

# An overview of the multidisciplinary teams involving physiotherapists, GPs, Laboratory, nurses, and healthcare services improve post-surgical rehabilitation outcomes

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## Abstract

Post-surgical rehabilitation is a critical component of recovery that significantly influences surgical outcomes, patient functionality, and overall quality of life. The complexity of modern surgical procedures, coupled with the diverse needs of patients—including varying ages, comorbidities, and psychological factors—necessitates a coordinated approach to care. This paper explores the pivotal role of multidisciplinary teams (MDTs) comprising physiotherapists, general practitioners (GPs), laboratory technicians, nurses, and various healthcare services in enhancing post-surgical rehabilitation outcomes. Each team member contributes specialized knowledge and expertise, facilitating holistic care that addresses the physical, emotional, and social dimensions of recovery. Physiotherapists promote early mobilization and functional independence through tailored exercise programs, while GPs provide overall management and continuity of care, addressing comorbidities and ensuring timely referrals. Laboratory technicians deliver essential diagnostic insights that guide clinical decision-making, and nurses provide bedside care and patient education, fostering adherence to rehabilitation protocols. Moreover, other healthcare professionals—such as occupational therapists and nutritionists—support comprehensive recovery plans. By highlighting the collaborative nature of MDTs and their impact on patient outcomes, this review emphasizes the importance of interdisciplinary communication and shared decision-making in optimizing post-surgical rehabilitation. Ultimately, a robust MDT approach can lead to shorter hospital stays, reduced complications, and increased patient satisfaction, paving the way for enhanced recovery trajectories.

## Introduction

Effective post-surgical rehabilitation is increasingly recognized as a cornerstone of successful surgical outcomes, significantly influencing patients' overall health, functionality, and quality of life. As surgical techniques advance and patient populations become more diverse—encompassing elderly individuals, those with comorbidities, and various surgical complexities—the need for coordinated and comprehensive care has never been more critical. Multidisciplinary teams (MDTs) offer a solution to these challenges by uniting healthcare professionals from different specialties, each contributing their expertise to foster optimal recovery processes. Key players in MDTs often include physiotherapists, general practitioners (GPs), laboratory technicians, nurses,

and a range of healthcare services. This collaborative model facilitates holistic patient care, addressing not only the physical aspects of recovery but also psychological, social, and emotional components that influence rehabilitation outcomes.

The advantage of employing an MDT approach lies in its ability to leverage the diverse knowledge and skills of various professionals to provide a continuum of care that is synchronized across the patient's experience. For instance, physiotherapists are pivotal in promoting movement and function, while GPs manage overall health trajectories and continuity of care. Laboratory technicians enhance decision-making through timely diagnostic tests, and nurses provide essential bedside care, monitoring, and education. Moreover, other healthcare services, such as occupational therapy and nutrition counseling, play significant roles in addressing a broader spectrum of patient needs. Research shows that integrated care models lead to shorter hospital stays, reduced readmission rates, and increased patient satisfaction (1, 2). This overview aims to elucidate the specific roles and contributions of each team member within the MDT framework and how these collaborations ultimately enhance post-surgical rehabilitation outcomes. The necessity for interdisciplinary communication cannot be overstated, as effective interactions among team members allow for shared decision-making and collective problem-solving, driving a more patient-centered approach that ultimately benefits recovery trajectories.

#### **Review:**

##### **The Role of Physiotherapists**

Physiotherapists occupy a crucial position in post-surgical rehabilitation, specializing in restoring movement and functional capacity, which can often be compromised after surgical interventions. Their involvement begins with thorough assessments, evaluating patients' physical capabilities, limitations, and recovery goals. This comprehensive evaluation enables physiotherapists to develop individualized rehabilitation plans tailored to each patient's unique needs, facilitating a more effective recovery process. These plans typically encompass a series of carefully structured rehabilitation exercises designed to promote strength, flexibility, and coordination. Physiotherapists also employ a variety of therapeutic modalities, including manual therapy techniques, electrotherapy, and functional training, which play an essential role in managing pain and enhancing mobility (3).

Research underscores the benefits of early mobilization supervised by physiotherapists, which can significantly reduce the risk of postoperative complications such as deep vein thrombosis, pulmonary embolism, and pneumonia, as well as shorten overall hospital stays (4). Evidence suggests that initiating rehabilitation efforts soon after surgery not only accelerates recovery timelines but also improves long-term functional outcomes. For example, studies indicate that patients who engage in early physiotherapy after orthopedic surgeries experience a more rapid restoration of strength and mobility compared to those who delay rehabilitation. This proactive approach is particularly important in surgical populations that typically experience significant functional decline due to immobilization and pain (5, 6).

Moreover, physiotherapists actively educate patients regarding their conditions and the recovery process, helping them understand the importance of adherence to rehabilitation protocols. This education empowers patients to take an active role in their recovery, fostering greater self-efficacy and engagement. As important liaisons within the MDT, physiotherapists communicate with other healthcare professionals about patients' progress, concerns, and any emerging challenges. This communication ensures that care strategies remain aligned with clinical objectives and allows for the timely adjustment of rehabilitation interventions. Research consistently highlights that effective multidisciplinary collaboration—including the involvement of physiotherapists—

enhances patient adherence to rehabilitation plans and ultimately leads to improved health outcomes (7).

### **The Role of General Practitioners (GPs)**

General practitioners play an indispensable role in post-operative care by serving as the primary point of contact for patients navigating their recovery journey. They possess a comprehensive understanding of their patient's medical histories, comorbidities, and individual contexts, enabling GPs to coordinate care that accounts for all aspects of the patient's health. This holistic oversight is crucial in managing postoperative complications that may arise and in addressing the broader health concerns that could impact rehabilitation. GPs are responsible for ensuring that pre-existing medical issues, such as diabetes, hypertension, or respiratory conditions, are well-managed throughout the recovery process, which can significantly influence surgical outcomes and rehabilitation effectiveness (8).

Furthermore, GPs facilitate access to necessary referrals within the MDT for specialized interventions. For instance, they may refer patients to physiotherapy, occupational therapy, or nutrition services based on their recovery needs. The GPs' role in monitoring post-surgical recovery through regular follow-up appointments cannot be overstated; these meetings allow them to assess the patient's progress and make adjustments to pain management regimens, lifestyle recommendations, or rehabilitation goals as needed. Research has demonstrated that a strong continuity of care provided by GPs is associated with lower readmission rates and improved patient satisfaction levels (9). Their constant oversight allows for timely identification and management of any clinical concerns, fostering an environment where patients feel supported throughout their healing journey.

Moreover, GPs also play a critical role in ensuring patient adherence to rehabilitation protocols and medication regimens. Educating patients about the importance of following care plans and being vigilant about signs of complications, such as infections or increased pain, contributes to better recovery outcomes. When patients are actively engaged in their care decisions, they are more likely to adhere to prescribed physical activity programs and attend follow-up appointments, which further enhances their rehabilitation (10). Thus, the GP serves as a pivotal figure within the MDT, connecting patients with necessary resources and ensuring their overall health is prioritized during the recovery process.

### **The Role of Laboratory Technicians**

Laboratory technicians may not be frontline caregivers, but their contributions are vital in shaping the postoperative care trajectory for patients. They perform essential diagnostic tests that provide critical information regarding a patient's recovery status, including blood tests to monitor electrolyte levels, hemoglobin counts, and markers of inflammation. These diagnostic insights allow for informed decision-making by the clinical team and can significantly impact treatment plans and rehabilitation strategies. Timely laboratory results can facilitate prompt interventions, such as adjusting medications or addressing potential complications like infections or anemia, which can derail recovery efforts if not managed appropriately (11).

For example, a patient exhibiting signs of fatigue or poor recovery may have their hemoglobin levels assessed to check for anemia. If results indicate a deficiency, the healthcare team can implement nutritional interventions, supplement iron, or modify patient activity levels while addressing the underlying issue, thus ensuring a more targeted rehabilitation approach. Collaboration between laboratory technicians and clinical staff enables seamless communication regarding test results and insights, which is invaluable for promoting optimal postoperative care (12). By integrating laboratory services into the multidisciplinary framework, doctors can make data-driven decisions that enhance clinical outcomes for patients recovering from surgery.

Furthermore, laboratory technicians contribute to patient education by helping patients understand the significance of their test results. When patients are well-informed about their health metrics, they often feel a greater sense of control and involvement in their recovery process, which can lead to increased compliance with treatment plans. Studies have shown that patients who understand their health conditions and the implications of their laboratory results are more likely to adhere to prescribed rehabilitation interventions, ultimately leading to improved health outcomes (13).

### **The Role of Nurses**

Nurses are often viewed as the backbone of postoperative care, providing direct patient support and facilitating the necessary coordination among team members within the MDT. Their extensive knowledge and day-to-day interactions with patients position them uniquely to observe clinical changes and respond to patient needs in real time. Nurses are responsible for administering medications, monitoring vital signs, providing wound care, and evaluating the overall patient condition throughout recovery. High-quality nursing care is crucial for ensuring that patients feel safe, supported, and informed during their rehabilitation journey (14).

In the context of rehabilitation, nurses collaborate closely with physiotherapists and other team members to promote early mobilization and adherence to rehabilitation protocols. This collaboration involves educating patients about the importance of participating in prescribed physical activities and providing encouragement and support throughout the process. Nurses regularly assess patients' readiness for mobility and adjust interventions based on individual capabilities and concerns. Research consistently indicates that the presence of dedicated nursing staff contributes significantly to patient satisfaction and faster recovery times, as they are instrumental in addressing not only physical but also emotional aspects of care (15).

Furthermore, nurses act as advocates for patient needs within the MDT, ensuring that each patient's preferences, values, and concerns are taken into consideration during care planning discussions. They play a vital role in establishing strong patient-provider relationships, which fosters trust and facilitates open communication. By creating an environment where patients feel comfortable expressing their fears and concerns, nurses can significantly enhance patient engagement in their rehabilitation processes. This active patient involvement is instrumental in achieving successful outcomes, as patients who feel supported and understood are more likely to adhere to rehabilitation protocols and follow medical advice (16).

### **The Role of Other Healthcare Services**

In addition to the core team members mentioned, other healthcare services such as occupational therapy, nutrition, social work, and mental health services play essential roles in supporting post-surgical rehabilitation. Occupational therapists focus on helping patients regain the ability to perform daily activities, which is crucial for restoring independence and quality of life after surgery. They assess patients' functional abilities and develop personalized strategies that facilitate the completion of daily tasks, thereby helping patients reintegrate into their home and community environments more seamlessly.

Nutritionists and dietitians are critical in ensuring that patients receive adequate nourishment to support their healing processes. Proper nutritional intake can significantly impact recovery times and overall well-being, particularly in surgical patients whose nutritional needs may change drastically following operations. Tailoring dietary plans to meet the specific requirements of patients enhances the connection between nutrition and health outcomes, as appropriate macronutrient and micronutrient intake can bolster recovery (17).

Social workers address psychosocial factors that may impact rehabilitation, connecting patients to community resources, transportation services, financial assistance, and counseling. By providing

emotional support and addressing practical concerns, social workers help alleviate barriers that may hinder recovery, such as anxiety about returning to work or coping with changes in lifestyle following surgery (18). Finally, integrating mental health professionals into the multidisciplinary framework can address psychological aspects of recovery. Many patients experience anxiety or depression around the time of surgery and throughout their recovery, and having mental health support can mitigate these issues, ultimately fostering a more holistic approach to care. Studies suggest that addressing mental health concerns through counseling or therapy can significantly improve adherence to rehabilitation guidelines and overall recovery outcomes (19).

### Conclusion

The integration of multidisciplinary teams—including physiotherapists, general practitioners, laboratory technicians, nurses, and various healthcare services—is essential for optimizing post-surgical rehabilitation outcomes. This collaborative approach leverages the diverse expertise of healthcare professionals to provide comprehensive, patient-centered care that addresses physical, emotional, and social aspects of recovery. By employing coordinated strategies, enhancing communication, and fostering a culture of collaboration, MDTs facilitate improved recovery trajectories, reduced rates of complications, and increased patient satisfaction. Future research should focus on optimizing team dynamics, communication methods, and integrated care models to further enhance the efficacy of post-surgical rehabilitation practices.

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