; ³ Onassio Cardiac Surgery Centre, Athens, Greece

Background

The use of Artificial Intelligence tools is rapidly increasing in clinical medicine. Machine learning is a branch of artificial intelligence that focuses on the ability of computers and machines to emulate the way humans learn. Machine learning and robotics technologies are being increasingly utilized in the healthcare sector to improve the quality and efficiency of surgical procedures. The aim is for robotic scrub nurse systems to address the gaps arising from shortages in nursing staff by undertaking responsibilities such as surgical instrument handling.

Objectives

The survey has two purposes. The first goal was to adapt the Artificial Intelligence Anxiety Scale into Greek and the other aim was to explore perioperative nurses perceptions toward the implementation of artificial intelligence technologies in operating theaters.

Methods

A quantitative survey was conducted at hospitals of Thessaloniki in May 2024. The data were obtained using the Artificial Intelligence Anxiety Scale, which was adapted into Greek by the author. Artificial Intelligence Knowledge Questionnaire was used to measure the participating nurses level of knowledge related to artificial intelligence and robotic nurses. Statistical package SPSS 27 was implemented for the statistical processing. ANOVA test and independent samples for equality of means test (t-test) were the statistical techniques used. The sample of this research included 283 perioperative nurses.

Results

Most of the respondents, were unaware of the advantages and most common challenges to artificial intelligence applications in the health sector. The majority of the participating nurses stated that they did not think that robots would replace nurses. Lack of training given to perioperative nurses for artificial intelligence affects increasing the anxiety level of nurses toward AI.

Conclusion

Participating nurses experienced limitations regarding current information and learning opportunities on AI and robotic surgery. Perioperative nurses should be provided with training programs on AI technologies and robotic nurses.



25 The Impact of Virtual Reality (VR) Use on Pain Levels and Patient Satisfaction After Knee Arthroscopy Surgery

Tamer Hidari, Afnan Boulos

The Nazareth Hospital, operating room division, nazarteh, Israel

Background

In recent years, virtual reality (VR) has emerged as a non-pharmacological tool for reducing pain and anxiety during medical procedures. Previous studies have shown the effectiveness of VR in various surgical and ambulatory procedures. The primary aim of this project was to examine the impact of VR on pain and patient satisfaction after knee arthroscopy surgery.

Methods

- **Study Design:** A pre/post intervention assessment using the Plan-Do-Study-Act (PDSA) model.
- **Population:** 40 patients at the Nazareth English Hospital (mean age 40.7 years).
- **Inclusion Criteria:** Age 16+, undergoing knee arthroscopy under general anesthesia.
- **Intervention:** VR headset used for 15 minutes in the post-anesthesia care unit (PACU).
- **Measures:** Pain intensity (VAS, PROMIS), vital signs, and patient satisfaction (custom questionnaire).

Results

Most participants reported a reduction in pain intensity after VR use:

- 45% reported moderate pain improvement.
- 22.5% reported significant pain improvement.
- 90% of participants recommended VR use post-surgery.
- Patient satisfaction ranged from moderate to high for all participants.
- Factors associated with high satisfaction included significant pain relief, high comfort level, and strong distraction/engagement.
- Most participants did not report any clinical symptoms related to VR use.

Conclusion

- VR is an effective non-pharmacological tool for reducing pain and improving the recovery experience after surgery.
- There is room to integrate this technology more broadly into clinical and nursing practice.
- Continued research into VR implementation in other procedures and populations is encouraged.



280 Perceptions of teamwork and learning - Operating room nurses perceptions when working in paediatric OR-units.

Irini Antoniadou^{1,2}, Sebastiaan Meijer¹, Karin Pukk-Härenstam³, Gunilla Björling⁴, Janet Mattsson⁵

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Background

Effective teamwork is essential in surgery (Vincent, 2010); however, adverse events may occur when team members misinterpret or fail to communicate effectively, creating stress and risking patient safety. Health professionals need right attitudes, skills, and knowledge (Dornan, 2011) and must implement a transparent, coordinated approach to adapt to changing conditions and pressures (Irving et al., 2024).

Social interactions in clinical settings help establish reference frameworks, enhancing learning (Mezirow, 2009). Research suggests that teamwork requires a broad definition, considering assumptions about its nature, study methods, and limitations (Anderson et al., 2021). Advanced medical technologies are critical in ensuring patient safety (Lee et al., 2022; Sevdalis et al., 2012), yet their complexity also raises the potential for human error.

Objectives

To uncover operating room nurses' perceptions of team work and learning processes in the paediatric perioperative setting.

Methods

Phenomenographic method was applied to capture how different operating room nurses (ORN) perceive and understand various aspects of teamwork and learning.

Results

The results reveal two primary approaches to perception and learning within the operating room team: *the team-oriented* and *person-oriented* approaches. The *team-oriented* learning prioritises the team itself, focusing on collective discussions—what is said, what actions to take, and how tasks are performed. Knowledge in this approach appears to stem from shared experiences and interactions within the team. The *person-oriented* learning on the other hand, directs the team's focus toward the individual patient undergoing surgery. Here, knowledge is gathered from a range of text-based resources, providing comprehensive, specific information about the patient. This could be considered a more academic or advanced approach to learning.

Conclusion

Diverse ways of understanding teamwork and learning in the team or together with the team might have impact on quality of care and preparedness for adverse events. The outcome of this study important for team learning development.



306 Ethical challenges in the perioperative treatment of a ruptured abdominal aortic aneurysm: a case study in Bogotá, Colombia

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Background

Ruptured abdominal aortic aneurysms (AAAs) are one of the most lethal vascular emergencies, with a perioperative mortality rate of up to 90%. Surgical treatment of abdominal aortic aneurysms (AAA) is associated with complex clinical and ethical dilemmas, especially in regions with limited resources such as Colombia. Social inequalities, limited access to care, and systemic barriers influence perioperative decisions and outcomes. Previous studies have highlighted inequalities in hospital infrastructure, limited knowledge for early detection, absence of protocols for managing this type of pathology, and lack of specialized vascular surgery units. This delays timely interventions and raises ethical concerns about equity, effectiveness, and justice in medical care.

Objectives

Analyze the ethical conflicts and social determinants that influence the decision-making process in the surgical treatment of AAA in a tertiary hospital in Bogotá.

Conclusion

This case illustrates the recurring ethical tensions in AAA management in Colombia. First, surgical urgency often conflicts with patient autonomy in contexts of low health literacy, compromising truly informed consent. Second, institutional constraints, such as a lack of intensive care beds and surgical supplies, lead to triage decisions influenced not only by clinical need but also by resource availability. Third, healthcare professionals experience moral distress when weighing the individual benefit of the patient against systemic constraints, particularly when caring for vulnerable populations. This case highlights the importance of developing context-sensitive perioperative protocols. These include culturally appropriate communication strategies, access to ethics consultation, and systematic recognition of the social determinants of health. These measures are essential to promoting more fair, equitable, and patient-centered perioperative care in Colombia and similar healthcare settings.



Friday, 15 May, 2026, 15:30 - 16:45

Orlando A

S11 | Session 11 | Healthy Workplaces

149 Using Pressure Mapping Technology to Advocate for Sustainable Products in the CVOR

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Background

Stanford Healthcare is committed to sustainability, and the operating rooms are actively seeking ways to use items efficiently while focusing on cost-effectiveness, sustainability, and patient safety. A proposed change from the current single patient use, foam headrest to a reusable blue gel block headrest was suggested. Using pressure mapping technology, the pressure injury prevention team advised against the transition to a reusable product until a comparable replacement was identified.

Objectives

Decrease the monthly cost of disposable headrest pillows in the operating rooms while maintaining patient safety. We sought to use pressure mapping to identify the best product to ensure the operating rooms maintain zero incidence of pressure injuries associated with headrest pillows. We implemented change after evaluation of evidence-based data.

Methods

Pressure mapping was used for comparison of current disposable headrest versus two reusable headrests. The best surface attributes that provide efficient pressure redistribution should have the following properties: the lowest average interface pressure, the lowest peak interface pressure, and highest skin contact area.

Results

The use of evidenced-based data from pressure mapping enabled the operating rooms to identify the most cost effective and sustainable patient safety-focused product. Pre-intervention average monthly cost for disposable headrests was \$8,615. Post-intervention average monthly cost for reusable headrests was \$6,187.

Conclusion

Stanford Healthcare's use of evidence-based data helped the facility to transition to a safe, sustainable product, resulting in an average monthly cost savings for a reusable headrest pillows. The transition to the reusable headrest pillow maintained our zero hospital acquired pressure injuries associated with headrest pillows.



74 The Relationship Between Noise Levels in the Operating Room On The Attention Control and Perceived Stress Of Nurses: A Pilot Study

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Background

The World Health Organization recommends that the maximum background noise level in hospitals should not exceed 30-35 dB. It is known that noise disrupts the concentration of healthcare professionals and causes cognitive interruption.

Objectives

This study aims to evaluate the effects of noise levels in the operating room on the attention control and perceived stress of operating room nurses.

Methods

This descriptive-design study was conducted on 47 operating room nurses. Data were collected from operating room nurses before and after the first surgery of the day using the “Perceived Stress Scale” and “Attention Control Scale.” In addition, during the same case, the decibel levels of the operating room environment were recorded with a total of 611 measurements before anesthesia, during, and after the operation. SPSS 22.0 was used in the analysis of the data, and significance was accepted as $p < 0.05$ at a 95% confidence interval.

Results

It was found that there was no statistically significant relationship between the pre- and post-operative attention control levels and perceived stress levels of operating room nurses, but noise levels increased during the operation, especially during patient transfer (over 70 dB). It was also determined that there were 66.57 ± 5.33 dB average and 87 dB maximum noise measurements in the operating rooms.

Conclusion

It was concluded that nurses with higher professional experience can manage distractions and stress caused by noise. However, it was determined that the noise in the operating room environment reached decibel levels that could distract the team during critical surgical moments and jeopardize patient safety. Therefore, it is recommended to implement noise control strategies.

8 Enhancing Perioperative Care: AI Deployment and Governance

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Background

As health care and technology advances, it's imperative that perioperative teams stay informed of evidence-based practices for integrating technology, including artificial intelligence, that influences patient outcomes and perioperative team safety.

Objectives

Health care facilities, perioperative leaders and nurses will be knowledgeable of their role and responsibilities as part of the interdisciplinary team when developing, evaluating, and deploying health AI in the perioperative setting. This includes development of a governance structure, creation of an interdisciplinary team, development of policies and procedures related to health AI, and educational and competency verification activities for users of health AI.

Methods

A systematic review of the current literature related to artificial intelligence in the perioperative environment was conducted in February 2025 following PRISMA guidelines. Following critical appraisal and synthesis of the evidence, clinical practice guidelines will be drafted to guide perioperative teams in the integration of health AI.

Results

911 articles were retrieved. After rapid review of the titles and abstracts, full text of 443 articles were obtained and appraised by two authors (ZS, LS). The authors are currently conducting the evidence synthesis and drafting of the Guideline, planned for publication in early 2026.

Conclusion

The new AORN Guideline for the Deployment and Governance of Artificial Intelligence, will provide guidance to perioperative team members for developing a framework for the deployment and governance structures of health AI in the perioperative setting across the lifecycle of use: design, development, validation, deployment in the clinical setting, and quality assurance monitoring throughout use. As health care and technology advances, it's imperative that perioperative teams stay informed of evidence-based practices for integrating technology that influences patient outcomes and perioperative team safety. This presentation provides an overview of the current state of research on artificial intelligence, best practices identify and mitigate bias, protect patient privacy, and safeguard against cybersecurity threats.

138 Understanding the perpetration of disruptive intraoperative behavior: Looking beyond averages with perpetration mapping, patterning, and pairing

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Background

Managing disruptive clinician behaviors requires robust information about perpetration, yet previous analyses tend



to simply rank the responsible professions by average perpetration frequency, which overlooks underlying interpersonal dynamics.

Objectives

To comprehensively describe perpetration using novel metrics, including perpetration culture, patterns and perpetration-victimization pairings.

Methods

We retrospectively analyzed data from a multinational survey examining disruptive behavior. Respondents reported how often they saw five professions carry out or experience disruption, and the proportion of individuals per profession who acted disruptively (ubiquity). Three novel metrics were used. 1) Perpetration culture was described using what we call “perpetration mapping”. This involved plotting each profession’s ubiquity against its perpetration frequency, dividing the resulting grid into sections that we labeled descriptively (e.g., most people acting disruptively >-1/day=“Ever-present and widespread”), and reporting the proportion of observations in each section. 2) To identify common distributions of disruptive behavior observed across clinicians (e.g., “only physicians act disruptively”), we used latent profile analysis (LPA) on perpetration frequency proportions 3) To understand who acts disruptively toward whom, we examined the correlations between perpetration and victimization questions (i.e., pairings).

Results

5,895 responses were analyzed. The perpetration map showed that most clinicians were in an environment where disruptions were rare and distributed amongst 1-2 clinicians. The best fitting LPA identified 6 perpetration patterns: “Everyone except trainees” (n=958), “Everyone except techs and trainees” (n=781), “Equal spread amongst professions” (n=2518), “Nurse-surgeon mix” (n=290), “Surgeon-only” (n=266), and “Everyone except techs” (n=827). All perpetration-victimization pairings were significant and positive ($p < 0.001$). However, the largest pairings were surgeon-nurse ($\rho = 0.73$), technician-technician ($\rho = 0.68$), and nurse-nurse ($\rho = 0.63$).

Conclusion

The predominant OR culture involves rare and narrow disruptive behavior within each profession, and the predominant pattern involves equal perpetration by all professions. Victimization pairings reveal a mixture of vertical and horizontal disruption. These insights, coupled with context-specific data, can guide targeted interventions.

85 Ethical skills and the chain of custody through the perioperative process: Fundamentals of responsibility, accountability, and evaluation

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Background

Ethical competency supports the integrity of the perioperative process. The conceptual design of the chain of custody is under-studied, yet it is of paramount importance to promote patient safety, compliance with standards of care, the prevention of errors, infection control, and retain objects. As perioperative staff understand their roles within the chain



of custody, moral distress, burnout, and anxiety are reduced. The chain of custody affirms role-based ethics in which responsibilities are defined by one's role.

To illustrate chain of custody, the presenters developed a Responsibility/Accountability/Evaluation model. The concepts of the model draw from a multi-disciplinary approach to clarify ethical uncertainty and emotional bias. The model reflects a practical application process. Use of the model aids in identifying responsibility and accountability, avoiding blame, facilitating collaborative communication and conflict resolution.

Objectives

1. Discern how the ethical concept of the chain of custody functions and how to restore it when it is broken.
2. Identify critical processes perioperative nurses have within the chain of custody.
3. Develop a Responsibility/Accountability/Evaluation model to clarify roles in the chain of custody.

Methods

Outcomes were measured using a qualitative case study method involving focus groups, interviews, and surveys. Nurses applied the model to various case studies. Having been instructed in the Responsibility/Accountability/Evaluation Model, nurses identified their own moral reactions, demonstrated increased awareness of their roles and the roles of others in the perioperative setting, and demonstrated increased capacity to discuss reasons for their actions in ethical decision-making.

Results

Nurses demonstrated increased ethical competency in identifying their responsibilities in the chain of custody. Nurses demonstrated greater awareness of the collaborative process and the interplay of roles of the perioperative team.

Conclusion

The Responsibility/Accountability/Evaluation model reaches administrative, strategic, and interpersonal levels of ethical competency. Ethical competency enhances role-awareness and clarity of task and collaboration within the chain of custody.



Friday, 15 May, 2026, 16:45 - 18:00

Orlando A

S12 | Session 12 | Patient Safety

40 Intraoperative Device-Related Pressure Injuries in Patients Undergoing Prolonged Surgery

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Background

Pressure injuries (PIs) are a significant complication in surgical patients due to both intrinsic and extrinsic risk factors. Device-related pressure injuries (DRPIs), a subtype of PIs associated with medical devices used intraoperatively, are frequently underrecognized. Prolonged surgical procedures notably increase DRPI risk by extending tissue exposure to pressure, friction, and altered skin conditions. However, limited evidence exists regarding DRPIs in prolonged surgeries.

Objectives

This study aimed to determine the incidence and risk factors of DRPIs in surgeries lasting ≥ 3 hours.

Methods

A descriptive, prospective, single-center study was conducted in a tertiary hospital in Istanbul. The study included patients aged ≥ 18 years undergoing elective surgery with an operative time ≥ 3 hours. Data were collected using a patient information form, the Braden Scale, and the 3S Intraoperative Risk Assessment Scale. Ethical approval was obtained from the Medical Research Evaluation Commission.

Results

Among 367 patients, the overall DRPI incidence was 30%, with 98.8% classified as stage 1. DRPIs were more frequent in urology surgeries (52.9%; $p < 0.001$), patients aged > 48 years ($p = 0.001$), BMI ≥ 25 kg/m² ($p = 0.036$), operative time ≥ 250 minutes ($p = 0.012$), and cases involving ≥ 13 medical devices ($p < 0.001$). Independent predictors of DRPI included non-plastic surgeries ($p = 0.017$), intraoperative position changes ($p = 0.019$), and a 3S scale score ≥ 15 ($p = 0.008$).

Conclusion

This study confirmed that DRPIs represent a significant intraoperative patient safety concern, particularly in prolonged surgeries. Both patient-related factors (advanced age, elevated BMI, impaired skin condition) and surgery-related variables (procedure type, duration, intraoperative repositioning, bleeding volume, and number of medical devices) were identified as significant determinants of DRPI development. The findings underscore the need for continuous



intraoperative risk assessment, use of procedure-specific assessment tools, and implementation of evidence-based, surgery-specific prevention strategies to reduce DRPI incidence.

13 Avoiding Abbreviations in Informed Consent Forms: Enhancing Clarity and Patient Understanding

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Background

Informed consent is a vital process that enables patients to make well-informed decisions based on clear and comprehensive medical information. However, the use of abbreviations in consent forms can hinder patient comprehension and lead to ethical and legal complications. A 2018 German study, “*The Quality of Informed Consent Forms*” highlighted significant issues such as overly complex language, missing information, excessive length, and lack of consistency across institutions. *lease replace your content here*

Objectives

To improve informed consent by eliminating abbreviations and ensuring that all content is clear, accessible, and easily understood by patients *replace your content here]*

Methods

In March 2025, a random audit of 81 surgical and anesthesia consent forms was conducted. Of these, 49 forms (about 60%) contained abbreviations and were deemed non-compliant. To address this, several steps were taken:

- **Staff Training & Leadership Involvement:** Medical and nursing teams received training on clear documentation, with active participation from department heads.
- **Double Verification:** Each form must be reviewed by two staff members (e.g., a physician and a nurse) before the patient proceeds to surgery.
- **Patient Involvement:** Patients are encouraged to read the forms and ask questions to clarify any concerns.
- **Pre-Procedure Check:** Operating room nurses perform a final review of the consent forms before the procedure.
- **Error Reporting:** If errors are found, they must be corrected immediately, and the incident logged as a "near miss" for quality improvement.

Results

These actions are expected to enhance the accuracy and clarity of consent forms. By removing abbreviations and strengthening quality checks, patients will receive more understandable information. Three training sessions will be completed by May 2025, with a follow-up audit from June to September



Conclusion

To ensure valid and ethical consent, healthcare providers must use standardized, abbreviation-free language, continue staff education, and conduct regular quality audits

292 Predictive factors of postoperative complications in general surgery: A systematic review protocol

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Background

[Postoperative complications in general surgery remain a major cause of increased morbidity, mortality, and healthcare costs. Despite advances in surgical care and clinical informatics, there is a lack of consistent evidence on which clinical, demographic, or nursing-related factors most strongly predict these complications.]

Objectives

[To identify and synthesize predictive factors associated with postoperative complications in adult patients undergoing general surgery, including factors derived from perioperative nursing practice.]

Methods

[This systematic review follows the JBI methodology. A comprehensive literature search is being conducted in MEDLINE, CINAHL, Scopus, Embase and the Cochrane Library. Eligible studies include observational designs (cohort and case-control) and predictive modeling studies involving adults (≥ 18 years) undergoing general surgery. Two reviewers are independently screening, appraising methodological quality using JBI tools, and extracting data from included studies. The primary outcome is the occurrence of postoperative complications (e.g., infection, bleeding, reoperation, readmission). Data synthesis will be narrative, and a meta-analysis will be performed if data homogeneity permits.]

Results

[The review is currently underway. Preliminary screening suggests that studies frequently report patient comorbidities, ASA physical status, surgical urgency and length of operation as key predictive factors. However, few studies include variables derived from nursing care, such as nursing diagnoses or clinical assessments.]

Conclusion

[This review is expected to consolidate current evidence on predictors of postoperative complications in general surgery and highlight gaps in the inclusion of nursing-relevant variables. The results will inform the design of a predictive model aligned with perioperative nursing practice and support more person-centered, data-informed decision-making in surgical care.]



58 The effect of operating room teamwork on patient outcomes: a systematic review

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Background

Teamwork is defined as the ability of a group to efficiently coordinate actions to achieve common goals. In the operating room (OR), teamwork is recognized as a crucial factor influencing safety and outcomes for surgical patients. While specific aspects of teamwork have been previously reviewed, no comprehensive synthesis has examined its overall influence on measurable patient outcomes.

Objectives

This review aimed to assess the impact of teamwork in the OR on measurable patient outcomes, including mortality, morbidity, adverse events (AEs), and time-related indicators.

Methods

Following PRISMA guidelines, a systematic review was conducted using MEDLINE, CINAHL, and SCOPUS. Studies were included if they evaluated the relationship between teamwork and patient outcomes in OR. Data were extracted on study design, teamwork interventions, outcome measures and methodological characteristics. Study quality was assessed using the Joanna Briggs Institute appraisal tools.

Results

Twenty-three studies involving over 825,000 procedures and 5,000 professionals were included. Study designs were heterogeneous, mostly observational, with fewer interventional. Overall quality was moderate to high. A general consensus linked higher-quality teamwork to better outcomes, with a consistent effect on morbidity. Findings on mortality, AEs, and time-related outcomes were more variable, likely due to multifactorial influences including patient condition, surgical complexity, operator training, and the rarity of certain events, which may potentially overshadow the effect of teamwork alone. Key elements identified as essential to effective team functioning included a strong safety culture, advanced non-technical skills, consistent team composition, and designated team roles.

Conclusion

Effective teamwork in the OR is linked to improved patient outcomes, particularly on morbidity, though its impact remains context-dependent. Team familiarity, communication protocols, and structured training emerge as critical and modifiable components for enhancing surgical performance. Further high-quality, context-sensitive studies are needed to standardize metrics, define high-quality teams, and clarify complex causal relationships.



65 Pressure injuries Following Carcinologic Resection of Head and Neck With Flap Reconstruction: What Is the incidence and What are the Preventable Risk Factors?

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Background

Patients undergoing head and neck cancer surgery with flap reconstruction (FR) are at high risk for postoperative (PO) pressure injuries (PIs), due to clinical frailty, nutritional status, and long operative times. Despite the potential frequency of these complications, specific data remain limited. To better understand this issue, we conducted a single-center retrospective study at a French cancer center to evaluate PI incidence and identify associated risk factors in this vulnerable population, aiming to improve prevention strategies.

Objectives

the primary objective was to determine the incidence of PIs within the 10 PO days in patients undergoing ENT tumor resection with simultaneous FR; A secondary objective was to identify risk factors associated with PIs development.

Methods

This is a single-center retrospective study included patients who underwent head and neck tumor resection with either pedicled flap (PF) or free flap (FF) reconstruction between December 2022 and December 2023. Only procedures exceeding three hours were included.

Results

Among 145 included patients, 135 had FF and 10 PF reconstructions. Thirty-eight patients (26%) developed PIs. The median PO day of PIs development was 2, quartiles [1-3]. Factors associated with more PIs were smoking (61% vs 42% of patients with and without PIs respectively, $p=0.05$), longer surgery (mean time 566 min vs 517min, $p=0.05$), lower PO Braden score (mean score 15.4 vs 16.7, $p=0.01$). Forearm flap was significantly associated with fewer PIs (8% vs 25% of patients with and without PIs respectively, $p=0.02$).

Conclusion

This study confirms a high incidence of PO PIs in head and neck surgery with reconstruction. Interestingly, patients who underwent forearm flap developed fewer PIs, suggesting the importance of during surgery. Therefore, prospective studies evaluating therapies that impact positioning are needed to improve practices and reduce their occurrence.



Friday, 15 May, 2026, 16:45 - 18:00

Koločep

S13 | Session 13 | Education

47 The impact of the simulation on operating room nurses' training in the operating environment: a scoping review

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Background

In recent years, clinical simulation has become increasingly central in the training of healthcare professionals, especially operating room (OR) nurses. Training in high-risk environments such as the OR through advanced technologies is a promising strategy to enhance both professional skills and patient safety.

Objectives

The aim of this scoping review was to investigate the impact of simulation-based education—including high-fidelity simulation (HFS), virtual reality (VR), augmented reality, serious games, mobile applications, and computer-based simulations—on the training of OR nurses within the operating environment.

Methods

A scoping review was conducted following the Joanna Briggs Institute (JBI) methodology. Studies were identified from PubMed, Scopus, CINAHL, Inspec, and ERIC databases. Inclusion criteria comprised primary studies involving experienced OR nurses and simulations performed in real or virtual operating environments. Data were extracted using a standardized tool and analyzed using the Kirkpatrick model of educational outcomes.

Results

Out of 808 initial records, 14 studies were included. The simulation tools addressed both technical skills (TS) and non-technical skills (NTS), leading to notable improvements in clinical confidence, communication, decision-making, and procedural knowledge. The most common methods involved high-fidelity mannequins and 3D virtual reality scenarios. However, most studies only assessed short-term learning outcomes (Kirkpatrick Level II) without measuring long-term impact on clinical performance or patient outcomes.

Conclusion

Evidence suggests that both HFS and VR positively affect the training of OR nurses, particularly in developing key technical and behavioral competencies. Nonetheless, future research should aim to assess the real-world transfer of acquired skills and their long-term effects on patient safety and surgical outcomes.



242 The impact of artificial intelligence-supported preoperative education on fear and anxiety levels in total mastectomy patients: A randomized controlled trial

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Background

Total mastectomy patients often experience intense fear and anxiety before surgery, which can negatively impact surgical outcomes and recovery. AI-supported educational tools can complement traditional education methods by addressing diverse individual needs more effectively and enhancing psychological preparation in the preoperative period.

Objectives

This study aimed to evaluate the impact of AI-supported preoperative education on surgical fear and anxiety levels in patients undergoing total mastectomy.

Methods

Single-blinded, randomized controlled trial was conducted between October 2024-July 2025 in the surgical ward. The study was registered at ClinicalTrials.gov (NCT06796166). Ethical approval was obtained from the Institutional Review Board of Acıbadem University (Approval No:2024-13/548, Date:05.09.2024). Written consent was obtained from all participants. The sample size (n=40) was calculated using G*Power and participants were randomly assigned to the intervention (n=20) and control (n=20) groups using block randomization. The intervention group received AI-based preoperative education by ChatGPT's voice conversation mode, while the control group received preoperative education by a nurse. Data were collected using the Patient Information Form, State-Trait Anxiety Inventory and Surgical Fear Questionnaire. Statistical analyses included dependent and independent samples t-tests, chi-square tests and calculation of effect size using Cohen's d with SPSS 26.

Results

The study found that the experimental and control groups were homogeneous in terms of demographic characteristics. State anxiety levels decreased significantly in the experimental group and this decrease was more pronounced than in the control group (p=0.035). No significant differences were found between the groups in terms of trait anxiety and surgical fear levels (p>0.05). Communication effectiveness of the education was rated higher by control group (p=0.040). Correlation analysis revealed significant relationships among state trait anxiety and surgical fear (p<0,05).

Conclusion

It was determined that artificial intelligence-supported preoperative education was effective in reducing state anxiety in patients scheduled for total mastectomy. However, it had no significant effect on surgical fear.



175 Silent Cuts, Shared Solutions: Using OT Knowledge to Tackle Sharps Injuries

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Background:

Perioperative staff, who routinely handle scalpels and suture needles, face the greatest risk of sharps injuries in hospitals. Yet, underreporting remains widespread. It is estimated that up to 50% of sharps injuries in healthcare settings go unreported. This lack of reporting compromises data accuracy, delays safety improvements, and leaves staff vulnerable to preventable injuries and infection exposures. This issue of underreporting is identified in the Document, *EORNA Best Practice for Perioperative Care*.

Objectives:

To explore the individual and organisational factors contributing to underreporting of sharps injuries among perioperative staff, and identify evidence-based strategies that promote a culture of safety & compliance. To design a simple checklist to improve reporting rates of staff injuries in the OT.

Methods:

This presentation undertook an observational analysis of sharps injury underreporting patterns and their consequences, using case examples, including a delayed-reporting incident that resulted in necrotising fasciitis. It reviewed the literature from other industries to identify systemic and behavioural barriers to reporting and examines practical interventions to improve reporting rates.

Results:

The study identifies the underlying individual & organisational factors leading to the underreporting issue. As a practical response to this often-overlooked issue, we developed a simple, accessible checklist to increase reporting in perioperative settings.

Conclusion:

Sharps injuries continue to be underreported across perioperative settings. Contributing factors include fear of blame, ignorance, workflow pressures, and unclear reporting systems. These gaps delay prevention efforts, increase clinical risk, and obscure the true burden of harm. Empowering staff through clear protocols, access to safety-engineered devices, and leadership support has been shown to improve reporting and drive sustainable change.

Underreporting is not just a data issue—it is a safety issue. Drawing attention to the value of injury reporting is a critical step in building safer theatres.



19 Training of operating room nurses: staff survey and development of a manual at the North Estonia Medical Centre

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Background

Staff turnover in hospitals puts patients at risk, the use of a structured training manual increases the retention of new nurses and supports the development of competencies as an operating room (OR) nurse. It's also necessary for supervisors. The OR has historically been an intensive and challenging learning environment.

Objectives

The aim was to describe the experiences and views of the staff and to develop a manual to support the training of OR nurses at the North Estonia Medical Centre (NEMC).

Methods

A development project was led to develop a training manual for OR nurses, nurses working in the institution were interviewed (novice and experienced OR nurses). The surveys were qualitative. The surveys took place before (10 novice OR nurses and 11 supervisors) and after the development of the training manual (19 of the original respondents). The project period was Oct 2022 to Jan 2024.

Results

As a result of the literature review and the survey, an 87-page, spiral-bound A5 book was made. It contains a comprehensive overview of working at the NEMC and a table to be filled out as a checklist on the time stages of training, references to mandatory and recommended guidelines, information on basic instruments, patient draping and suture materials. Manual was piloted for a week and feedback was collected, it was found to be a necessary and useful tool. Most respondents (89.5%) prefer to use the manual in book form. Manual was approved by the NEMC as the official guide for training OR nurses.

Conclusion

Operating teams are dynamic, with a shared responsibility for patient safety. Adding new staff can add stress to an already intense workload. There is a shortage of OR nurses and training is only provided on the job. An effective training manual can help reduce conflict, increase teamwork and retention. Training for an OR nurse should last six months to a year.



46 Launching Multidisciplinary Simulation Training at the Operating Department

Merja Jutila^{1,2}, Niina Perälä^{1,3}

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Background

[Simulation training is an established learning method in healthcare. It is particularly used for practicing emergency situations in emergency departments, operating rooms (OR), and intensive care units. Simulations help improve patient safety, as participants can practice communication during emergencies and make mistakes without harming actual patients. In addition to maintaining staff competence, full-scale simulation training can also be utilized in the orientation of new employees.]

Objectives

[Emergency situations had not previously been practiced through simulation training in the OR. In spring 2023 planning of emergency cesarean simulation training for the OR in collaboration with the Delivery Room and Neonatal Intensive Care Unit started. The goal was to organize large-scale simulation exercises involving all three units in autumn 2023.]

Main

[A need for operating team action cards was quickly identified—these would assist in practicing emergency cesarean sections and serve as checklists in real situations. Since the operating department had not previously used such action cards, their development started from scratch. Once the emergency cesarean protocol and action cards were completed, they were presented to the staff. Based on the feedback received, the materials were further refined. A total of eight emergency cesarean section simulations were conducted over four days in autumn 2023. Feedback was collected from participants after each simulation scenario. The feedback was generally positive. The simulations were perceived as good mind refreshers and confidence boosters. Some suggestions for changes to the case and protocol were made.]

Findings

Conclusion

[The staff considered the simulations to be a good and educational way to practice the emergency cesarean section protocol. Large-scale simulations help refine interdepartmental collaboration. Based on the simulations, the emergency cesarean protocol was further refined. Simulations continued in autumn 2024 and plans are made for the simulations in autumn 2025.]



Friday, 15 May, 2026, 16:45 - 18:00

Orlando B

S14 | Session 14 | Infection Control and Prevention

358 Effect of Vibration and Cold Application on Chest Tube Removal Pain and Anxiety After Coronary Artery Bypass Graft Surgery

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Background

[Removal of chest tubes after coronary artery bypass graft(CABG)surgery causes severe pain and anxiety,which can negatively affect the recovery process.In this context,the integration of non-pharmacological interventions into nursing care is an important requirement in multidisciplinary pain and anxiety management.]

Objectives

[This study was conducted with a single-blind randomized controlled experimental design to determine the effects of vibration and a combination of vibration and cold application on the pain and anxiety associated with chest tube removal after CABGsurgery.]

Methods

[The study population consisted of patients admitted to a Cardiovascular Surgery Training and Research Hospital between September2024andJune2025.The sample consisted of93patients who met the research criteria.After obtaining the ethical and legal permissions, patients who met the study inclusion criteria were randomly assigned to the vibration group(n=31),vibration and cold application group(n=31),and control group(n=31).Pain levels were measured using the Visual Analog Scale,and anxiety levels were assessed using the State Anxiety Inventory(STAI-I).Assessments were taken six times:twice before chest tube removal, once during removal, and three times afterward.]

Results

[The descriptive and clinical characteristics of the participating patients were similar($p>0.05$).Vibration was significantly effective in reducing pain and anxiety levels associated with chest tube removal($p<0.001$).The intervention, which included cold combined with vibration, not only reduced pain and anxiety levels but also contributed to a more stable course of vital signs.The vibration group scored higher in satisfaction with the intervention($p=0.006$).]



Conclusion

[Vibration is an effective, safe, and feasible nursing intervention for reducing pain and anxiety associated with chest tube removal. Adding cold to vibration strengthened the effectiveness of the intervention; the high effectiveness of vibration alone in reducing pain and anxiety, and the higher levels of intervention satisfaction, showed that it is a strong intervention option. It is recommended that vibration be integrated into nursing care for managing pain and anxiety after chest tube removal, with cold application added under appropriate clinical conditions to enhance effectiveness.]

377 The Effect Of Intraoperative Heating On Postoperative Pain And Comfort Levels In Laparoscopic Cholecystectomy

Hayriye Aktaş Ünlü, Sultan Özkan

Aydın Adnan Menderes University, Department of Surgical Diseases Nursing., Aydın, Turkey

Background

Despite the numerous benefits of laparoscopic cholecystectomy, postoperative pain remains a significant concern. Hypothermia is common during the perioperative period, and it has been reported that approximately 70% of patients undergoing non-cardiac surgery may develop a low body temperature during the perioperative period.

Objectives

This study was conducted to investigate the effects of active heating applied during the intraoperative period on postoperative pain and comfort levels in individuals undergoing laparoscopic cholecystectomy.

Methods

A total of 63 individuals who underwent laparoscopic cholecystectomy and agreed to participate in the study were included in this randomized controlled study. Forced-air type active heating was applied to the enterprise group from the moment they were taken to the operating room. Vital signs and body core temperatures were measured at 15-minute intervals throughout the intraoperative process in both groups. Preoperative and postoperative vital signs were also monitored at 15-minute intervals. Pain assessment of the patients was performed with the visual acuity scale at 2, 4, 6 and 24 hours postoperatively. Postoperative comfort assessment of the patients was also performed with the perianesthesia comfort scale.

Results

When the two groups were compared, it was found that the visual acuity scale scores at rest for the abdomen and incision regions were significantly lower in the experimental group at all time points ($p < 0.05$). Likewise, the mean comfort score of the experimental group was statistically higher than the control group ($p < 0.05$).

Conclusion

Intraoperative active warming application reduces postoperative pain levels and increases patient comfort. Therefore, it should be considered as an effective application in surgical nursing care processes.



7 Preventive disinfection of Operating Rooms with UVC light

Ajla Dizdarević, Irena Vranić

General Hospital Dr. Ivo Pedišić, Central operating unit, Sisak, Croatia

Background

This paper present the protocol of preventive UVC disinfection between two surgical procedures. Protocol is based on using of UVC device for two minutes disinfections of central zone of Operating Room. The UVC radiation was measured at all points in the central area of the Operating Room there is the highest probability of infection transmission. We astimated the minimum time period required to achieve the most effective dose of UVC radiation needed for log2 reduction of microorganisms.

Objectives

The primary objective of this study is to determine the time period required fot the UVC disinfection device to deliver a sufficient dose of ultraviolet C (UVC) radiation (25mJ/cm²) to key areas of the OR central part, ensuring effective disinfection between surgeries.

Methods

This is one prospective observational study conducted in three Operating Rooms, the UVC device has been used for disinfection of the main surgical area between two consecutive surgeries. Three types of measuring were applied: A UVC meter with Bluetooth connectivity, a calibrated proffesional UVC meter and additional UVC indicator stickers. The UVC meter and stickers were strategically placed to measure the dose received by critical surfaces and equipment.

Results

Results of the measuring in three OR shows that two minutes exposure to UV-C ligt has been enough to achive adequate dose that exceeded 25mJ/cm² what is the base for ad least 2-log reduction of microbial load.

Conclusion

The results of this study demonstrate that the use of UVC techonology for disinfection of OR can significatly reduce the presence of microorganisms on surfaces. 2-log reduction, equivalent to a 99% decrease the microbial load, confirms the effectivnes of UVC radiation as a supplementary measure to standard cleaning and disinfection protocols.



264 Effectiveness of Surgical Skin Antisepsis on the Subcutaneous Microbiota: Literature Review and Proposal for Post-Incisional Antisepsis to Reduce the Risk of Surgical Site Infection.

Emmanuel Daniel

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Background

Surgical site infections (SSIs) remain a major challenge despite adherence to preoperative antisepsis and antibiotic prophylaxis. A significant proportion of SSIs originate from the patient's own deep skin flora, particularly in sebaceous-rich areas.

Objectives

To assess the limitations of current preoperative antisepsis in eradicating deep skin bacteria and to explore the potential benefits of post-incisional antisepsis in reducing intraoperative contamination.

Methods

A literature review was conducted, analyzing studies on bacterial persistence in deep skin layers, the effectiveness of standard antiseptics, and the outcomes of post-incisional antiseptic interventions in various surgical specialties.

Results

Preoperative antisepsis effectively reduces surface bacteria but fails to eliminate microorganisms in sebaceous glands and hair follicles. Studies show rapid bacterial repopulation within 60 minutes post-antisepsis and contamination of surgical sites immediately after incision. *Cutibacterium acnes*, a common pathogen in orthopedic and neurosurgical infections, was frequently detected in deep tissues despite antiseptic preparation. Post-incisional antisepsis, particularly with povidone-iodine, significantly reduced bacterial contamination of surgical gloves, retractors, and subcutaneous tissues. Additionally, antibiotic prophylaxis was often ineffective against these deep-residing bacteria, with 59% of pathogens showing resistance.

Conclusion

Current antiseptic and antibiotic protocols are insufficient to fully prevent intraoperative contamination from deep skin flora. Post-incisional antisepsis appears to be a promising adjunct, especially in neurosurgery, orthopedics, and cardiovascular surgery, where the risk of endogenous bacterial contamination is high. Further clinical studies are needed to validate its efficacy in reducing SSIs and to optimize antiseptic strategies tailored to surgical contexts.



57 Impact of physical activity on the level of bioparticles in the operating room environment

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Background

Airborne bacteria-carrying particles in the operating room are a known risk factor for implant infections. The particles come mostly from the people in the operating room. Levels of bioparticles in the air can be measured in real time with the Bio Aerosol Monitoring System, BAMS.

Objectives

Was to investigate how physical activity affects the level of fluorescent bioparticles (FBP) in the operating room.

Methods

Ten participants completed the experiment. Three physical activity levels were defined: 1 no activity – sitting still, 2 medium activity – arm movements, 3 high activity – arm movements and walking. Each activity was performed individually by each participant for 3 minutes and repeated 5 times with a 5-minute break in between. The mean level of FBP/15dm³ was recorded for each participant for each activity, after which the mean value for all participants for each activity was calculated. Comparisons between mean FBP/15dm³ for different activities were calculated using a t-test. The relationship between mean FBP/15dm³ at different activity levels for individual participants was calculated using Pearson correlation coefficient.

Results

When analysing particle sizes >3µm, the mean FBP/15dm³ at high activity was 9.1 (95% CI 5.4-12.7), at medium activity 1.9 (95% CI 1.0-2.9) and at no activity 0.6 (95% CI 0.2-0.9). The Pearson correlation coefficient for high and medium activity was 0.72 (95% CI 0.67 - 0.93), and for medium activity and no activity 0.47 (95% CI - 0.23-0.85).

Conclusion

Higher levels of physical activity in the operating room lead to higher levels of fluorescent bioparticles in the air. There are individual variations in the amount of bioparticles released from the body. These variations also exist at different levels of activity, but are less obvious during no activity - such as sitting still.



Saturday, 16 May, 2026, 8:00 - 16:30

ePoster Hall

ePoster | ePoster Viewing



Saturday, 16 May, 2026, 8:10 - 8:55

Koločep

RT02 | Round Table 2 | surgical counting

For the round table, three panelists from three different countries will be included.

This approach ensures diverse perspectives and provides visibility to participants from various countries.



Saturday, 16 May, 2026, 8:25 - 8:55

Orlando B

S15 | Session 15 | Patient Care and Anesthesia

193 Factors Influencing the Communication Gap: Surgical Nurses' Perceptions, Attitudes, and Experiences with Deaf and Hard-of-Hearing Patients

Elif Budak Ertürk, Sevcan Avcı Işık, Azize Karahan, Aylin Günay

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Background

Effective communication between healthcare professionals and deaf or hard-of-hearing (DHH) patients remains a significant challenge, often leading to gaps in care and patient dissatisfaction.

Objectives

To examine the factors influencing the communication gap by exploring surgical nurses' perceptions, attitudes, and experiences with Deaf and hard-of-hearing patients

Methods

The study was designed as a descriptive, cross-sectional, multicenter investigation. The sample included 159 surgical nurses from three centers. The data were collected using a descriptive characteristics form, the Perception Scale for Disabled Individuals, and the Disability Attitudes in Health Care Scales. The influencing factors were determined using an independent t-test, one-way ANOVA, and correlation tests.

Results

A weak negative correlation was observed between the awareness sub-dimension and both age and years of professional experience as well as between the social environment sub-dimension and age. A weak positive correlation was found between the inclusion sub-dimension of the Disability Attitudes in Health Care Scale and the adoption sub-dimension of the Perception Scale for Disabled Individuals, as well as with individual support and total scale scores. Additionally, a weak positive correlation was identified between the adoption sub-dimension of the Perception Scale for Disabled Individuals and total score of the Disability Attitudes in Health Care Scale ($r=0.192$).

Conclusion

In the study, it was determined that surgical nurses who had an adoptive, supportive perception towards DHH individuals had a more positive attitude towards DHH individuals. Enhancing surgical nurses' perceptions and attitudes toward DHH individuals can improve communication and perioperative care. Specialized training programs may foster more inclusive, patient-centered care.



114 Factors Influencing the Development of Pressure Injuries in Surgical Patients Pressure Injuries in Surgical Patients

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Background

Operating room-acquired pressure injuries are those that develop in anatomical locations associated with the patient's surgical position and typically manifest within 48-72 hours postoperatively.

Objectives

This study aims to explore the factors associated with the development of pressure injuries in surgical patients.

Methods

The data of this study were obtained in the operating theatre of a research hospital between September 2023-June 2024. Perioperative patient assessment form, 3S Intraoperative Pressure Injury Risk Assessment Scale (3S IPIRAS) and pressure injury staging and recording form were used to obtain the data. Descriptive tests, chi-square, t-test, one-way ANOVA, and multiple linear regression were used for statistical analysis.

Results

A statistically significant difference was found between gender, alcohol use, chronic disease, intraoperative vasopressor use, body mass index (BMI), and type of surgery and mean scale scores ($p < 0.05$). It was found that the age, gender, smoking, alcohol consumption, BMI, presence of chronic diseases, type of surgery, preoperative Braden risk score, and duration of surgery variables explained 43% of mean scale scores ($p < 0.001$, $F = 13.960$).

Conclusion

The study identified key factors influencing pressure injury development in surgical patients. These results emphasize the critical role of perioperative nurses in implementing tailored, evidence-based prevention strategies to enhance patient safety and reduce complications.



Saturday, 16 May, 2026, 8:25 - 8:55

Orlando A

S16 | Session 16 | Education

342 Investigating Continuous and Varying Preceptors as a Learning Preference within the Operating Room for Novice Nurses

Emily A. Puddicombe

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Background

Previous studies demonstrate the importance of fostering a safe and supportive learning environment for novice nurses beginning to work in a new nursing environment (Burcu & Nurhan, 2021; Ekstedt et al., 2019; Gupreet et al., 2020). Specifically, Ekstedt et al. (2019) shed light on how a novice nurse having either varying or continuous preceptors has the potential to significantly impact nurses' abilities to learn within their given nursing environment.

Methods

Using survey questionnaires, we are assessing whether continuous or varying preceptors affects novice nurses learning ability and sense of belonging and support within the Toronto Western Hospital OR. We predict based on feedback over the years within the OR that having 1-2 continuous preceptors, rather than a variable preceptor each day, novice nurses may feel a sense of safety in their learning, a factor of notable importance to their sense of belonging and ability to learn, supported by previous studies with nurses navigating novice environments (Burcu & Nurhan, 2021; Ekstedt et al., 2019; Gupreet et al., 2020).

Results

With a goal of improving the nursing culture of learning within an Operating Room (OR), we investigated whether novice nurses within the OR preferred continuous or varying preceptors while onboarding. We aimed to understand whether having a continuous or varying preceptor as a novice nurse affected their ability to learn in the OR regarding both technical skills, such as instrument passing, and non-technical skills, such as teamwork, or whether novice nurses do not have a preference. Additionally, we aimed to understand whether varying or continuous preceptors had an effect on novice nurses in regards to feeling safe and supported in the OR environment.

Conclusion

As this study is ongoing, the findings will be assessed as novice nurses rotate through the OR through the Winter and Spring of 2025 into 2026.



243 Enhancing Surgical Nursing Competence: A Regional Four Day Education Programme with Integrated Assessment

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¹ Centre for Nursing and Midwifery Education, Sligo Leitrim West Cavan, CNME, Sligo, Ireland; ² Perioperative MCAN, HSE West Northwest, HSE West Northwest, Galway, Ireland

Background

The evolving complexity of surgical care requires nurses to demonstrate advanced perioperative knowledge, critical thinking and clinical decision making skills. A regional needs analysis, supported by feedback from theatre and surgical ward staff, identified variation in surgical nursing knowledge and a gap between theory and practice. In response, the Perioperative Managed Clinical and Academic Network (MCAN), in collaboration with regional Centres for Nursing and Midwifery Education (CNMEs) and HSE West/Northwest acute sites, developed a structured four day surgical education programme. The curriculum was co designed with clinical experts, incorporating evidence based content on perioperative care, postoperative complications, discharge planning and quality and risk management. A formal assessment on day four was embedded to evaluate knowledge acquisition and promote reflective learning.

Objective

The programme aims to:

1. Provide a standardised, evidence based surgical nursing curriculum across acute and perioperative settings.
2. Enhance nurses' confidence, competence and decision making in surgical care.
3. Evaluate knowledge gain and learning outcomes through integrated assessment.
4. Generate evaluation data to inform the potential scaling of the programme nationally.

Conclusion

The programme will be delivered in September 2025, targeting a cohort of over 50 surgical and theatre nurses. A mixed method evaluation will be conducted, combining pre/post programme knowledge assessments with participant feedback and qualitative thematic analysis of reflective evaluations. Engagement metrics and satisfaction scores will be analysed to assess programme effectiveness. It is expected that the programme will demonstrate measurable improvements in surgical nursing knowledge and confidence, with positive feedback highlighting the value of structured, regionally coordinated education. Data from the programme will be available for the conference in May 2026, with findings informing iterative refinement of the curriculum and support the case for national implementation. This case study contributes to the international discourse on perioperative education by presenting a collaborative, research-informed approach to standardising surgical nursing competence.



Saturday, 16 May, 2026, 9:00 - 10:00

Orlando B

PS03 | Priority Session 3

Expertise in Action: Nursing - Surgeon Synergy in Transplant Surgery

Danko Mikulić

Clinical Hospital Merkur, Zagreb, Croatia



Saturday, 16 May, 2026, 10:30 - 11:30

Orlando A

S17 | Session 17 | Clinical Practice

233 Swedish recommendations for preparing surgical instrument before surgery

Lars Salomonsson, Anna Ekepil

Swedish Operating Room Nurses Association SEORNA, Quality Council SEORNA, Stockholm, Sweden

Background

The Quality Council within the Swedish Operating Room Nurses Association is author of evidence-based Guidelines and Recommendations with the aim to promote high quality and safe perioperative nursing care.

Postoperative infections are today the third most common form of healthcare-associated infections, which means costs for healthcare and suffering for patients.

Checking and preparing surgical instruments before surgery could be an infection prevention measure carried out by an operating room nurse.

Preparation of sterile surgical equipment can be done in the operating room or in a preparation room where they will be covered with surgical drapes that will reduce bacterial contamination of the surgical equipment before the patient is brought into the operating room.

Preparing surgical equipment in good time leads to efficient use of the operating room which reduce stress for operating room staff.

Objectives

Describe the work process of producing guidelines and the Swedish recommendations for preparing surgical instrument before surgery.

Methods

The work process for producing guidelines is based on an evidence-based model. Data was collected through systematic reviews of literature, local routines and standards collected through members in SEORNA, advice from experts in perioperative nursing, published adverse events, and reviews of international guidelines

Results

The use of sterile covers to protect sterile surgical equipment from bacterial air contamination while waiting for operations to start is common practice in Sweden although there has not previously been a recommendation on time limit

Conclusion

The guideline has been updated based on recent Swedish studies showing that prepared surgical instruments protected by sterile drapes can be stored in an operating room with approved ventilation for 15 hours. The evidence-based guidelines serve as a foundation to maintain patient safety and high-quality perioperative nursing care. Operating room nurses have evidence-based guidelines to rely on in their daily work.



157 Patients' experience of being awake during operations - a literature review

Janet Mattsson

linneus university, Health Science, Växjö, Sweden

Background

[The number of surgeries increases yearly. This progression has resulted in some surgeries, which previously required general anesthesia, now being performed with local anesthesia. This means that the patient is fully awake and fully susceptible to various stimuli during surgery. The role of the operating nurse may expand in certain cases to include more patient-centered care, as neither the anesthetic nurse nor the anesthesiologist is often present.]

Objectives

[The aim was to explore the patient's experience of undergoing surgery under local anesthesia.]

Methods

[A qualitative content analysis was used to conduct the systematic literature review. Nine scientific articles were selected and analyzed.]

Results

[Patients who undergo surgery while awake have a significant need for respectful and clear communication in order to decrease anxiety and fear. A lack of communication in regard to the details of the procedure can create uncertainty and increased stress, while patient-centered information and continuous updates can provide a sense of control and participation. Communication between professionals also affects the patient, who is highly sensitive to every word and movement in the operating room. To manage stress, patients develop strategies such as creating a mental "bubble" or using external stimuli like music to distract themselves and thereby gain a sense of control and security during the procedure.]

Conclusion

[By being present, the operating nurse can help alleviate stress and anxiety. This can help the patient to feel important and involved in their care, providing a sense of control and wellbeing.]



5 Evaluating Clinical Reasoning in Uncertain Contexts Using the Post-anesthesia Nursing Script Concordance Test: A Multi-method Methodological Study

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Background

Clinical reasoning is a cornerstone of nursing practice, especially in high-stakes, dynamic environments. Script Theory offers a lens for understanding how nurses use stored knowledge patterns—or “scripts”—to make sense of clinical cues and navigate uncertainty. Although Script Concordance Tests (SCTs) have shown value in nursing education, their application in continuing professional development within specialized domains such as post-anesthesia care remains underexplored.

Objectives

This study aimed to design the Post-anesthesia Nursing Script Concordance Test (PaNSCT) and evaluate its psychometric properties and practical relevance.

Methods

A multi-method design was used across three phases. Phase I involved test development and construct validation. Phase II analyzed the reliability, appropriateness, and acceptability of the PaNSCT using performance data and qualitative feedback from two groups: clinical experts and perioperative nurses. Phase III addressed sustainability, including intellectual property protection. Statistical analyses included descriptive metrics, Pearson correlations, Cronbach’s alpha, and qualitative content analysis.

Results

The finalized PaNSCT featured 20 scenarios and 60 items aligned with post-anesthesia care. Expert review confirmed construct validity with minor adjustments. The tool demonstrated high internal consistency (Cronbach’s alpha = 0.92) and distinguished expert (mean score = 44.8±4.7) from nurse performance (39.9±6.1, $p = 0.01$). Nurse scores positively correlated with PACU experience ($r = 0.58$, $p = 0.009$), while no significant correlations were noted among experts. Qualitative feedback emphasized the tool’s training potential and the importance of SCT orientation before application. The PaNSCT reliably assessed clinical reasoning in uncertain perioperative situations. Higher scores among experts and experienced PACU nurses underscore the role of contextual expertise and specialization.

Conclusion

The PaNSCT is a promising tool for enhancing clinical reasoning in post-anesthesia nursing practice.



220 Preoperative and postoperative physical and mechanical rehabilitation interventions in hallux valgus: A systematic review

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¹ Western Sydney University, School of Nursing and Midwifery, Sydney, Australia; ² Central Queensland University, School of Health, Medical and Applied Sciences, Rockhampton, Australia; ³ University of Newcastle, School of Health Sciences, Newcastle, Australia; ⁴ Lokman Hekim University, Physical Therapy and Rehabilitation, Ankara, Turkey; ⁵ Monash University, School of Clinical Sciences, Clayton, Australia

Background

Approximately one-third of the adult population is affected by hallux valgus (HV). Surgical interventions are successful in reducing deformity; however, postoperative complications are common. There is growing evidence for prehabilitation and rehabilitation strategies in orthopaedic surgeries. However, the effectiveness of such strategies in HV surgery is currently unknown.

Objectives

This systematic review aimed to synthesise and determine the quality of evidence for the effectiveness of physical and mechanical prehabilitation and postoperative rehabilitation interventions for improving outcomes following HV surgery.

Methods

Electronic databases: MEDLINE, Cochrane, CINAHL, Scopus, EMBASE and AMED were searched from inception until 27th March 2024, following the PRISMA guidelines. Randomised controlled trials were included to determine the effectiveness of pre-operative and post-operative physical and mechanical therapies for improving outcomes in adults undergoing HV surgery. The evidence from individual studies was narratively synthesised, and data were not pooled due to the heterogeneity of interventions, methods, and outcomes measures.

Results

A total of 7,535 titles and abstracts were screened, and 61 full-text papers were reviewed. Five studies met the eligibility criteria and were included in this review. No randomised controlled trials examined the effectiveness of eligible pre-operative physical or mechanical interventions. Postoperative early weight-bearing, dynamic metatarsal splinting, and transcutaneous ultrasound appeared to improve patient outcomes, while rigid-soled footwear improved patient satisfaction.

Conclusion

There is currently no evidence to support the effectiveness of pre-operative physical and mechanical interventions for improving outcomes in HV surgery, and limited evidence supports the postoperative interventions. Future trials should consider incorporating validated outcome measures.



Saturday, 16 May, 2026, 10:30 - 11:30

Koločep

S18 | Session 18 | Education

293 Application of Large Language Models (LLMs) in Perioperative Nursing Education: Mapping the Evidence with a Scoping Review.

Konstantinos Vakanas, Andreas Charalambous, Iolie Nicolaidou, Koralia Michael, Theologia Tsitsi

Cyprus University of Technology, Nursing, Limassol, Cyprus

Background

Over the last years LLMs have been increasingly studied and applied in various fields of nursing education. While evidence particularly on perioperative nursing education remain limited, several studies support that LLMs indicate promising outcomes on nursing students. Students use them for problem-based learning, simulation-based activities and this enhances personalizes learning, critical thinking, student engagement and communication skills (Huang and Fang, 2023; Rodrigues and Cruz-Correia, 2024; Kejingyun and Mingjun, 2025; Song *et al.*, 2025). Understanding the benefits of LLMs in this regard may introduce new opportunities for innovation in nursing education.

Objectives

To explore and map the existing literature on the use of LLMs (e.g. ChatGPT and similar AI tools) in perioperative nursing education. This review specifically aims to identify the key themes, research approaches and the education, clinical and ethical implications reported in the literature.

Methods

A scoping review was conducted following PRISMA-ScR guidelines. A systematic search was performed in PubMed, CINAHL(EBSCO), MEDLINE and Web of Science.

Results

Twenty-two studies were included in this review. A range of qualitative, quantitative and mixed-methods studies, including systematic reviews revealed benefits and challenges related to LLMs use in nursing education. Findings emphasize on the effectiveness of LLMs in improving critical thinking, nursing student engagement and communication through simulation, real-time feedback and scenario-based training. However, most studies focus on general nursing education with limited research particularly on perioperative nursing.

Conclusion

Although there are limited evidence that directly address in perioperative nursing education, broader research on LLMs in nursing education supports considerable promise. LLMs offer support through interactive simulation and real-time feedback by promoting critical thinking and problem-solving skills. Despite this potential, issues such as data privacy and ethical use must be carefully considered. Future research should focus specifically on the investigation of LLMs application in perioperative nursing.



337 Operating room nursing in pediatric cardiac surgery at a Greek tertiary care setting: a team beyond the scalpel.

Maria Kaprana¹, Christina Krithari¹, Fotios Giamouridis¹, Anastasia Nikolaou¹, Paraskevas Vlachos², Maria Lioliou³, Chrysa Panagiotou⁴

¹ Onasseio Hospital, OR Nurse, Athens, Greece; ² Onasseio Hospital, VAD coordinator, Athens, Greece; ³ Onasseio Hospital, Nurse anesthetist, Athens, Greece; ⁴ Onasseio Hospital, Director of Nursing Service, Athens, Greece

Background

Pediatric cardiac surgery (PCS) has progressed considerably in Greece. At our tertiary referral hospital, this evolution has strengthened the role of operating room (OR) nurses caring for children with congenital heart diseases.

Objectives

To assess changes and nursing-led initiatives aimed at improving quality of OR care for pediatric cardiac patients and to reflect on surgical volume and procedure complexity in our center, emphasizing the growing need for specialized OR nursing.

Methods

A mixed methods design was employed. A survey and follow-up focus group were conducted to explore OR nurses' perceptions on PCS training and perioperative care; a retrospective descriptive analysis of PCS cases (1/2022–4/2025) provided context on surgical workload. A 10-item questionnaire was used for the survey, assessing demographics, work experience, PCS management and training; structured open-ended questions regarding the latter topics were used for the focus group. Phenomenological approach and thematic analysis were used for data analysis.

Results

During the study period, 440 operations were performed on 398 pediatric patients (median age: 20.5 months) of which 18.6% neonates, 24.6% infants, 36.2% preschoolers, 20.6% children aged 7–12 years. The most frequent diagnoses were atrial (25.7%) and ventricular septal defects (13.1%), tetralogy of Fallot (6.4%), and aortic coarctation (4.8%). Thirteen OR nurses participated in the survey (31% male; median age 51 years; mean PCS experience 19 years); a subgroup contributed to the focus group. Main themes were collaboration and teamwork, education and training, and new nurses' integration in PCS. The introduction of preoperative briefings, use of nurse-authored educational notes, and the need for structured introduction of new colleagues were emphasized.

Conclusion

OR nurses in our tertiary center play a vital role in PCS through teamwork, preparation and professional commitment. They actively promote continuous training and mentorship for new staff, contributing to high-quality care and optimal surgical outcomes for pediatric patients.



108 Health Literacy as a Predictor of Surgical Readiness and Recovery: Evidence from Türkiye

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Background

Health literacy (HL) plays a vital role in preparing patients for surgery and influencing their recovery outcomes. It affects patients' ability to understand medical information, adhere to care instructions, and actively participate in decision-making. In Türkiye, the growing body of research on HL in surgical populations has not yet been systematically reviewed.

Objectives

This review aims to synthesize existing literature on health literacy among surgical patients in Türkiye, focusing on how HL influences surgical readiness and postoperative recovery.

Methods

A comprehensive literature review was conducted across national and international databases (ULAKBİM, TR Dizin, PubMed) for the years 2020–2025. Inclusion criteria comprised studies conducted in Türkiye involving adult surgical patients and utilizing validated HL measurement tools. Both peer-reviewed articles and graduate theses were included.

Results

Eighteen studies were reviewed, including 12 articles and 6 theses. The study populations covered a range of surgical fields, including general, orthopedic, bariatric, prostate, abdominal, and neurosurgical procedures. Commonly used HL instruments included the Health Literacy Scale (SOYÖ), the Turkish Health Literacy Scale-32 (TSOY-32), and the HLS-EU-Q16/Q47. Most patients demonstrated inadequate to moderate levels of health literacy.

Low HL was consistently linked to:

- Increased preoperative anxiety and surgical fear
- Poor comprehension of surgical instructions
- Decreased adherence to postoperative care
- Impaired pain management and mobility outcomes

One intervention study reported that HL-based educational approaches improved postoperative recovery. Sociodemographic factors such as age, education level, and marital status were frequently associated with HL levels.

Conclusion

Health literacy is a significant predictor of surgical readiness and recovery among patients in Türkiye. Tailoring preoperative education and postoperative care to patients' HL levels can enhance safety, reduce complications, and support better health outcomes. Integrating HL-sensitive strategies into surgical nursing practice is essential for patient-centered care.



301 Building a comprehensive Framework of Technical Professional Specialist and Transversal Competencies for Operating Room Nurses according to the European and Italian Qualifications Framework

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Background

Operating room nurses play a crucial role in ensuring well-being, health and safety for the person cared for, and high-quality perioperative and perianesthesiological care. However, the absence of standardized frameworks describing technical professional and transversal competencies limits the full realization of the professionalization process and public recognition of this qualification at the European and Italian level.

Objectives

To construct a comprehensive framework of specialized technical professional and transversal competencies of operating room nurses, consistent with the descriptors of the European and Italian Qualifications Frameworks (EQF/NQF).

Methods A multi-method qualitative study was conducted between 2021 and 2023 in a public hospital and university in Northern Italy. Forty-six participants (operating room nurses, postgraduate students, nurse managers) were involved. Data collection methods included: “at-home” ethnography, double interviews, participant observation or shadowing, hierarchical task analysis. The analysis followed triangulation strategies, content analysis, and task deconstruction techniques. Narratives were particularly valuable to comprehend the lived experiences and emotions of operating room nurses. The data collected served as the basis for the iterative development and refinement of the competencies framework over subsequent years.

Results Seventeen specialized technical professional competencies were identified and grouped into six areas of activity. These were linked to 19 expected learning outcomes, 152 specific activities/tasks, 222 knowledge components, and 218 skills. Additionally, fifteen transversal competencies emerged, articulated into 50 sub-competencies and 153 related tasks, describing the behavioral, cognitive, and relational dimensions of practice.

Conclusion

Aligned with EQF/NQF descriptors and developed iteratively beyond the initial study period, the framework supports the mapping, assessment, development, and monitoring of competencies, as well as the identification, validation, and certification of prior learning within national systems. It promotes curriculum reform based on clearly defined professional outcomes and facilitates competence-based curriculum design, thereby fostering competency recognition and portability as envisioned by the European Higher Education Area.



Saturday, 16 May, 2026, 10:30 - 11:30

Orlando B

S19 | Session 19 | Healthy Workplaces

44 Nomophobia in the Operating Room and Its Impact on Teamwork, Awareness, and Distraction

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Background

In ORs, frequent distractions negatively affect concentration, teamwork, situational awareness, and ultimately, patient safety.

Objectives

To adapt the Distraction Due to Mobile Phone Use scale for use in Turkey, and to examine the effect of nomophobia levels on teamwork, awareness, and distraction.

Methods

This study was both methodological and a cross-sectional. Between December 2023 and November 2024, two studies were conducted with OR staff: a methodological study with 85 staff, and a cross-sectional study with 167 staff. Sociodemographic and Occupational Characteristics Form, the Distraction Due to Mobile Phone Use Scale, Leiden Operating Theatre and Intensive Care Safety Scale - Teamwork and Awareness Subscale, and Nomophobia Questionnaire (NMP-Q) were used for data collection. Content validity index, confirmatory factor analysis, Cronbach's alpha and item-total score correlation, and Multiple linear regression analysis was applied.

Results

For the Distraction Due to Mobile Phone Use scale Cronbach's alpha was 0.825, X^2/df ratio was 2.526, the GFI 0.902, the CFI 0.932, the SRMR 0.080, and the RMSEA 0.078. The mean age of the OR staff was 28.4 ± 4.9 years, and 53.5% of these staff were nurses. Of these employees, 29.3% had mild, 44.9% had moderate and 25.7% had severe nomophobia. Compared to a staff with mild nomophobia, having moderate nomophobia causes a 1.829-point increase in teamwork and awareness scores, while a staff with severe nomophobia experiences a 2.261-point increase. Having moderate nomophobia caused an increase of 1.941 in mobile phone-related distraction scores, whereas having severe nomophobia caused an increase of 4.410.

Conclusion

The Distraction Due to Mobile Phone Use scale is a reliable and valid tool. Those with moderate or severe nomophobia experienced higher levels of "teamwork and awareness" and "distraction" than those with mild nomophobia.



354 Why don't clinicians report disruptive behaviour? Dissatisfaction with management's response and group-based variation in perceived barriers

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Background: Disruptive intraoperative behaviour ranges from incivility to abuse, and harms clinicians and patients. Previously, we demonstrated that clinicians underreport disruptive behaviour and are dissatisfied with how management responds. However, the perceived timeliness and effectiveness of responses have not been individually assessed. Furthermore, groups of clinicians facing different barriers to reporting remain unidentified. **Objectives:** To describe how often disruptive behaviour is reported and to evaluate satisfaction with management's response. The exploratory objective was to identify groups of clinicians facing different barriers to reporting. **Methods:** This is an interim analysis of an ongoing study. A questionnaire was distributed by four perioperative associations in Canada, the British Isles, and New Zealand. A sub-study examined reporting prevalence, satisfaction with management's response, and barriers to reporting. Latent class analysis (LCA) identified groups of clinicians facing different barriers. **Results:** 352 clinicians were included. 94.5% (95% CI 91.3-96.4) did not report all disruptive behaviour they observed (i.e., under-reported), and 14.6% (95% CI 11.2-18.7) never reported. 52.5% found it difficult to report, 44.9% found management's response untimely, and 55.2% found it ineffective. The most common barriers were: 1) the belief that managers won't act; 2) fear of retaliation; and 3) lack of anonymity. LCA revealed five groups of clinicians reporting different barriers related to fear, uncertainty about process, confidence in management, and use of informal mitigating actions: 1) "hardened skeptics" (n=55), 2) "off-the-record fixers" (n=30), 3) "fearful insiders" (n=148), 4) "paralysed novices" (n=13), and 5) "strategic reporters" (n=106, facing fewer barriers). **Conclusion:** Substantial under-reporting still occurs, and one in two clinicians remain displeased with the timeliness and effectiveness of management's response. Groups perceive different barriers to reporting. Managers can identify these groups in their settings, and design interventions addressing the barriers identified by clinicians. Studying environments with abundant strategic reporters may reveal organisational practices that encourage reporting.

174 An Expanded Checklist for an Inclusive Culture: Embedding Staff Safety Through Shared Expertise

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Background



The World Health Organization's (WHO) Surgical Safety Checklist (SSC), introduced in 2007, has reduced major complication rates by 36% across eight countries. Its accessibility, adaptability, and focus on patient outcomes make it a cornerstone for patient safety. However, our qualitative study has identified a critical gap: Staff Safety.

Worldwide, healthcare consistently records the highest serious injury claims, higher than construction and manufacturing industries. Perioperative environments are high-risk workplaces. Sharps injuries in OTs continue to rise by 6.5% despite declining by 31.6% elsewhere in the hospitals. These risks affect nurses daily.

Objectives

To explore how the SSC can be expanded to bridge the divide between patient & staff safety, and how perioperative nurses can introduce this improvement through their shared expertise and insight.

Methods

Data was gathered from perioperative nurses at the Australian College of Perioperative Nurses (ACORN) conference, the Association of periOperative Registered Nurses (AORN) conference - US, and a webinar hosted by the Association for Perioperative Practice (AfPP) in the UK. Through polls, discussions, and interviews, participants reviewed the WHO Surgical Safety Checklist and the Comprehensive Surgical Checklist, identifying key gaps. Drawing on this frontline feedback and international research, we put forward practical, evidence-based additions to the checklist to better address staff-specific risks such as sharps injuries and surgical plume.

Results

The main risks identified to be included in the SCC to improve staff safety were surgical smoke/plume, sharps injuries, splashes, and staff member fatigue.

Conclusion

Early engagement shows strong nurse-led support for an inclusive & expanded checklist. The process itself prompted more open safety dialogue, improved situational awareness, and strengthened the team dynamic—hallmarks of a proactive safety culture.

A safer OT starts with shared responsibility. By embedding staff safety into the SSC, we create; *One Safe Team, One Safe Culture for All*, where no member is left behind.

298 When the trauma patients do not survive, how does it affect the perioperative surgical nurses in the operating ward?

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Background

Surgical nurses participating in trauma teams are, at times, exposed to strong sensory impressions and emotions when encountering trauma patients who do not survive. Standing with other people's lives in your hands and



witnessing that the help you provide is not sufficient can be a tough experience. There is little focus and research on surgical nurses' experiences of these events, and there is therefore a need to shed light on this.

Objectives

To investigate how the individual surgical nurse experiences and processes events where the trauma patient does not survive.

Methods

A qualitative hermeneutic approach and method has been chosen, eight semi-structured in-depth interviews with operating room nurses from three different university hospitals in Norway. All interviews gave rich information and were analyzed with thematic analysis. All the authors were involved in the whole process of conducting the study and analyzing the data.

Results

Feelings such as depression and seriousness occur after difficult events. Identifying with the patient and relatives is particularly strong. Emotional distance is essential for acting professionally. Peer support plays an important role in the processing process. Clinical experience and understanding of the situation are also of great importance. There is no set form of debriefing after these events. The possibility of talking to colleagues is difficult because the pressure on time in the operating ward. A lower threshold for seeking help, and a form of debriefing put into a system, is desirable.

Conclusion

Despite strong emotions and sensory impressions, no one reports any mental or physical problems afterwards. If one can talk about the incident with good colleagues, this is often sufficient to process it. Although experience and the need for processing are individual, everyone recognizes the need for defusing and/or debriefing and wants a system that enables some kind of debrief afterwards these events.



Saturday, 16 May, 2026, 11:30 - 12:30

Orlando B

S20 | Session 20 | Patient Safety

176 Perceptions of Operating Room Healthcare Professionals on Distractions: A Cross-Sectional Analysis

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Background

Recognizing and reducing distractions and risks in the operating room is crucial to ensuring the safety and well-being of patients and healthcare professionals.

Objectives

The aim of this study was to assess operating room healthcare workers' perceptions of various intraoperative distractions and to identify potential differences in perceptions among professional roles within the surgical team.

Methods

An analytical descriptive cross-sectional study was conducted. Data were collected using the Turkish version of the Distraction in Surgery Index (DiSI). Reliability was assessed using Cronbach's alpha coefficients. A total of 270 participants completed the questionnaire, including surgeons (31.9%), nurses (29.6%), anesthetist technicians (23.0%), and anesthetists (15.6%). Statistical analyses included independent t-tests, one-way ANOVA, and post-hoc Bonferroni tests to compare perception differences between occupational groups. A significance level of $p < 0.05$ was considered statistically significant.

Results

The internal consistency of the DiSI subscales, measured using Cronbach's alpha, demonstrated acceptable to excellent reliability: individual skills, performance, and personality ($\alpha = 0.71$); operating room environment ($\alpha = 0.77$); communication ($\alpha = 0.66$); situational awareness ($\alpha = 0.90$); patient-related interruptions ($\alpha = 0.91$); and team and organizational interruptions ($\alpha = 0.83$). In the descriptive analyses, the most frequently reported sources of distraction were the operating room environment, team and organizational dynamics, and individual characteristics (skills and personality), while the least frequently reported source of distraction was patient-related interruptions. In comparative analyses, anesthetists reported consistently higher sensitivity to interruptions in various subdimensions compared to surgeons and nurses ($p < 0.05$).

Conclusion

This study provides important insights into how healthcare workers in the operating room perceive various distractions. The development of structured protocols, strengthening communication, and



increasing awareness of distraction management, particularly for high-risk roles such as anesthetist technicians, can contribute to safer and more efficient operating room environments.

104 The outcome of missed and delayed delirium diagnosis in older patients' post-surgery: A retrospective cohort study.

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Background

Previous studies on under-detection of delirium or missed delirium have primarily focused on medical patients and critically ill patients admitted to the intensive care unit with fewer studies examining missed delirium among surgical patients.

Objectives

1. To determine the percentage (clinician diagnosed compared to researcher identified) of missed and delayed delirium in older patients admitted to a surgical ward post-surgery.
2. To determine the association between missed and delayed delirium with length of hospital stay (LOS) and admission to a long-term care facility.

Methods

Reviewing medical records from patients in a prior prospective cohort study (Anonymous, 2022), researchers conducted a retrospective review to determine the percentage of missed and delayed delirium diagnosis and how these influenced LOS and rates of discharge to long-term care facilities among older surgical patients admitted for major surgery.

Results

A medical record review indicated that 20% of patients were diagnosed by clinicians within 8 hours after identification by the researchers (9/44), 64% experienced delayed diagnosis by clinicians of between 24-72 hours (28/44), and 16% were not diagnosed by clinicians (7/44), despite them documenting features of delirium in the patient's medical records. Eighty-five per cent of cases with missed diagnosis (6/7) had hypoactive delirium. Patients with delayed delirium diagnosis were more likely to have dementia, a lower activity of daily living scores, a longer length of stay (14-day increase) and 10-fold increased likelihood of being discharged to a nursing home.

Conclusion

These results highlight the importance of early routine delirium screening for timely identification and treatment of underlying causes. Delayed or missed diagnoses were linked to worse outcomes, including prolonged hospital stays and a greater likelihood of patients being discharged to long-term care facilities. Early identification and management significantly enhance the chances of patient recovery and may reduce negative outcomes.



73 Perioperative Care of the Patients with Body Modifications: Knowledge, Attitudes, and Safety Concerns of Surgical Teams – An Online Survey

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Background: Evolving fashion trends are increasingly impacting healthcare practices, resulting in a rise in patients with tattoos and piercings. Surgical team members need to recognize the specific perioperative risks associated with these body modifications to ensure patient safety and provide effective care.

Objectives: We aimed to assess the knowledge, attitudes, and practices of healthcare professionals involved in the perioperative care of patients with tattoos and piercings.

Methods: In this descriptive study, a structured online questionnaire comprising 27 questions was designed to collect data. IRB approval was obtained. The survey was distributed via Google Forms from February to April 2025 in Turkey, using snowball sampling through social media and messaging applications. The questionnaire included three sections: Participant demographics, experiences with tattoos, piercings, and attitudes toward patient management. IRB approval was obtained. Data were analyzed using descriptive statistics. The CROSS checklist for survey studies was followed.

Results: A total of 320 responses were received, with 70.9% being perioperative nurses, and 39.1% had over 10 years of experience. Most participants (62.5%) worked in operating rooms. About 43.8% frequently cared for patients with tattoos or piercings. Notably, 26.9% reported that tattoos or piercings caused delays or cancellations of surgeries. A majority (59.1%) believed patients should declare their body modifications to healthcare providers. The primary concerns associated with tattoos were infections and tissue integrity disruptions, while for piercings, electrosurgical safety, infections, and tissue integrity were most prominent. Despite 83.4% recognizing the need for specific regulations and protocols, only 40% reported that their institutions had such guidelines.

Conclusion: The study underscores a significant gap between the recognized need for standardized protocols and their implementation within institutions. Enhancing awareness, developing clear guidelines, and training healthcare professionals are crucial steps to improve perioperative management of patients with tattoos and piercings, ultimately enhancing patient safety and care quality.



32 Enhancing Patient Safety: Optimizing Multi-Use Clinical Device Reprocessing

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Background

Proper reprocessing of multi-use clinical devices (MCDs) is crucial for patient safety and resource management in hospitals. Inadequate handling can lead to biofilm formation, compromising cleaning and sterilization, and causing surgical site infections (SSIs), which increase hospitalization, patient suffering, and healthcare costs. Global observations highlight persistent organic and inorganic matter on MCDs upon reception, indicating issues with training, standardization, and resources.

Objectives

This program aims to enhance the knowledge and practices of nurses in operating theaters, ambulatory surgery units, and delivery rooms regarding MCD reprocessing. Specific goals include evaluating nurses' knowledge, attitudes, and practices pre- and post-training, developing and implementing theoretical-practical training, standardizing point-of-use MCD treatment, and improving compliance.

Methods

This ongoing project utilizes a pre- and post-intervention observational study design, focusing on PDSA cycle. Initially, a knowledge questionnaire on MCD reprocessing will be administered to nurses in the hospital units to assess baseline knowledge. Concurrently, a standard operating procedure for point-of-use MCD treatment will be developed. Theoretical-practical training sessions will then be conducted in operating theaters, ambulatory surgery units, and delivery rooms. Post-training, the knowledge questionnaire will be reapplied. Monthly audits of MCDs received in centralized sterilization services will also commence to verify compliance with point-of-use cleaning.

Expected

We anticipate an increase in nurses' knowledge. Target participation in training is 85%, with an expected satisfaction level of 85%. The goal for point-of-use MCD cleaning compliance is 80%. Questionnaire and audit results will be analyzed and presented to identify gaps, propose continuous improvements, and guide annual training reinforcement.

Results

Conclusion

This pre and post-intervention observational study will assess the training's effectiveness in improving nurses' knowledge and practices in MCD reprocessing. These anticipated improvements will significantly contribute to preventing healthcare-associated infections, optimizing patient safety, and enhancing hospital process efficiency.



Saturday, 16 May, 2026, 11:30 - 12:30

Koločep

S21 | Session 21 | Leadership / Management

39 A survey on factors distracting operating theatre staff during surgery in Korea

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Background

Operating theatre (OT) staff perform complex tasks requiring high concentration. However, frequent intraoperative disruptions—auditory, visual, and equipment-related—can impair focus and increase error rates, thereby compromising patient safety.

Objectives

This study aims to identify intraoperative disruptions as subjectively perceived by operating theatre staff and to contribute to patient safety by proposing strategies to minimise these disruptions.

Methods

This descriptive study was conducted in a 2,700-bed general hospital in Seoul. A total of 156 OT staff participated, and surgical disruptions were assessed using a validated translated tool (Nasri et al., 2023; WHO, 2015), with a Cronbach's α of .87. Data were collected via questionnaire between October and November 2023. For statistical analysis, a chi-square test was performed, and the minimum sample size was calculated using G*Power with $\alpha = .05$, power = .80, and effect size = .30.

Results

The absence of the surgical team was reported by 89.1% of respondents, with 90.4% rating it as a major disruption and 93.6% perceiving it to have a negative impact on surgery. Equipment availability issues were noted by 91.7%, with 87.8% identifying them as highly disruptive and 91.7% reporting a negative effect. OT nurses consistently reported higher disruption levels across most factors compared to other professional groups ($p < 0.05$). In contrast, music was reported as a frequent disruption by 56.4% ($p < 0.001$), yet more than half perceived it to have a positive impact on surgical performance ($p < 0.05$).

Conclusion

This study identified equipment issues and absence of the surgical team as the most negatively impactful intraoperative disruptions, with operating theatre nurses showing heightened sensitivity to such factors. Conversely, music was perceived positively. Strategies such as preoperative checklists, clear role allocation, and noise reduction are essential to minimise disruptions and enhance surgical safety and concentration.



276 A National e-Delphi Study to Define the Core Curriculum for Italian Operating Room Scrub Nurses

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Background

In Italy, the role of the scrub nurse (SN) lacks a nationally defined core curriculum, despite the complexity and critical nature of SN responsibilities in the operating room. The lack of standardized competencies contributes to inconsistent training and variability in the quality of patient care.

Objectives

This study aimed to identify essential competencies for Italian SNs and define appropriate timeframes for acquiring them during the role transition into operating room practice.

Methods

A two-phase e-Delphi study was conducted from April to September 2023, involving 35 expert nurses with substantial experience in the scrub nurse role or operating room coordination. Participants were purposively selected based on seniority and expertise, ensuring a nationally representative panel. In phase one, panelists identified and validated the essential competencies using the five domains of the EORNA Core Curriculum as a reference. In phase two, they evaluated appropriate timeframes for acquiring each competency during the transition of a nurse entering scrub practice. Three Delphi rounds were conducted, followed by a final consensus meeting. Descriptive statistics and Cronbach's α were used to assess agreement and internal consistency.

Results

The expert panel reached consensus (>80% agreement) on 77 core competencies. Two additional competencies specific to the Italian context were proposed and accepted. Cronbach's α was 0.979 in round two and 0.956 in round three, indicating high internal consistency. Timeframes were categorized as short (1–3 months), medium (3–12 months), and long (>12 months). Consensus on timeframes was reached for 49 competencies after round two; the remainder were finalized during the consensus meeting.

Conclusion

This study produced the first evidence-based core curriculum for Italian scrub nurses, aligned with international standards but tailored to national needs. The defined competencies and timeframes offer a foundation for standardized training, professional development, and structured role transitions in perioperative nursing.



310 Improving First-Case-On-Time Start Rates in Elective Neurosurgery Through Structured Team Communication

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Background

The primary aim of this project was to increase the first-case on-time start rate in elective neurosurgery cases from a monthly average of 41% to 62% or higher by November 2024 through evidence-based quality improvement strategies in team communication.

Objectives

- Demonstrate the effectiveness of structured communication in improving OR start times.
- Highlight the role of interdisciplinary collaboration in achieving sustained quality improvement outcomes.
- Share effective implemented interventions for surgical efficiency.

Methods

This quality improvement (QI) project utilized the Plan-Do-Study-Act model in conjunction with the Institute for Healthcare Improvement's Model for Improvement. Conducted at Vanderbilt University Medical Center's neurosurgery operating rooms. The study included elective neurosurgery and neurointerventional cases from November 2024 to January 2025. Key interventions included the formation of an interprofessional team, the use of communication tools, and scheduled communication updates.

Results

Implementing structured communication protocols in the neurosurgery operating rooms led to a notable improvement in the timeliness of first cases on time starts. By November 2024, the on-time start rate had reached 62% and was maintained or exceeded by January 2025. This improvement in timeliness contributed to overall operating room efficiency. Furthermore, the most common reasons for the delay include room not ready (14.2%), instrument contamination of not being available and/or missing (11.4%), and transport delay (6.8%) of the 176 delayed cases. These findings underscore the importance of addressing logistical issues alongside enhancing communication practices to reduce delays further and improve surgical start times.

Conclusion

Effective team communication significantly improved efficiency, with on-time starts increasing to a 62% average within the 5-minute threshold and maintaining an 85% average within the 15-minute threshold since November 2024. This enhancement is crucial for neurosurgery patient outcomes, demonstrating the value of structured communication protocols. Future research should involve more extensive, cross-specialty studies in an extended period.



33 Securing the Future of Sustainable Perioperative Nursing – A National Initiative in Sweden

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Background

In response to increasing challenges in perioperative care, the Swedish Operating Room Nurses Association (SEORNA), in collaboration with the Swedish Society of Nursing and the National Program Area for Surgery and Plastic Surgery, launched a national project in 2024 to strengthen the sustainability and safety of future perioperative care.

Objectives

The project aimed to assess the current state of the perioperative nursing profession, identify risks, and propose strategic actions to support workforce sustainability and patient safety.

Methods

Key components included a nationwide survey of operating room (OR) nurses (n=817), a national mapping of operating departments and staffing levels, and the development of a structured tool for Risk and Consequence analysis (ROK) to guide safe task redistribution. The project also initiated the creation of a national curriculum for nurses and radiology nurses involved in interventions requiring advanced aseptic competence.

Results

The survey revealed widespread concerns regarding professional development, staffing shortages, and intentions to leave the profession. The mapping exercise exposed significant gaps in national data and workforce planning. The ROK tool was developed to support healthcare leaders in making informed decisions about work allocation. The proposed curriculum addresses the growing need for specialized knowledge outside traditional operating theatres.

Conclusion

This initiative demonstrates the importance of profession-led strategies to ensure patient safety, staff retention, and sustainable development in perioperative care. It also highlights the need for improved national data and structured support for competence development in a rapidly evolving healthcare landscape. This presentation offers valuable insights for perioperative nurses, leaders, and policymakers by highlighting practical tools, national data, and profession-driven strategies that can inspire similar initiatives across Europe to strengthen workforce sustainability and patient safety.



Saturday, 16 May, 2026, 11:30 - 12:30

Orlando A

S22 | Session 22 | Infection Control and Prevention/ Decontamination

251 Compliance with perioperative infection prevention recommendations - A Mixed-Methods Study

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Background

Hip replacement surgery significantly improves patients' quality of life but surgical site infections and periprosthetic joint infections can be devastating. A Swedish project initiated in 2009 developed care bundles to reduce infection rates in hip and knee surgeries. Despite these efforts, a significant portion of hospital adverse events, including infections, occur in the operating room, highlighting the need for adherence to infection prevention guidelines.

Objectives

To investigate the operating room team's adherence to the care bundle designed to prevent PJI and to explore their experiences with adherence.

Methods

A mixed-method design was employed, including three focus group interviews and observations during 23 scheduled hip and knee joint replacement surgeries. Observations were structured according to the perioperative care bundle, 'Optimal operating room environment for knee or hip joint replacement surgery'. To enhance hand hygiene accuracy, the World Health Organization's "Save Lives – Clean Your Hands" observation form was used. The care bundle interventions guided the interviews.

Results

Integrating the results revealed several areas of convergence between the quantitative and qualitative data, with some divergences. The observational findings were largely confirmed by the qualitative interviews.

Conclusion

The study highlights the need to strengthen infection control strategies in the operating room. Despite ongoing efforts, challenges persist in translating national recommendations — particularly those concerning hand hygiene — into routine clinical practice. Achieve broader adherence requires effective communication, targeted education, and the



removal of practical barriers. Enhancing these strategies would not only improve patient safety but also support more sustainable healthcare practices by reducing preventable infections and minimizing unnecessary use of resources.

56 A comparison between unidirectional airflow (UDF) and mixed-air (TMA) ventilation during hip replacement surgery in modern operating rooms

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Background

The bacterial count of operating room air has traditionally been analysed with CFU/m³ measurements. An alternative method is real-time measurement of fluorescent bioparticles (FBP > 3µm/50dm³).

Objectives

Compare FBP levels, close to and far from the surgical wound, and to investigate how these values differ between operating rooms with unidirectional airflow (UDF) and turbulent mixed airflow (TMA).

Methods

Simultaneous measurement of FBP ≥ 3µm was performed 1 and 3 meters from the surgical wound in 50 hip replacement surgeries in operating rooms with either UDF (n=25) or TMA (n=25). Comparisons of mean FBP ≥ 3µm/50dm³ for entire surgeries were compared between measurement points 1 and 3 meters from the surgical wound for each ventilation type, as well as between ventilation types.

Results

In the operating room with UDF, FBP ≥ 3µm/50dm³ was lower 1 meter compared to 3 meters from the surgical wound, 2.9 (CI 2.4 – 3.4) and 4.6 (CI 3.1 – 6.1). There was no difference in bioparticle levels 1 meter or 3 meters from the surgical wound in the operating room with TMA, 11.7 (CI 10.2 – 13.1) and 13.0 (CI 11.5 - 14.5).

The mean level of FBP ≥ 3µm/50dm³ was lower in the operating room with UDF than in the operating room with TMA 1 meter from the surgical wound, 2.9 and 11.7 respectively, difference 8.9 (CI 7.8 - 10.0) and 3 meters from the surgical wound 4.6 and 13.0 respectively, difference 8.66 (CI 7.2 - 10.1).

Conclusion

In the operating room with UDF, levels of fluorescent bioparticles were lower near the surgical wound than at a distance from the wound. In the operating room with TMA, the levels are at the same level regardless of the distance from the surgical wound. The UDF rooms had lower levels than the TMA rooms, indicating that infection-sensitive surgery should probably be performed in the UDF rooms.



166 Surgical antibiotic prophylaxis: are perioperative teams complying with the guidelines?

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Background

Surgical site infections (SSI) remain one of the most significant issues in perioperative care due to their impact on patient outcomes - including suffering, morbidity, mortality, as well as on healthcare costs. Surgical antibiotic prophylaxis (SAP) effectively reduces SSI when correctly administered. However, in real-world practice, full compliance with administration guidelines is often suboptimal.

Objectives

To evaluate compliance with institutional SAP guidelines - focusing on antibiotic selection, dosage, timing and intraoperative redosing, in a Swiss tertiary care hospital.

To propose targeted measures to improve compliance with SAP guidelines.

Methods

One-year prospective survey (March 2019–February 2020) including emergency and elective surgical procedures. Exclusion criteria were contaminated or infected surgeries, paediatrics, ophthalmology, endoscopic or endoluminal interventions, transplants and digestive or urological procedures. SAP adequacy was assessed according to four parameters: antibiotic choice, dose, time interval between SAP administration to incision and intraoperative redosing. Compliance was determined by concordance with institutional guidelines, with each parameter classified as concordant or discordant.

Results

A total of 11'115 surgical interventions were analysed, comprising 12'133 SAP opportunities. Overall compliance rates were:

- 87% for correct antibiotic choice (ranging from 13% to 92% across specialties),
- 82% for dosage (10% to 92%),
- 76% for timing (12% to 89%)
- and, 77% for intraoperative redosing (11% to 88%).

Full compliance across all parameters was achieved in 72% of cases.

The highest compliance rates were observed among orthopaedics, gynaecology and thoracic surgeries.

Protocol deviations were most frequently observed in maxillofacial and obstetric surgery.

Conclusion

This study showed significant variation in SAP compliance across surgical specialties.



A computerized decision support system has been implemented to improve compliance with SAP protocols and enhance patient safety in the perioperative setting.

94 Scoping review: specific interventions for the prevention of surgical site infection in hip arthroplasty

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Background

Hip arthroplasty is one of the most common and successful surgical procedures in orthopaedics. However, surgical site infection (SSI) in arthroplasty is a complex process and a serious threat to patient safety. It can result in severe complications and substantial economic burden for patients and healthcare systems. These costs in the USA for hip arthroplasty in 2020 were 753.4 million dollars (Premkumar et al., 2021).

Objectives

Explore and map the scientific evidence on perioperative interventions that prevent SSI associated with hip arthroplasty.

Methods

Review in line with JBI methodology, with the following eligibility criteria: population (patients undergoing hip arthroplasty), concept (interventions for prevention of SSI), and context (perioperative period). The research was carried out in March 2024, using the EBSCO discovery service, web of science, and scopus databases. Free search was conducted in Google Scholar. Additional studies were identified by consulting the reference lists of the articles included in the review.

Results

The search yielded 218 records. After screening and selecting the studies, 24 were included in this review. Were identified interventions that were developed specifically for arthroplasties.

Interventions developed for arthroplasties that generate consensus include:

- Specific antibiotic prophylaxis;
- Screening and decolonisation of staphylococcus aureus;
- Reduce traffic in the OR. Interventions that are not recommended or are still controversial:
- Ventilation system with a laminar airflow;
- Use of antibiotic-loaded bone cement.
- Use of adhesive incise drapes;
- Use of special surgical suits.

Conclusion

In response to the problem of SSIs in arthroplasty surgeries, specific interventions and measures have been



implemented. Some of these interventions are effective and should be adopted in clinical practice. However, several studies have shown that many of these measures are ineffective in reducing the risk of SSI or have not yet generated scientific consensus. Further research is required to establish a scientific basis for this issue.



Saturday, 16 May, 2026, 12:45 - 13:45

Koločep

ePoster02 | ePoster Session 02

412 Sterile Barrier Association's Hospital Survey: Managing Sterile Packaging Waste

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Background

Sustainability is increasingly vital in the sterile barrier system(SBS) industry, prompting the Sterile Barrier Association to launch the Managing Sterile Packaging Waste Survey. This initiative, in collaboration with EORNA and WFHSS, aims to gather global insights from healthcare professionals on the use, disposal, sorting, and recycling of SBS materials. The survey's rationale is to understand current practices and challenges in hospitals worldwide, with a focus on environmental responsibility and patient safety.

Objectives

- Capture hands-on experiences in managing sterile packaging waste streams.
- Identify best practices for separating and recycling non-hazardous hospital packaging, ensuring safety for both patients and staff.
- Support SBA's global initiative by fostering collaboration and knowledge sharing.
- Influence future guidance, training, and resources for healthcare professionals.
- Shape the future of hospital sustainability and patient safety, amplifying the voices of professionals worldwide.

Conclusion

Early survey results reveal that over half of respondents work in public institutions, with most employed at large hospitals (over 200 beds and numerous operating rooms). Waste management reporting is primarily by weight. About half of the institutions have a designated "Green Champion" for sustainability. Disposal methods vary, including landfill, incineration, recycling, and autoclave treatments. Dedicated waste streams for different packaging materials are present in some facilities, but not all. The estimated percentage of sterile packaging waste ranges widely, with some facilities reporting over 30%. Regulatory approaches differ, with some facing strict requirements and others operating under general guidelines. Compliance is ensured through training, audits, and dedicated teams. Facilities express strong commitment to sustainability, with initiatives like recycling, waste segregation, and sustainable procurement. Key challenges include limited resources, regulatory constraints, and infrastructure gaps, while opportunities lay in staff education and implementing recycling programs. The survey highlights the importance of ongoing support, training, and collaboration to advance sustainable waste management in healthcare. Full report when available: sterilebarrier.org



259 The Relationship Between Biological Rhythm, Chronotype, Fatigue, and Quality of Life in Operating Room Nurses

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Background

[Operating room nurses face challenges such as shift work and limited natural light exposure, which can disrupt circadian rhythms and result in misalignment with their chronotype. These factors may contribute to fatigue, sleep disturbances, and decreased quality of life.]

Objectives

[This study aimed to explore the relationship between biological rhythm and chronotype characteristics, fatigue levels, and quality of life among operating room nurses.]

Methods

[A descriptive and correlational study was conducted from June to December 2025 with 109 operating room nurses who had been actively working in the field for at least one year. Data collection tools included the Descriptive Information Form, Biological Rhythm Interview of Assessment, Morningness-Eveningness Questionnaire, Chalder Fatigue Scale, and EUROHIS WHOQOL-8.Tr. Statistical analyses were performed using SPSS 25.0, employing descriptive statistics, parametric tests, and Pearson correlation analysis.]

Results

[Preliminary analysis based on 84 complete responses revealed a mean participant age of 36.21 ± 7.12 years and an average of 13.70 ± 7.57 years of operating room experience. Mean sleep duration was 6.79 ± 1.47 hours, and daily caffeine intake averaged 3.69 ± 1.55 cups. Biological rhythm scores averaged 45.90 ± 6.12 ; fatigue 14.33 ± 3.21 ; quality of life 3.13 ± 0.35 ; and chronotype 52.54 ± 5.45 (indicating an intermediate type). Biological rhythm irregularity correlated positively with fatigue ($r = 0.266$; $p = 0.015$), while regular exercise was negatively associated with fatigue ($r = -0.256$; $p = 0.019$). Caffeine intake was positively correlated with quality of life ($r = 0.276$; $p = 0.011$). Having children was negatively associated with caffeine consumption and sleep duration.]

Conclusion

[Circadian rhythm disruptions were associated with increased fatigue. Lifestyle factors such as exercise and caffeine consumption also influenced fatigue and quality of life. These findings support the need for shift planning based on individual chronobiological traits and promotion of healthy lifestyle habits.]



410 Social Passport for New OR Nurses: A Novel Model for Social Integration Behind Closed Doors

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Background

Operating rooms (ORs) are highly demanding, closed clinical environments where new nurses often experience social isolation, emotional overload, and hesitation to ask questions. These challenges negatively affect confidence, learning, and long-term retention. Literature indicates that 20–30% of new nurses leave their position within two years, largely due to insufficient social integration and a lack of structured support. In response, our OR department designed an innovative model to strengthen belonging, emotional well-being, and team connection.

Objectives

To improve social integration, reduce early turnover, and enhance both the professional and emotional support provided to new OR nurses through a structured social mentoring framework.

Methods

A multi-layered onboarding intervention was implemented. A designated Social Mentor was appointed to provide consistent emotional and social guidance. Additionally, the department created a “Social Passport”—a passport-style booklet containing light, interpersonal tasks (such as guided introductions, team interactions, and shared breaks). Each completed task earned a stamp, turning the onboarding period into an engaging social process. After six months, a satisfaction survey was administered to all new staff members (N=6).

Results

A 100% response rate was achieved. All participants reported that the Social Passport significantly improved their integration into the OR team. All nurses described the Social Mentor as accessible, supportive, and essential during moments of difficulty. They reported increased confidence, stronger relationships, and reduced stress during their transition. Senior staff noted improved teamwork, a more positive departmental atmosphere, and renewed professional pride.

Conclusion

The Social Passport initiative effectively enhances social integration and emotional support for new OR nurses. By transforming a stressful entry process into a positive and empowering experience, the model contributes to improved retention and strengthens the sense of belonging within the OR environment. This framework can be adapted by other departments seeking structured, human-centered onboarding solutions.



449 Exposure to disruptive behavior is associated with turnover intentions and motivates actual turnover

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Background

Disruptive intraoperative behavior harms patients, clinicians, and institutions. Turnover intentions (a desire to leave one's current position) foreshadows turnover. Identifying the causes of turnover is critical to mitigate clinician shortages. While previous studies have linked experiencing discrimination and violence to turnover, the impact of disruptive behavior that is witnessed or less egregious is understudied.

Objectives

To examine whether different types of exposure predict turnover intentions among operating room clinicians.

Methods

Surgeons, nurses and perfusionists were surveyed across Canada, New Zealand, and the British Isles through professional medical associations. Data was collected online using validated scales measuring turnover intentions, five types of exposure (i.e., personal, ingroup, outgroup, patient, and undirected), and covariates including socio-demographics, personality factors, and safety attitudes. The association between exposure and turnover intentions was examined using mixed effects models with medical association as a random effect. To test whether witnessed exposure improved model fit, we compared nested models (personal exposure alone vs all 5 types included) using information criteria and likelihood ratio tests. Additionally, the cost of turnover due to exposure was estimated using profession-specific costs associated with one turnover event.

Results

362 responses were analyzed. Personal exposure to disruptive behavior was associated with turnover intentions after adjusting for covariates ($\beta=0.06$, $p<0.001$). Adding the remaining exposure types trended toward worsening model fit (AIC 2723 vs 2726, $X^2=4.99$, $p=0.289$), with personal exposure remaining significant ($\beta=0.06$, $p<0.001$), and the only form of witnessed exposure independently predictive was undirected ($\beta=0.027$, $p=0.041$). 67/362 (18.5%, 95%CI=14.9-22.8%) clinicians reported leaving a position because of disruptive behavior. The estimated cost of turnover due to disruptive behavior in this sample was ~\$7,600,000 USD.

Conclusion

Personal exposure showed the most robust association with turnover intentions. Nearly one in five clinicians reported leaving a position due to disruptive behavior, which is associated with significant financial burden.



388 The Impact of Leadership-Based Interventions Applied During the Perioperative Period on Team Performance and Patient Outcomes: A Systematic Review

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Background

Coordination and effective leadership practices among operating room teams during the perioperative period are critical to patient safety and quality of care. While the literature indicates that leadership-based interventions improve team performance, strengthen communication, and improve patient outcomes, there is a need for a systematic review of studies in this area.

Objectives

The aim of this systematic review is to comprehensively present the current knowledge by compiling the findings of randomized controlled trials that examine the effects of leadership-based interventions implemented during the perioperative period on team performance and patient outcomes.

Method

The study was conducted in accordance with PRISMA guidelines, and PubMed, Scopus, Web of Science, Google Scholar, Science Direct, EBSCOhost, Cochrane Library, Google Scholar, and CINAHL databases were searched for relevant studies published between 2015 and 2025. The keywords “perioperative leadership, team performance, patient safety, and surgical management” were used, and no restrictions were imposed on the study design. The search yielded 2,231 records.

Findings

As a result of the search, 12 publications were included in the systematic review. The studies reviewed showed that leadership-based interventions had positive effects on team communication, coordination, and collaboration. Additionally, improvements in patient outcomes, such as a decrease in surgical complication rates and an increase in patient satisfaction, were reported. However, some studies noted methodological differences in the effectiveness of the interventions and the impact of the duration of implementation.

Conclusion

The findings of the systematic review support the potential of leadership-based interventions to improve team performance and patient outcomes during the perioperative period. The widespread implementation of leadership training in clinical practice is important for improving the quality of patient care in operating room processes. Future studies should focus on developing standard intervention protocols and monitoring long-term effects.



447 Leveraging errors for learning in the operating theatres

Stephen J. Ebejer

University of Malta, Faculty of Health Sciences, MSida, Malta

Background Errors in the operating theatres are often viewed solely as threats to workflow efficiency, leading to a "blame culture." However, errors are an intrinsic feature of human nature. To improve safety, organisations must shift their perspective, viewing errors not as failures, but as unconventional strategic resources for organisational learning and staff development.

Objectives This study aimed to investigate how preventable workplace errors can be effectively captured and leveraged into valuable learning opportunities. Specifically, it sought to understand aftermath of errors from healthcare professionals' perspective and how these outcomes can be fed back into the system to prevent reoccurrence.

Methods Adopting an interpretivist stance, this study applied the Enhanced Critical Incident Technique within the operating theatre department at (a general hospital in Europe). Data was collected to capture the experiences of theatre nurses, surgeons, and anaesthetists through 21 semi-structured qualitative interviews and 16 diary entries.

Findings revealed that learning is obstructed by a culture clinging to the status quo, distinct conflicts between staff and management, and obstructing behaviours by senior nurses, including microaggressions and favouritism. Furthermore, the reporting system was deemed non-functional due to ambiguity regarding reportable incidents and a distinct absence of feedback. Consequently, errors remain concealed or are discussed only within trusted "silos", such as, among specific shift members or same-specialty peers, limiting learning to small groups. Despite inadequate ongoing training, staff expressed a strong willingness to leverage errors for prevention if these relational and systemic barriers are resolved.

Conclusion The tension between patient safety and operational efficiency currently stifles the psychological safety required for reporting. Interestingly, all the identified barriers may be considered resolvable. Operating theatres must move beyond the "blame culture" to foster an environment where errors are transparently shared, discussed, transforming individual mistakes into systemic learning opportunities.

10 Title: Investigated postoperative symptoms of patients by application of local smoke evacuator during laparoscopic surgery: A systemic review

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Background

Postoperative symptoms often affect patients' recovery, and surgical smoke if not properly managed has been identified as a potential contributor to these symptoms. Used of smoke evacuators during surgery may help reduce such adverse effects.

Objectives

Aim of this study is to evaluate the clinical impact of local smoke evacuator systems, with a specific focus on their effects on postoperative symptoms.

Methods

A systematic literature search was conducted across PubMed, CINAHL, and the Cochrane Library for studies published between January 2015 and January 2025. Inclusion criteria were full article, randomized controlled trials (RCTs) that examined the use of surgical smoke evacuation systems during laparoscopic procedures and their impact on postoperative patient outcomes. Articles were performed independently by one reviewer, and assessed by Oxford CEBM.

Results

Six studies met the inclusion criteria, encompassing 773 patients. Three studies reported a statistically significant reduction in the incidence and severity of postoperative pain and shoulder pain when local smoke evacuators were utilized. Two studies demonstrated lower rates of postoperative subcutaneous emphysema in groups where smoke evacuation systems were used. In addition, three studies noted higher surgeon satisfaction regarding the clarity of the operative field with the application of local smoke evacuation systems. One study reported a reduction in average hospital stay and maximum end-tidal CO₂ levels in the evacuation group; however, it also noted an increase in hospitalization costs associated with the use of smoke evacuators.

Conclusion

Used of local smoke evacuation systems during surgery appears to offer several clinical benefits. These include a significant reduction in postoperative and shoulder pain, decreased incidence of subcutaneous emphysema, improved surgeon satisfaction due to enhanced clarity of the operative field, shorter hospital stays and lower maximum end-tidal CO₂ levels. Overall, the evidence suggests that smoke evacuation systems might enhance surgical outcomes, albeit with potential cost implications.

460 Advantages and Limitations of RFID Used in Surgical Instruments: A Narrative Literature Review

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Background

Traceability of surgical instruments is a central component of patient safety, risk management, quality assurance and regulatory compliance in perioperative and sterile processing workflows. Radiofrequency identification (RFID)



technology has been explored to enhance real-time instrument tracking throughout the reprocessing cycle. However, adoption remains inconsistent across healthcare systems, reflecting uncertainty regarding added value, technical feasibility and cost-effectiveness.

Objective

To critically analyse the benefits and limitations of RFID use in surgical instruments based on current scientific evidence and international guidance.

Methods

A narrative literature review was conducted using PubMed, CINAHL and EBSCOhost databases. Articles published between 2015 and 2025 were analysed, focusing on benefits, technical and organisational limitations, costs, and implications for patient safety and process efficiency.

Results

The literature indicates that RFID offers relevant advantages but also significant challenges. A key benefit is the reduction of retained surgical items, particularly when combined with manual counting protocols, contributing to improved patient safety (Peng et al., 2023; Kusuda et al., 2024). RFID improves operational efficiency by enabling faster instrument identification compared to barcode systems, reducing workload and dependence on operator proficiency. Individualised tracking supports monitoring of usage, reprocessing cycles and maintenance history, facilitating predictive maintenance and procurement planning (Yoshikawa et al., 2019). Intraoperative RFID use has been associated with surgical tray optimisation, decreasing unnecessary instruments and reprocessing demands (Olivere et al., 2021). When appropriate cleaning protocols are followed, RFID does not appear to increase corrosion risk (Yamashita et al., 2019). Limitations include high initial implementation costs, potential electromagnetic interference, reduced detection accuracy in high-density environments and the need to adapt workflows.

Conclusion

RFID enhances traceability and efficiency in surgical instrument management but should be considered a complementary rather than standalone solution. Implementation requires assessment of technical, economic and organisational factors. Further cost-effectiveness and implementation studies are needed to support wider perioperative adoption.

315 Attitudes of Operating Room Teams Towards Black Box Technology: Digital Traces in Surgical Processes

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Background

[Black box technology is a digital monitoring system that enhances surgical safety by synchronizing video, audio, environmental, and patient data in the operating room. It identifies errors and distractions and provides feedback on team performance. Its effective and sustainable use depends on both technical competence and the attitudes of healthcare professionals.]



Objectives

[This study aims to identify potential barriers and facilitators to implementing black box technology in the operating room from the perspective of team members.]

Methods

[This descriptive, cross-sectional study will be conducted at three hospitals between June and December 2025, and the sample will consist of 160 healthcare professionals who have worked in intraoperative processes for at least one year. Data will be collected using a descriptive form and a 27-item, 5-point likert-type attitude survey. Results will be analyzed using SPSS 25.0 using numerical, percentage, and Pearson correlation analyses.]

Results

[According to preliminary results (n=64), 62.5% of participants were female, 68.8% were operating room nurses, 26.6% were surgeons, and 60.9% worked in general surgery. All participants stated that they had not heard of black box technology before. The majority believed the system would support patient safety (65.6%), operating room safety (84.4%), and objective assessment of surgical errors (100%). They also stated that it would be easy to use and could improve communication and efficiency within the team. However, 64% reported that it could increase stress levels and 51.6% expressed concerns about patient privacy. All participants emphasized the need for patient consent and the need for anonymity of data. Fifty percent of participants wanted to receive feedback based on black box data, and all participants stated that the system would contribute to performance evaluation. Data collection is ongoing.]

Conclusion

[Participants' attitudes toward black boxes are generally positive, acknowledging their positive impact in improving patient and operating room safety, preventing errors, ensuring objective evaluation of errors, and strengthening team communication. However, supportive regulations addressing ethical concerns and stress factors are needed before using black boxes.]

415 Multicultural blended learning and simulation in nursing education: perceived effects on clinical decision-making and perioperative-related competencies

Pedro Sousa¹, Helena Felizardo¹, Hanna Peltoniemi², Julia Björklund², Verónica Velasco-González³, Leonor Perez Ruiz³, Alessandro Giroto⁴, Elena Bandiera⁴

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Background

Nursing practice in complex environments, such as perioperative settings, requires sound clinical decision-making and effective communication within multidisciplinary and multicultural teams. Blended Intensive Programmes (BIPs), developed under the Erasmus+ framework, integrate international collaboration with experiential and simulation-based learning to support these competencies.

Objectives

To evaluate nursing students' self-perceived development of clinical decision-making and related professional



competencies following participation in a multicultural Blended Intensive Programme, including learning activities linked to perioperative-relevant clinical themes.

Methods

A mixed-methods study was conducted with undergraduate nursing students (n = 35) from Portugal, Spain, Italy, and Finland. The BIP comprised two online components (November 2024; March 2025) and one face-to-face intensive week in Portugal (April 2025). Educational activities included simulation-based learning, team-based clinical reasoning exercises, and intercultural collaboration. Some learning scenarios addressed patient safety, communication, and monitoring in situations analogous to perioperative care. Data were collected through an anonymous online questionnaire with Likert-scale items and open-ended questions. Quantitative data were analysed descriptively using SPSS v.29, and qualitative data underwent thematic content analysis. Ethical principles were respected.

Results:

Overall satisfaction was high, with 77% of participants rating the programme as “very good”. Simulation-based activities were identified as the most impactful learning component (46%). Highest-rated competencies included adaptability in multicultural environments (mean 4.40), teamwork (4.29), and communication (4.26). Clinical decision-making achieved a mean score of 3.83. Qualitative data highlighted increased awareness of communication, empathy, and shared decision-making in complex clinical contexts.

Conclusion:

Multicultural blended programmes integrating simulation positively influence nursing students’ perceived clinical decision-making and transversal competencies, supporting preparation for complex practice contexts, including perioperative care.



Saturday, 16 May, 2026, 14:00 - 15:00

Orlando B

PS04 | Priority Session 4

Handle With Care: Rethinking Surgical Glove Safety in the Operating Room

Peter Graves, Esther Espuñes Mestres

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Maintaining the sterility of the surgical field is a cornerstone of infection prevention and a critical strategy for reducing the incidence of surgical site infections (SSIs). Ensuring consistent adherence to sterile techniques requires not only surgical precision but also a multidisciplinary, evidencebased approach. Perioperative staff—particularly nurses—must remain updated of current international guidelines to uphold best practices throughout the preoperative, intraoperative, and postoperative phases.

A key element of sterile practice is the proper use of sterile surgical gowns and gloves, which are essential for safeguarding both patients and healthcare professionals. Despite advancements in glove technology, challenges such as undetected glove perforations continue to present significant risks. Moreover, repeated exposure to latex gloves has been associated with the development of latex allergies among healthcare workers, with prevalence rates ranging from 2% to 12% in Europe.

These hypersensitivity reactions can vary in severity from localized irritation to life-threatening anaphylaxis, representing a serious occupational health concern. Additionally, non-immune-mediated responses—such as irritant and allergic contact dermatitis—further contribute to occupational skin conditions. This presentation examines the critical role of sterile technique in surgical safety, emphasizes best practices for glove use in preventing SSIs, and highlights the importance of preventive strategies to minimize occupational risks associated with latex exposure and glove-related skin reactions in the operating room.

Perioperative Nursing Education in Europe: Current Status and Future Directions

Wivine Schellekens

EORNA Educational Committee, Brussels, Belgium



Saturday, 16 May, 2026, 15:00 - 15:30

Koločep

IW03 | Ansell Hands on Workshop



Double Gloving in Surgery. Protecting Patients and Surgical Teams Without Compromising Performance

This interactive workshop explores the role of double gloving as a critical safety practice in modern perioperative care. Surgical teams face ongoing risks from sharps injuries, glove perforation, and potential exposure to bloodborne pathogens. Evidence consistently shows that double gloving significantly reduces these risks while maintaining surgical dexterity and tactile sensitivity.

Participants will review the latest clinical evidence, international guidelines, and real-world data on glove perforation rates across surgical specialties. Through demonstrations and hands-on activities, attendees will explore best practices for implementing double gloving protocols, selecting appropriate glove combinations, and addressing common concerns such as comfort, fit, and tactile performance.

The session will also focus on strategies to support practice change within perioperative teams. Participants will gain practical tools to advocate for double gloving in their institutions and improve compliance among surgical staff.

By the end of the workshop, attendees will leave with actionable insights to enhance safety for both patients and healthcare professionals.

Saturday, 16 May, 2026, 15:30 - 16:30

Orlando B



S23 | Session 23 | Technology and Innovation

295 THE MEDIATING ROLE OF ARTIFICIAL INTELLIGENCE LITERACY IN THE RELATIONSHIP BETWEEN ARTIFICIAL INTELLIGENCE ATTITUDES AND ANXIETY OF SURGICAL NURSES: A STRUCTURAL EQUATION MODELING STUDY

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Background

The use of artificial intelligence (AI) is rapidly increasing day by day in the field of health. Surgical nurses need to keep their knowledge, skills, and competencies up to date with this constantly developing technology.

Objectives

This study aims to evaluate the mediating role of AI literacy in the relationship between AI attitudes and the anxiety of surgical nurses.

Methods

The descriptive and correlational study was conducted between November 09, 2024, and January 15, 2025. The sample consisted of 244 surgical nurses. Descriptive Information Form, General Attitude Towards Artificial Intelligence Scale, Artificial Intelligence Anxiety Scale, and the Artificial Intelligence Literacy Scale were used as data collection tools. Descriptive statistical methods, parametric tests, Pearson correlation analysis, linear regression analysis, and structural equation modeling were applied to analyze the data.

Results

The mean age of the surgical nurses participating in the study was 33.09 ± 8.45 years, 84% were female, and 77.5% were undergraduate graduates. It was determined that 81.6% of the nurses did not use AI technologies, and 53.3% of the nurses who used AI technologies learned how to use AI through the internet. A positive, weakly significant relationship ($r: 0.417$; $p < 0.05$) was found between nurses' AI literacy and their positive attitudes towards AI. It was determined that the direct effect value of the scale score on the General Attitude Towards AI Scale Positive Attitude ($\beta = -0.156$) and General Attitude Towards AI Scale Negative Attitude ($\beta = 0.190$) was significant. In the study, it was determined that the indirect effect value of AI Anxiety Scale score on General Attitude Towards AI Scale Positive Attitude ($\beta = -0.003$) and General Attitude Towards AI Scale Negative Attitude ($\beta = -0.010$) was significant.

Conclusion

It was determined that AI literacy has a mediating role in the relationship between AI attitude and the anxiety level of surgical nurses.



324 Technological Innovation Project in Sterilization and Operating Room: Implementation of QR Codes for Surgical Instrument Counting and Container Traceability

Maria del Mar Martí-Ejarque¹, Ariadna Odena Soler², Manuela Ortega Sánchez²

¹ Hospital Universitari Sagrat Cor, Grupo Quirónsalud, Research and Education, Barcelona, Spain; ² Hospital Universitari Sagrat Cor, Grupo Quirónsalud, Operating Room, Barcelona, Spain

Background

Ensuring safe and sustainable healthcare delivery is a constant challenge for healthcare institutions. In the surgical setting, the World Health Organization (WHO) recommends standardized protocols to promote safe practices and prevent avoidable harm. One such recommendation is the Surgical Safety Checklist (SSC), which includes the mandatory counting of surgical instruments at various stages of the procedure.

Objectives

This project aimed to design a traceability system for surgical instruments using QR codes, enabling identification of the contents of sterile containers and digital recording of each phase, from preparation in the sterilization unit to intraoperative use.

Methods

The system has been piloted with one container in the General Surgery specialty. By digitizing the process, the project also seeks to reduce paper usage.

The project utilized Microsoft Forms, a corporate tool, to automate records and generate QR codes. A shared template was developed to allow multiple users to work on the same document at different stages.

Results

In May 2025, a pilot test was conducted using a laparoscopic cholecystectomy instrument container. The traceability system successfully recorded the container's condition upon arrival in the operating room, its exit, arrival at the cleaning center, the sterilization process, and the completion of its cycle before being restarted. Instrument validation before leaving the sterilization unit serves as the reference point for intraoperative counting, ensuring completeness upon exit from the operating room. This enabled real-time identification of any incidents and generated a comprehensive digital record of the entire process.

Conclusion

The project established a sequential traceability system between sterilization and the operating room. It reinforces compliance with the SSC, promotes conscious and recordable workflows, enhances patient safety, and facilitates data storage and analysis. The digital format minimizes paper use and enables data-driven decision-making.



286 Operating room nurses and the da Vinci robotic system: A literature review on roles, technical challenges, and troubleshooting in robotic-assisted surgery

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Background

In recent decades, rapid technological advancement has revolutionized many fields, including medicine. Robotic-assisted surgery, particularly with the da Vinci Surgical System, represents a pivotal innovation in minimally invasive surgery. By combining medical science, robotics, and engineering, it has enhanced surgical precision, patient care, and procedural efficiency. However, the integration of such complex technology introduces new demands, especially for operating room (OR) nurses, who play a critical role in preparation, coordination, and system maintenance throughout the surgical process.

Objectives

This literature review aims to analyse the role of OR nurses in robotic-assisted surgeries using the da Vinci system, highlight common technical challenges, and identify effective troubleshooting strategies to support safe and efficient surgical outcomes.

Methods

A systematic review was conducted across databases including PubMed, Scopus, and CINAHL, covering publications from 2010 to 2024. Search terms included “robotic surgery,” “da Vinci system,” “OR nurse,” “technical error,” and “troubleshooting.” Relevant studies were screened and thematically analysed.

Results

The review shows that OR nurses are essential in all stages of robotic procedures: from setup of robotic components (console, tower, arms), patient positioning, and cable connection, to post-operative care such as cleaning and reprocessing instruments. Technical problems include system malfunctions, robotic arm blockages, and connectivity issues. Quick identification and resolution—whether minor or complex—often rely on the nurse’s system knowledge and rapid response. Remote technical support may be required for system-level faults. Communication and teamwork were highlighted as key factors in managing disruptions.

Conclusion

Comprehensive knowledge of the da Vinci system and strong troubleshooting skills are crucial for OR nurses. Standardized training, clear protocols, and interprofessional collaboration significantly contribute to surgical safety and high-quality patient care in robotic-assisted environments.



181 The Role of Operating Room Nurses in Gynecological Robotic-Assisted Surgeries – Experiences from the University Medical Centre Ljubljana

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Background:

Robotic-assisted surgery represents a significant technological advancement in minimally invasive gynecological surgery, especially for patients with a high body mass index (BMI). At the Gynecology Clinic of the University Medical Centre Ljubljana, we have successfully performed 88 robotic-assisted surgeries since introducing the system in 2024.

Objectives:

The study aims to highlight the crucial role of operating room nurses in preparing and conducting robotic-assisted gynecological procedures, describe the necessary workflow adaptations, challenges, and additional training required for the successful implementation of the new technology into clinical practice. We also analyzed cases of complications to emphasize the importance of teamwork, effective communication, and responsiveness in managing unexpected situations.

Conclusion:

Our experience confirms that the role of operating room nurses in robotic-assisted surgery is indispensable. High-quality preparation and coordinated teamwork significantly contribute to the success of procedures and patient safety, especially when facing unexpected challenges.



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Orlando A

S24 | Session 24 | Patient Safety

287 Surgical Safety through Technology: A Bibliometric Study on Retained Foreign Body Prevention

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Background:

Operating rooms are high-risk environments where preventable surgical errors, such as the retention of foreign bodies, continue to pose serious threats to patient safety and impose financial burdens on healthcare systems. In response, recent years have witnessed growing interest in leveraging information technologies—such as radio frequency identification (RFID), barcode systems, and digital checklists—to mitigate these risks. However, no bibliometric mapping study to date has explored the scientific literature on the use of these technologies in preventing retained surgical items.

Objective:

This study aims to map research trends, thematic focus areas, collaboration networks, and influential sources in the field of digital and information-based technologies for the prevention of retained surgical items in operating rooms.

Methods:

Data were retrieved from the Elsevier Scopus database on July 10, 2025. A comprehensive search was conducted using terms including "retained surgical item", "operating room", "RFID", "digital health", and "electronic surgical count", covering the period from 2003 to 2025. After applying inclusion criteria, 44 publications (36 original articles and 8 reviews) published between 1998 and 2025 were analyzed using quantitative bibliometric techniques and visualized via VOSviewer software.

Results:

The United States was the most prolific country, and the *Journal of Surgical Research* was identified as the leading publication outlet. The most cited work was Greenberg et al. (2008) with 96 citations, focusing on barcode and manual surgical count methods. Keyword analysis revealed two dominant themes: (1) patient safety and case reporting, and (2) surgical process-related foreign body retention.

Conclusion:

RFID, barcoding, and electronic counting systems are emerging as core technologies in surgical safety literature. However, only three nursing-related studies were identified, highlighting a critical gap. Given nurses' central role in



surgical safety, future interdisciplinary research should integrate both technological efficacy and the nursing perspective.

206 Perceived Disruptions and Their Effects on Operating Room Nurses: A Descriptive Study Using the DiSI Scale

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Background

The OR is a sensitive working environment in which team members perform critical tasks that require attention and communication. However, distractions can lead to interruptions that could endanger patient safety.

Objectives The aim of this study was to identify and describe the types, frequency, and perceived effects of workplace disruptions experienced by operating room nurses, using the Disruptions in Surgery Index (DiSI) scale.

Methods A descriptive cross-sectional study was conducted with 199 OR nurses. Data were collected online using the DiSI scale. The scale evaluates various distraction sources and their perceived impact on clinical performance. Descriptive statistics—including frequencies, percentages, means, and standard deviations—were used to analyze the data.

Results

The mean age of the participants was 29.39 ± 7.86 years, and 73.4% were female. Nearly half (47.7%) reported working in all surgical specialties. Regarding distraction frequency, 57.8% of OR nurses stated they experienced distractions sometimes, 8.0% frequently, and 2.0% always. Mobile phone use in the OR was reported by 98.0% of participants, while 10.6% used smartwatches and 10.6% used Bluetooth headsets. The most frequently reported sources of disruption were tiredness (mean score: 62.8 ± 26.2), temperature problems (55.1 ± 30.3), and multitasking (53.9 ± 31.1). In terms of perceived contribution to surgical errors, tiredness ranked highest (7.1 ± 2.6), followed by lapses in attention (6.7 ± 2.7) and multitasking (6.4 ± 2.8). These same factors also scored highest for obstructing nurses' ability to achieve clinical goals.

Conclusion

Disruptions such as multitasking, attention lapses, and environmental stressors were also perceived to interfere with task completion and patient safety. These results underscore the importance of recognizing and addressing disruptive elements in the operating room environment from the perspective of frontline nursing staff.

Key words: Operating Room Nurses, Workplace Disruptions, DiSI Scale, Fatigue, Surgical Safety, Nursing Performance



27 Defining and recognising Clinical Leadership in Flemish hospitals: a mixed methods qualitative study among nurses

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Background

In today's complex and rapidly evolving healthcare landscape, strong clinical leadership is crucial, not only among formal leaders but also at the bedside or at the operating table. However, the concept remains insufficiently defined and often unrecognised among nursing teams.

Objectives

This practice-based study aimed (1) to define the concept of clinical leadership in nursing and (2) to explore how clinical leaders are identified within hospitals.

Methods

This mixed methods study consisted of two components: a scoping literature review of nursing databases, which served as the basis for the conceptual framework and qualitative research involving three focus groups and 51 semi-structured interviews. Participants included nurses, head nurses, advanced practice nurses, nurse managers, and nursing students from 14 acute care hospitals in Flanders. The data were analysed using thematic coding to identify core attributes.

Results

Clinical leadership was described as informal yet impactful leadership at the bedside. Five key attributes were identified: (1) **clinical expertise**, demonstrated through advanced reasoning and care delivery, (2) **effective communication**, including patient-centred dialogue and constructive team interaction, (3) **flexibility**, both in managing change and responding to team dynamics, (4) **sense of responsibility**, reflected in quality-driven care and reflective practice and (5) **vision for the future**, shown in innovation and systems thinking. Despite their influence, many nurses do not self-identify as clinical leaders, often perceiving leadership-related tasks as additional workload rather than developmental opportunities.

Conclusion

This study provides a context-specific definition of clinical leadership and outlines observable characteristics that support its recognition in practice. Empowering bedside nurses, especially in specialised settings such as perioperative care, to embrace clinical leadership may positively impact care quality, job satisfaction and workforce sustainability. Further research is needed to explore how to support leadership development and measure its effects on healthcare outcomes.



89 On skin preparation : The Operating Room Nurse Perspective

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Background

Surgical site infections (SSIs) are a significant risk in surgical care. Preoperative skin preparation is a key preventive measure. In many countries, this task is primarily the responsibility of the operating room (OR) nurse. Therefore, it is important to study skin preparation from the perspective of OR nurses."

Objectives

To investigate and compare skin preparation practices used by OR nurses.

Methods

The thesis includes four studies:

- A cross-sectional survey mapping usage and knowledge of skin preparation
- A focus group study exploring OR nurses' perspectives
- An integrative literature review of SSI prevention prerequisites during the intraoperative phase from the OR nurse perspective.
- A randomized controlled trial (RCT) comparing two cleaning methods for sutured wounds

Results

The studies reveal inconsistent skin preparation practices that deviate from manufacturer instructions and current evidence, often influenced by routines, traditions, resource limitations, and operating room team dynamics. OR nurses expressed a need for stronger scientific support and felt their leadership in SSI prevention was not fully acknowledged. The RCT did not yield statistically significant results.

Conclusion

Fundamental factors such as traditions, limited resources, and lack of evidence impact practices in the Operating room. Supporting OR nurses with clear guidelines, leadership recognition, and adequate resources is essential to strengthening evidence-based skin preparation and SSI prevention. This research highlights key areas for improvement and advocates for the central role of OR nurses in maintaining surgical safety. *Please replace your content here*



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Koločep

S25 | S25 | Leadership / Management

355 Structure, Process, and Outcome: What Most Impacts Nurses' Perception of Quality in Ambulatory Surgery?

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Background

In Portugal, ambulatory surgery (AS) accounts approximately 72% of surgical activity. Perioperative nursing in AS remains insufficiently studied, highlighting the urgent need to define indicators that enable the evaluation of the quality and safety of nursing care in this context.

Objectives

To analyze the relationship between the global assessment of Ambulatory Surgery Units (ASUs) and Nurse-Sensitive Quality Indicators (NSQIs) dimensions, based on nurses' perceptions.

Methods

A questionnaire was developed and validated to assess nurses' perceptions of the NSQIs. A descriptive-correlational study was then conducted with a sample of 222 nurses in Portugal. Pearson correlation analysis was performed to identify statistically significant associations between the NSQIs and the overall evaluation of the ASU, with significance set at $p < 0.001$.

Results

The process dimension showed the strongest correlation with the overall assessment of ASUs ($r=0.555$), particularly nursing care based on theoretical models ($r=0.545$), adherence to professional safety guidelines ($r=0.421$), and the provision of verbal and written postoperative instructions ($r=0.405$). The structure dimension revealed a moderate correlation ($r=0.424$), with stronger associations found in professional recognition ($r=0.391$), learning from errors ($r=0.347$), and work organization that allows adequate time with patients ($r=0.346$). The outcome dimension showed the weakest correlation ($r=0.327$), with event reporting being the most significant item ($r=0.298$), suggesting that the presence of a non-punitive reporting culture positively impacts perceived quality.

Conclusion

The perceived quality of ASUs by nurses is more strongly influenced by structured clinical practices, a culture of safety, and professional recognition than by clinical outcomes alone. Environments that promote leadership support, team autonomy, learning from errors, and safe practices contribute to a positive organizational climate. These findings align with the literature, emphasizing that structural and procedural elements are more decisive in shaping nurses' global perceptions of care quality in ambulatory surgical settings than isolated clinical outcomes.



75 The Second Victim Phenomenon Among Operating Room Nurses: Psychological Impact and Support Needs

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Background

[Please replace your content here] Operating room (OR) nurses are frequently exposed to high-stress environments where adverse events may occur. These events can lead to emotional and psychological distress among the involved staff, a phenomenon known as the "second victim." Despite growing awareness, this issue remains underexplored in perioperative settings

Objectives

[Please replace your content here] To examine the prevalence and psychological impact of second victim experiences among OR nurses in Israel and to identify their coping strategies and support needs.

Methods

[Please replace your content here] A cross-sectional quantitative study was conducted among 152 OR nurses using validated questionnaires assessing traumatic outlook, emotional distress, and perceived organizational support. Statistical analyses included descriptive statistics and correlation tests.

Results

[Please replace your content here] A significant proportion of participants reported symptoms consistent with second victim experiences, including guilt, anxiety, and professional self-doubt. A negative correlation was found between perceived organizational support and the intensity of traumatic symptoms. Nurses who received structured support reported better emotional outcomes and resilience.

Conclusion

[Please replace your content here] Second victim experiences are common among OR nurses and can have lasting psychological effects. Healthcare institutions should implement structured support systems, such as peer support programs and debriefing protocols, to mitigate emotional distress and enhance staff well-being.

172 Assessment of the Health Status of Polish Operating Room Nurses and Midwives Based on an Author-Designed Survey

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The aim of this study is to assess the physical and mental health status of Polish operating room (OR) nurses and midwives using an original, author-designed questionnaire. As of July 2025, there are 8,260 registered nurses in Poland with a specialist title in perioperative nursing. According to the latest report from the National Consultant in this field, approximately 9,000 OR nurses and midwives are currently active in the profession. The study will include participants from various hospital centers across Poland. Perioperative nurses and midwives represent a professional group particularly exposed to occupational stress, physical strain, and specific working



conditions inherent to the surgical environment, which may lead to a range of health problems—both physical and mental.

The survey collects data on physical condition, mental well-being, frequency of health symptoms, and lifestyle factors. It also includes professional characteristics such as years of experience, facility type, education level, weekly working hours, and shift work frequency. Importantly, the questionnaire contains items on a history of oncological diseases and the process of returning to work after treatment.

The collected data will help identify the most common health issues within this professional group and support the development of targeted preventive and systemic actions. The results—currently being gathered—will serve as a basis for recommendations to improve working conditions and well-being among Polish perioperative nurses and midwives. Findings will be presented to the President of the Supreme Chamber of Nurses and Midwives in Poland, the highest professional body representing the nursing and midwifery community.

330 Managing the Uncertainty of Human Error in Perioperative Practice

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Background

Operating theatres are high stakes environments that are particularly susceptible to human error due to time pressure, complex decision-making, multidisciplinary team coordination and the critical nature of interventions. The uncertainty inherent in human performance creates significant challenges for patient safety and quality outcomes. Despite established global procedures for managing sentinel events, there continues to be a significant increase in adverse patient outcomes specifically in perioperative practice. The emerging field of human factors has brought valuable awareness to healthcare safety, leading to the development of new policies and procedures across the entire healthcare industry. However, even with these improvements and interventions catastrophic events are paradoxically continuing to increase rather than decrease. This presents a troubling paradox in perioperative healthcare safety: while we have better understanding of human factors, more comprehensive policies, and established procedures for managing serious safety events, the actual incidence of these preventable adverse outcomes is still rising in surgical and perioperative settings. The situation highlights the need for more effective approaches to translating human factors knowledge and safety policies into actual reduction of patient harm in perioperative care.

Objectives

The discussion aims to address a critical gap in perioperative safety by acknowledging that while human error cannot be eliminated, its impact can be systematically managed through structured approaches that account for uncertainty and variability in human performance.

Methods

Human factors challenge- to change the thinking from -seeing people as the primary liability in an otherwise safe system VERSUS seeing people as the primary resource for adaptability and flexibility in a hazardous workplace.

Results

Encouraging more emphasis on adaptability and flexibility to adjust to dynamic work situations in perioperative practice, many of which are not foreseen by the authors of policies and procedures.

Conclusion

Safety is not a collateral duty; it is a core business



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Orlando B

CC | Closing Ceremony