

Chapter 9

Strategic Management of Medical Devices in Emergency Care: The Role and Applicability of the Pelvic Binder for Adult Polytrauma Patients

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ABSTRACT

This chapter examines the role of pelvic binders in managing unstable pelvic fractures in polytrauma patients. These devices are crucial for hemorrhage control, fracture stabilization, and survival during the “golden hour.” Key factors—device availability, training, protocols, and performance monitoring—ensure effective implementation. Case studies, like Lisbon’s emergency services, show that aligning clinical care with organizational goals improves efficiency and outcomes. The findings highlight collaboration, training, and technology as essential for excellence in trauma care.

1. INTRODUCTION

Effective healthcare management in emergency settings demands a strategic coordination of not just medical devices but also personnel training and operational efficiency. Within this context, trauma care, especially concerning polytrauma patients who have sustained multiple injuries, becomes a critical domain wherein timely interventions and evidence-based device management can significantly influence

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survival rates and optimize resource utilization. The challenge lies in ensuring that all elements work seamlessly together to create a responsive and adaptable emergency medical service environment. (Rojas-Suarez and Paruk, 2024; Alhur, 2024)

This chapter offers a comprehensive analysis of the applicability and strategic management of the pelvic binder, which is recognized as a vital device for stabilizing pelvic fractures in adult polytrauma patients. By delving into its critical role, deployment challenges faced by healthcare providers, and the evidence-based outcomes achieved, this chapter effectively bridges the gap between clinical care and strategic healthcare management principles. It underscores the importance of structured device management systems, which can play a significant role in ensuring that practitioners are well-equipped to handle such complex cases. Additionally, the chapter emphasizes the necessity of competency-based training and continuous performance monitoring as essential components that can lead to improved patient outcomes. By fostering a culture of excellence in emergency care delivery, these practices not only enhance resource efficiency but also ensure alignment with organizational goals. The insights presented in this chapter aim to empower healthcare professionals and administrators to optimize the use of pelvic binders in their care protocols. (Payne & Wise, 2022; Christos et al.2024; MacDonald & Soel, 2023)

2. THE ROLE OF STRATEGIC MANAGEMENT IN EMERGENCY TRAUMA CARE

In the critical realm of emergency trauma care, strategic management plays a vital role that can be leveraged effectively to enhance both efficiency and overall effectiveness across various trauma systems. It is becoming increasingly acknowledged that the management of medical devices is essential for improving outcomes within these trauma systems; in this context, a clear and defined role for the strategic management of such devices can be readily assumed. A trauma is diagnosed in a polytrauma patient, one who has suffered significant bodily harm and presents with an actual or an imminent life-threatening condition that necessitates immediate medical intervention and careful oversight. (Karunarathna et al., 2024; Karunarathna et al., 2024)

The development of theories of management over the past half-century has witnessed a significant transition away from merely focusing on enhancing the effectiveness of individuals as the singular pathway to fostering an effective organization. Instead, there has been a concentrated, holistic emphasis aimed at promoting the effective and efficient interaction of all components that comprise an extended enterprise. This shift highlights an understanding that the synergy between various parts of an organization is equally, if not more, important than the capabilities of

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