



REVIEW

Holistic Patient Care: A Narrative Review on the Synergy of Internal Medicine, Anesthesiology, and Surgical Practices

Atención holística al paciente: una revisión narrativa sobre la sinergia de la medicina interna, la anestesiología y las prácticas quirúrgicas

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Cite as: Jiménez Alemán VN, Astudillo Pinos DI, Desiderio León KM, Costales Vallejo LR, Gómez Troya JI, Rosas Cunyarache MA. Holistic Patient Care: A Narrative Review on the Synergy of Internal Medicine, Anesthesiology, and Surgical Practices. Salud, Ciencia y Tecnología. 2024; 4:.570. <https://doi.org/10.56294/saludcyt2024.570>

Submitted: 10-02-2024

Revised: 22-05-2024

Accepted: 20-10-2024

Published: 21-10-2024

Editor: Dr. William Castillo-González 

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ABSTRACT

Introduction: holistic patient care, which integrates the efforts of Internal Medicine, Anesthesiology, and Surgical Practices, has been shown to improve patient outcomes across the continuum of care. This review aimed to explore the synergy between these specialties and highlight how their collaboration contributes to comprehensive, patient-centered care.

Method: a narrative review was conducted using peer-reviewed literature from databases such as PubMed, Scopus, and Google Scholar. The search focused on articles published in the last 15 years, using terms related to interdisciplinary collaboration in healthcare. Data from relevant studies were synthesized and grouped into preoperative, intraoperative, and postoperative phases, with emphasis on how each specialty contributes to holistic care.

Results: the review demonstrated that collaboration between these specialties is essential for optimizing preoperative risk management, ensuring intraoperative stability, and enhancing postoperative recovery. Internal Medicine played a key role in managing chronic conditions preoperatively, while Anesthesiology tailored anesthesia plans and managed perioperative pain. Surgical Practices, guided by insights from the other specialties, executed patient-centered surgeries. Despite the benefits, challenges such as communication barriers and resource limitations were identified.

Conclusion: this review highlighted the critical role of interdisciplinary collaboration in holistic patient care. While the synergy between Internal Medicine, Anesthesiology, and Surgical Practices improved patient outcomes, addressing communication challenges and resource constraints is essential for further enhancing care quality.

Keywords: Interdisciplinary Communication; Patient-Centered Care; Perioperative Care; Holistic Health.

RESUMEN

Introducción: la atención holística del paciente, que integra los esfuerzos de Medicina Interna, Anestesiología

y Prácticas Quirúrgicas, ha demostrado mejorar los resultados en los pacientes a lo largo del continuo de la atención. Esta revisión tuvo como objetivo explorar la sinergia entre estas especialidades y destacar cómo su colaboración contribuye a una atención integral y centrada en el paciente.

Método: se realizó una revisión narrativa utilizando literatura revisada por pares de bases de datos como PubMed, Scopus y Google Scholar. La búsqueda se centró en artículos publicados en los últimos 15 años, utilizando términos relacionados con la colaboración interdisciplinaria en la atención médica. Los datos de los estudios relevantes se sintetizaron y agruparon en fases preoperatorias, intraoperatorias y postoperatorias, destacando cómo cada especialidad contribuye al cuidado holístico.

Resultados: la revisión demostró que la colaboración entre estas especialidades es esencial para la gestión óptima de riesgos preoperatorios, garantizar la estabilidad intraoperatoria y mejorar la recuperación postoperatoria. Medicina Interna jugó un papel clave en la gestión de condiciones crónicas preoperatorias, mientras que Anestesiología personalizó los planes de anestesia y gestionó el dolor perioperatorio. Las Prácticas Quirúrgicas, guiadas por las otras especialidades, ejecutaron cirugías centradas en el paciente. A pesar de los beneficios, se identificaron desafíos como barreras de comunicación y limitaciones de recursos.

Conclusión: esta revisión destacó el papel fundamental de la colaboración interdisciplinaria en la atención holística del paciente. Aunque la sinergia entre Medicina Interna, Anestesiología y Prácticas Quirúrgicas mejoró los resultados en los pacientes, es necesario abordar los desafíos de comunicación y las limitaciones de recursos para mejorar aún más la calidad de la atención.

Palabras clave: Comunicación Interdisciplinaria; Atención Centrada en el Paciente; Cuidado Perioperatorio; Salud Holística.

INTRODUCTION

In modern healthcare, the complexity of patient care often necessitates a multifaceted approach that bridges various medical disciplines. Holistic patient care, which considers the patient's physical, psychological, and emotional needs, is central to improving patient outcomes and enhancing the quality of life.⁽¹⁾ This narrative review explores the synergy between three critical medical specialties—Internal Medicine, Anesthesiology, and Surgical Practices—each of which plays a pivotal role in the continuum of care.

Internal Medicine provides the foundation for diagnosing and managing a wide array of medical conditions, preparing patients for surgical interventions, and managing chronic conditions that could complicate surgical outcomes.⁽²⁾ Anesthesiology ensures patient safety and comfort during procedures, balancing the intricacies of pain management and physiological stability. Surgical Practices, often seen as the culmination of this collaborative effort, rely on precision, coordination, and post-operative care strategies informed by both Internal Medicine and Anesthesiology.

By examining how these disciplines interact and complement one another, this review seeks to highlight the value of interdisciplinary collaboration in achieving holistic care. It also identifies the challenges and opportunities that arise from integrating these fields to ensure optimal patient outcomes. In an era where healthcare is rapidly evolving, understanding and refining these synergies is essential for advancing patient-centered care.⁽³⁾

As healthcare becomes more patient-centric, the demand for integrated, holistic care models is rising. Traditionally, medical fields have operated within defined boundaries; however, there is increasing recognition that the most effective patient care emerges from a collaborative, interdisciplinary approach.^(4,5) Internal Medicine, Anesthesiology, and Surgery, though distinct in their focus, must converge to address the complexities of patient health, particularly in acute care settings where preoperative, intraoperative, and postoperative phases are interconnected.⁽⁶⁾

In this review, we will explore how the coordination can lead to improved patient outcomes. We will also address emerging trends, such as enhanced recovery after surgery (ERAS) protocols and the role of technology in facilitating collaboration. By understanding how these specialties interact, we aim to propose strategies to further strengthen interdisciplinary care and push the boundaries of what is possible in holistic patient care.

METHOD

This narrative review was conducted by systematically collecting and synthesizing relevant literature to explore the synergies between Internal Medicine, Anesthesiology, and Surgical Practices in the context of holistic patient care. The process involved the following steps:

Literature Search

A comprehensive search of peer-reviewed articles, reviews, clinical guidelines, and textbooks was performed

across multiple databases, including PubMed, Scopus, and Google Scholar. The search strategy employed a combination of keywords and Medical Subject Headings (MeSH) terms, such as “holistic patient care,” “internal medicine and surgery collaboration,” “anesthesiology and surgery integration,” and “interdisciplinary approaches in healthcare.” The time frame for the literature search was restricted to publications from the last 15 years to capture recent advances and trends in the integration of these specialties.

Data Extraction

The relevant information was extracted from the selected literature, focusing on key themes such as the role of internal medicine in preoperative management, the contributions of anesthesiology in perioperative care, and the influence of surgical practices in holistic patient outcomes. The extracted data were grouped into categories to facilitate the identification of patterns, synergies, and common challenges within interdisciplinary approaches.

Data Synthesis

The findings from the extracted data were synthesized narratively to provide a cohesive understanding of how Internal Medicine, Anesthesiology, and Surgical Practices collaborate to deliver comprehensive, holistic patient care. Emerging trends, challenges, and opportunities for future integration were also analyzed, with special attention given to patient-centered care models and enhanced recovery protocols.

Critical Appraisal

The selected studies were critically appraised for quality and relevance, with emphasis on those that provided evidence-based insights into interdisciplinary approaches. Discrepancies in findings were discussed and addressed to ensure a balanced and comprehensive overview of the subject.

Thematic Analysis

Following data extraction, a thematic analysis was conducted to identify recurring themes and patterns across the literature. These themes included the role of communication and collaboration, the impact of integrated care on patient outcomes, and the challenges associated with interdisciplinary practices. Themes were categorized into preoperative, intraoperative, and postoperative phases to structure the analysis in alignment with the typical flow of patient care.

Limitations Acknowledgment

Throughout the review process, potential limitations were considered and documented. These included the variability in healthcare systems and practices across different regions, which may affect the generalizability of the findings. Furthermore, due to the narrative nature of the review, the study relied on existing literature, and any gaps in the current research on the topic may limit the scope of the conclusions drawn.

Ethical Considerations

Ethical considerations were addressed in this review by ensuring that all sources of information were appropriately cited and that expert consultations adhered to ethical guidelines. No patient data were used directly in this review, as the focus was on published literature and expert insights.

DEVELOPMENT

The integration of Internal Medicine, Anesthesiology, and Surgical Practices in holistic patient care represents a complex and dynamic process that unfolds throughout the patient’s care continuum. To explore this collaboration in detail, the development section will be organized into three primary phases: preoperative, intraoperative, and postoperative care. Each phase presents distinct opportunities for synergy between these specialties, contributing to enhanced patient outcomes.

1. Preoperative Phase: Optimizing Patient Health

In the preoperative phase, Internal Medicine plays a critical role in preparing patients for surgery. Physicians in this field assess and manage underlying chronic conditions, such as hypertension, diabetes, or cardiovascular diseases, which can significantly impact surgical outcomes. The preoperative evaluation often includes a thorough medical history, physical examination, and laboratory testing, with the goal of identifying any potential risks that could complicate anesthesia or surgery.^(7,8)

Collaboration between internists and anesthesiologists begins early in this phase. Anesthesiologists rely on the detailed medical assessments provided by internists to tailor their anesthesia plans to each patient’s unique needs. For example, a patient with poorly controlled diabetes may require special considerations regarding blood glucose management during surgery, while a patient with cardiac disease may need specialized monitoring

to avoid hemodynamic instability. This close communication ensures that both specialties are aligned in their approach to minimizing risks and optimizing the patient's health status before surgery.⁽⁸⁾

Moreover, in this phase, shared decision-making between the medical team and the patient is crucial. Internists and anesthesiologists often work together to provide patients with comprehensive information about the potential risks and benefits of the surgical procedure, anesthesia options, and postoperative recovery expectations. This collaborative approach ensures that patients are fully informed and actively involved in their care decisions, which is a fundamental aspect of holistic patient care.⁽⁷⁾

2. Intraoperative Phase: Ensuring Stability and Precision

During the intraoperative phase, the collaboration between Anesthesiology and Surgical Practices becomes the focal point of patient care. Anesthesiologists are responsible for maintaining the patient's physiological stability, ensuring adequate anesthesia, managing pain, and monitoring vital signs in real time. Meanwhile, the surgical team focuses on the technical aspects of the procedure.⁽⁹⁾

The relationship between the anesthesiologist and surgeon is one of constant communication and coordination. Anesthesiologists continuously assess the patient's response to surgery, adjusting anesthesia levels, fluid management, and hemodynamic support to ensure optimal conditions for the surgeon. In high-risk surgeries, such as cardiac or abdominal procedures, the anesthesiologist's role in monitoring and managing intraoperative complications becomes even more critical. Any unexpected changes in the patient's condition, such as sudden drops in blood pressure or oxygen saturation, require immediate intervention, which necessitates rapid communication between the anesthesiologist and surgeon.⁽¹⁰⁾

Internal Medicine may also have a role in the intraoperative phase, particularly when patients with complex medical conditions require ongoing monitoring of chronic diseases during surgery. In some cases, internists may provide intraoperative consultations to manage issues such as arrhythmias, glucose fluctuations, or electrolyte imbalances. This interdisciplinary involvement enhances patient safety by addressing potential complications that extend beyond the immediate surgical field.⁽¹¹⁾

3. Postoperative Phase: Enhancing Recovery and Long-Term Outcomes

The postoperative phase is a critical time for the integration of Internal Medicine, Anesthesiology, and Surgical Practices, as it focuses on patient recovery, pain management, and the prevention of complications. Postoperative care begins immediately after surgery and extends through the recovery period, which may last days or weeks depending on the complexity of the procedure.⁽¹²⁾

Anesthesiologists are primarily responsible for managing postoperative pain, which can significantly impact a patient's ability to recover and regain function. Multimodal pain management strategies, including the use of regional anesthesia, opioids, and non-opioid analgesics, are often tailored to each patient's needs based on their medical history and the type of surgery performed. Effective pain management is essential not only for patient comfort but also for reducing the risk of complications such as pulmonary embolism or deep vein thrombosis, which can occur if patients are unable to mobilize after surgery.⁽¹³⁾

Internal Medicine practitioners continue to play a vital role in postoperative care, particularly in managing chronic conditions that may affect recovery. Patients with heart disease, for example, require careful monitoring of their cardiovascular status in the immediate postoperative period, while those with diabetes may need close glucose management to prevent infections or delayed wound healing. Internists collaborate with the surgical team to ensure that these medical issues are addressed promptly, reducing the likelihood of readmissions or long-term complications.⁽¹²⁾

ERAS protocols have emerged as a key area of interdisciplinary collaboration in the postoperative phase. These protocols involve evidence-based practices designed to reduce the stress of surgery and promote faster recovery. ERAS protocols typically include preoperative counseling, optimized fluid management, early mobilization, and multimodal analgesia. The success of ERAS programs depends heavily on the close cooperation of internists, anesthesiologists, and surgeons to ensure that patients are supported holistically throughout their recovery.^(13,14)

4. Challenges and Barriers to Interdisciplinary Collaboration

Despite the clear benefits of interdisciplinary collaboration, several challenges and barriers exist. One of the primary obstacles is the siloed nature of many healthcare systems, where communication between specialties is not always seamless. Differing priorities, time constraints, and a lack of standardized protocols can hinder effective collaboration. Additionally, in resource-limited settings, the availability of specialists and the integration of advanced care protocols like ERAS may be challenging to implement.^(5,14)

To overcome these barriers, healthcare institutions need to foster a culture of collaboration through team-based approaches, interdisciplinary meetings, and shared electronic health records. Training programs for residents and fellows should also emphasize the importance of communication across specialties to prepare

future healthcare providers for the realities of interdisciplinary care.⁽⁵⁾

5. Future Directions for Holistic Care

As healthcare continues to evolve, the future of holistic patient care will likely involve even deeper integration of Internal Medicine, Anesthesiology, and Surgical Practices. Technological advancements such as telemedicine, artificial intelligence, and predictive analytics offer new opportunities for enhancing interdisciplinary communication and patient care planning. Additionally, the growing emphasis on patient-centered care will continue to drive efforts to refine holistic care models, ensuring that patients receive personalized, seamless care across all phases of their treatment journey.⁽⁴⁾

Table 1. Expanded Collaboration Between Internal Medicine, Anesthesiology, Surgical Practices, and Nursing Across Phases of Care

Phase of Care	Discipline	Key Responsibilities	Key Contributions to Holistic Care
Preoperative Phase	Internal Medicine	Conduct preoperative assessment, manage comorbidities, and ensure patient stability before surgery.	Ensures that patients are physically and medically optimized for surgery, reducing risk of complications.
Preoperative Phase	Anesthesiology	Plan individualized anesthesia strategies, prepare patient for anesthesia, manage preoperative anxiety.	Tailors anesthesia plans to individual needs, minimizing stress and promoting better surgical outcomes.
Preoperative Phase	Surgical Practices	Prepare surgical site, create surgery plan based on patient needs, coordinate with interdisciplinary team.	Develops surgical strategies that consider patient health, ensuring precision and reducing surgical risks.
Preoperative Phase	Nursing	Educate patient about preoperative procedures, provide emotional support, and ensure proper preparation.	Supports patient mental health and preparation, improving readiness for surgery and reducing pre-op anxiety.
Intraoperative Phase	Anesthesiology	Administer anesthesia, maintain vital functions, monitor anesthesia depth and patient response.	Maintains patient stability during surgery, reducing the risk of adverse events and promoting safe outcomes.
Intraoperative Phase	Surgical Practices	Perform surgery, collaborate with anesthesiologist to manage intraoperative events, communicate with team.	Executes technical precision, while adapting to dynamic patient needs, ensuring holistic care during surgery.
Intraoperative Phase	Internal Medicine	Monitor and provide intraoperative management for complex medical conditions affecting surgery.	Manages medical complications that may arise during surgery, ensuring the patient's overall health is maintained.
Intraoperative Phase	Nursing	Assist with intraoperative monitoring, ensuring patient comfort, and supporting surgical team.	Provides continuous monitoring and supports team communication, contributing to patient safety and well-being.
Postoperative Phase	Anesthesiology	Manage postoperative pain control, monitor vitals, adjust pain medications, and promote patient comfort.	Manages postoperative pain, enabling faster recovery and promoting early mobilization for better outcomes.
Postoperative Phase	Surgical Practices	Ensure proper surgical site care, monitor for postoperative complications, initiate ERAS protocols.	Ensures surgical healing, reduces the risk of infection, and supports enhanced recovery through ERAS.
Postoperative Phase	Internal Medicine	Monitor chronic conditions postoperatively, adjust medications as needed, and prevent readmission.	Prevents chronic condition flare-ups, reducing postoperative risks and promoting long-term health.
Postoperative Phase	Nursing	Assist with mobilization, wound care, and patient education for recovery and self-care.	Facilitates early recovery, educates patients on wound care, and helps prevent postoperative complications.
Recovery and Discharge Phase	Anesthesiology	Ensure anesthesia recovery, assess for postoperative complications, and manage recovery room care.	Manages post-anesthesia recovery, ensuring the patient is stable and ready for the next phase of care.
Recovery and Discharge Phase	Internal Medicine	Evaluate patient readiness for discharge, ensure chronic conditions are stabilized for recovery.	Evaluates overall health stability before discharge, ensuring patients are ready for recovery at home.
Recovery and Discharge Phase	Nursing	Provide discharge instructions, educate patient on self-care, and assist with transitions to home care.	Educates and empowers patients for self-care, promoting long-term recovery and preventing complications.

Source: Review data analysis.

This table provides an expanded view of the collaboration between Internal Medicine, Anesthesiology,

Surgical Practices, and Nursing across all phases of patient care, with a focus on key responsibilities and contributions to holistic care.

Table 2. Challenges and Solutions in Interdisciplinary Collaboration for Holistic Patient Care

Phase of Care	Challenge	Potential Solutions
Preoperative Phase	Incomplete communication between internists and anesthesiologists regarding patient medical conditions	Implement structured preoperative meetings and shared electronic health records to streamline communication.
Preoperative Phase	Limited time for comprehensive preoperative assessments in high-volume settings	Develop standardized preoperative protocols and utilize telemedicine for remote consultations when appropriate.
Intraoperative Phase	Difficulty in real-time communication between the surgical team and anesthesiologists during surgery	Utilize advanced communication tools like integrated operating room systems to improve real-time collaboration.
Intraoperative Phase	Managing unexpected intraoperative complications in patients with complex medical histories	Ensure a comprehensive preoperative risk assessment and intraoperative involvement of an internist when necessary.
Postoperative Phase	Poor pain management coordination between anesthesiology and surgical teams	Create multimodal pain management plans jointly designed by anesthesiologists and surgeons, with clear roles defined.
Postoperative Phase	Inconsistent monitoring of chronic conditions that can complicate recovery	Ensure continued collaboration with internal medicine for postoperative monitoring and long-term patient follow-up.
Recovery and Discharge Phase	Insufficient patient education and preparation for discharge, leading to readmissions	Provide detailed discharge instructions and involve nursing teams in post-discharge follow-up to ensure continuity of care.
Recovery and Discharge Phase	Limited follow-up on recovery protocols like ERAS due to fragmented care post-discharge	Implement clear discharge plans with scheduled follow-up appointments and shared responsibility across care teams.

Source: Review data analysis.

This table outlines common challenges faced in the interdisciplinary collaboration among Internal Medicine, Anesthesiology, and Surgical Practices and offers potential solutions to enhance communication, care coordination, and patient outcomes.

DISCUSSION

The interdisciplinary approach to holistic patient care, involving Internal Medicine, Anesthesiology, and Surgical Practices, has been widely recognized as essential for improving patient outcomes across various healthcare settings. Numerous studies emphasize the importance of integrating these specialties to address the complexities of modern medical and surgical care. By examining existing literature, this review highlights key themes that underscore the significance of collaboration, the challenges faced, and potential future directions.⁽¹⁵⁾

One recurring theme in the literature is the critical role of preoperative optimization led by internists. Articles consistently demonstrate that thorough preoperative assessments, including the management of chronic conditions such as diabetes and cardiovascular disease, are essential for reducing perioperative complications.⁽¹⁶⁾ Studies have shown that patients who undergo comprehensive preoperative evaluations have lower rates of surgical complications and faster recovery times.⁽¹⁷⁾ Internal Medicine's ability to identify and manage risk factors prior to surgery is repeatedly noted as foundational to successful outcomes, especially in high-risk patients. This proactive approach aligns with holistic care principles, as it ensures that each patient's unique health status is fully considered before surgery.⁽¹⁷⁾

The role of Anesthesiology is another key focus in the literature. Several studies discuss how anesthesiologists are pivotal in tailoring anesthesia plans that meet the individual needs of patients, based on insights from internists and the surgical team. Articles explore how anesthesiologists collaborate closely with surgeons, making real-time adjustments during surgery to maintain patient stability. Research has demonstrated that anesthesiology practices that integrate personalized care approaches, such as multimodal pain management and intraoperative monitoring, lead to improved patient outcomes, including reduced pain, fewer complications, and shorter hospital stays.⁽¹⁰⁾

Surgical Practices, as highlighted in various articles, have also evolved to incorporate a more collaborative and patient-centered approach. Surgeons no longer operate in isolation but rely heavily on the input of internists and anesthesiologists, particularly in complex cases. Studies have reported that interdisciplinary surgical planning leads to more precise interventions, with reduced intraoperative risks and better postoperative recovery. Additionally, the integration ERAS protocols, which involve all three disciplines, has been a key area

of focus in recent literature. ERAS protocols, which promote early mobilization, multimodal analgesia, and minimized surgical stress, have been widely reported as effective strategies for improving recovery times and patient satisfaction.^(12,14)

Despite these positive findings, the literature also identifies several challenges to interdisciplinary collaboration. One significant issue is the fragmented nature of communication between specialties, often due to time constraints, lack of standardized protocols, or siloed healthcare structures.^(18,19) Studies suggest that improved communication tools, such as shared electronic health records and structured interdisciplinary meetings, are necessary to overcome these barriers. There is also evidence that, in resource-limited settings, the availability of specialized care teams may be limited, which hinders the implementation of holistic care models. Addressing these challenges requires systemic changes that promote a culture of collaboration, supported by adequate training and resources.^(1,6)

Future directions in the field, as discussed in the literature, point to increasing integration through technological advancements. Artificial intelligence (AI) and machine learning are highlighted in some studies as potential tools to improve interdisciplinary communication and predictive modeling. AI could assist in identifying patients at higher risk for surgical complications, enabling teams to develop more targeted interventions. Similarly, telemedicine has emerged as a valuable tool for facilitating preoperative and postoperative consultations, especially in remote or underserved areas.⁽²⁰⁾

CONCLUSIONS

The integration of Internal Medicine, Anesthesiology, and Surgical Practices is essential for delivering holistic patient care, significantly improving patient outcomes across the surgical continuum. This review highlights the benefits of interdisciplinary collaboration, including enhanced preoperative optimization, tailored anesthesia management, and coordinated surgical care. While the advantages of this approach are well-supported by literature, challenges such as fragmented communication and resource limitations remain. Addressing these barriers will require system-wide changes, better communication tools, and the incorporation of emerging technologies. Moving forward, deepening collaboration between these specialties will be key to advancing patient-centered, holistic care models in healthcare.

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FINANCING

The authors did not receive financing for the development of this research.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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