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Editorial

EDITORIAL

The Evolving Role of Physical Therapy in Operational and Austere Medicine

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Abstract

Traditional operational medicine has focused on life-saving trauma treatments in austere environments; however, the evolving landscape of sustained field care now requires a broader clinical approach to sustain and maintain unit readiness. The prevalence of musculoskeletal complaints and non-battle injuries currently represents a significant portion of medical challenges in these settings. Operator non-battle injuries often lead to unnecessary evacuations and have human capital repercussions and eventually strain limited resources. This editorial argues for integrating specially trained physical therapists into remote healthcare teams as a strategic necessity and a way to improve field effectiveness, and drew on field experiences, literature, and evidence from search and rescue as well as documented combat deployments from military journals. Military and wilderness medicine data present how physical therapists, acting as primary care specialists for musculoskeletal issues, can achieve similar return-to-duty rates to traditional medical providers. This can be achieved without relying on extensive, mobility-constrained advanced imaging or dependence on medication. Physical therapists help preserve the operational health and address both short and long-term provider concerns and injury fatigue immediately.

Key words: physical therapy, operational medicine, austere medicine

Introduction

Operational medicine is defined as the art of the provision of health care under the most grueling conditions in places where distance, limited resources, and high-stakes decision-making are the only constants. For decades, accepted doctrine for austere environments has centered almost exclusively on trauma: stop the bleed, clear the airway, stabilize, and move the patient. While that hierarchy remains undisputed, a look at the data reveals a massive gap in our forward-leaning care. Non-battle injuries (NBI) and musculoskeletal (MSK) complaints are current operational issues. These personnel concerns also constitute a drain on mission readiness. As we turn towards the complexities of prolonged, ongoing field care, the integration of specifically trained physical therapists (PTs) into remote teams will constitute an upgrade as well as a strategic necessity.

Non-Battle Injuries

It is recognized that the reality of medical encumbrance and responsibility in the field is manifestly formidable. In their pioneering work on wilderness injuries and illnesses, Gentile et al. (1992) introduced that traumatic MSK injuries represent a sizeable portion of the medical load, frequently forcing providers into difficult decisions between readiness, stabilization, and evacuation.[1] In a remote setting, where a helicopter or ambulance might be hours or days away, and diagnostic imaging is non-existent, the primary provider will carry a diagnostic burden that another professional can reasonably carry. These are situations where the operational medicine trained PT can aid in shifting the strategy.

Clinical Evidence for PT Integration

Defining the operational medicine trained PT is critical for implementation. Unlike standard clinical preparation focused on post-operative care, this role requires competencies in advanced differential diagnosis, musculoskeletal triage, and quick field interventions. These specialists often undergo additional standardized training in prolonged field care (PFC), tactical combat casualty care (TCCC), and, in some situations, expanded scopes including limited prescription or imaging referral rights to function as primary care providers. The myth that PTs are strictly post-operative or gym-based providers ignores their professional evolution in the past decades into primary care MSK specialists. Moore and colleagues (2005) demonstrated that physical therapists (PTs) possess high clinical diagnostic accuracy (74.5%) for musculoskeletal injuries, comparable to orthopedic surgeons (80.8%) and significantly higher than non-orthopedic providers (35.4%).[2] Beattie et al. (2022) appropriately categorize

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PTs as value-added assets in wilderness medicine.[3] Their ability to perform high-level differential diagnosis and apply manual interventions on the fly can often stop a non-needed evacuation before it starts. By managing these conditions at the point of injury, PTs can both treat patients and preserve the unit's operational capacity and longevity in the field.

We have already seen this model succeed in the highest-stakes environments. A retrospective review by McGill (2013) of 149 patients found that physical therapists acting as primary care providers for MSK injuries in deployed combat locations were as effective as their family practice counterparts.[4] Specifically, patients treated by the physical therapist had a 50% higher return-to-duty (RTD) rate compared to those treated by family practice physicians. Notably, PTs achieved these high RTD rates without relying on pharmaceuticals, where only 24% of the patients who saw a PT were given medication versus 90% of patients who saw the physician. Additionally, only 11% of patients under the PT required imaging prior to return to duty, against 82% of the patients seen by family physicians. This is crucial as advanced imaging capability is often unavailable in austere settings. Physical therapists bring transportable ultralight capability in environments where every ounce of gear is highly scrutinized, doctoral-level clinical reasoning, and skilled use of hands for therapeutic purposes.

Team Health and Readiness

For more than a decade, I have recognized the PT's role extending to the health of their own teams. Whether it's emergency response, operational personnel, and even in Search and Rescue (SAR) contexts, PTs provide readiness that has allowed them to be go-to clinicians in professional sports. On many occasions, these personnel and team members are their own worst enemies when it comes to occupational safety. Milani et al. (2023) documented a high frequency of accidents among SAR providers during both training and active missions.[5] Having a PT organic to the team allows for real-time monitoring of team physical readiness and the immediate treatment of minor strains and aches before they become mission-ending failures. This is further reinforced by the work of Silva et al. (2018), whose synthesis of exercise-based interventions proves that targeted, preventative programs are effective at staving off MSK injuries before they occur.[6]

Let us consider a de-identified operational vignette from a remote forward operating base: An operator sustains an acute, non-contact facet "lock" with muscle tension during a night movement. The injury renders them unable to move effectively with the appropriate kit. In a traditional model, this often triggers a medical evacuation due to the diagnostic uncertainty of the medic. With an organic PT conducting a red flag check, a grade IV spinal manipulation, and a neuro-mechanical screen can be performed at the point of injury. In documented cases (Wong et al., 2022), this fast intervention can result in a hasty return to full mission capability, thus preserving the team's footprint and saving limited evacuation assets.[7]

Limitations and Considerations

It should be regarded that while the case for integration is strong, this perspective acknowledges several limitations. Many of the primary care efficacy data relies on retrospective reviews in a combat or wilderness setting. Thus, a suggestion for further prospective research will be required to generalize these findings across conditions, especially when applied to various mission profiles. The logistical ability of adding a PT must also be practically weighed against the mission duration and the team's size. There will be variations as well in global licensure and credentialing requirements, which can be a hurdle for decentralized teams operating across global and international borders. We must recognize as well that while sports medicine applications and SAR data provide analogous evidence for prevention, they are unable to perfectly mirror the physiological strain of specialized operational conditions such as high-altitude or sub-arctic environments.

Conclusion

For the readers of the *Journal of Operational Medicine*, the takeaway should be made clear. At a time where the golden hour is no longer guaranteed, we must seek ways to diversify the skill sets where we have an opportunity to maximize capabilities and self-sufficiency. Integrating physical therapy into the operational medical paradigm offers a cogent force-multiplication effect. It reduces the evacuation burden, manages the NBI load, and ensures the long-term health of the operator. Physical therapists are a critical component of the modern, decentralized medical team, not just an operational luxury.

Competing Interests

No competing interest is declared.

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