

Egypt: The Current Landscape and Systemic Challenges of Orthopaedic Care

Abdullah Hammad¹

1 Faculty of Medicine, Elhadrah University Hospital, Alexandria, Egypt

Correspondence: A_Hammad00@alexmed.edu.eg

Abstract

Egypt, the most populous country in the Middle East and North Africa, is experiencing increasing healthcare demands driven by population growth, ageing, and a shifting burden toward chronic disease. Musculoskeletal disorders, including trauma, osteoarthritis, osteoporosis, and congenital conditions, represent a substantial and growing public health and economic challenge. This editorial reviews the current landscape of orthopaedic care in Egypt, drawing on international indicators, national guidelines, and published literature. Although notable progress has been made through the expansion of surgical services and the development of clinical guidelines, important gaps remain. These include unequal geographic access to care, workforce retention challenges, limitations in infection control, and the absence of comprehensive national data systems. The burden of fragility fractures continues to rise, while preventive strategies such as osteoporosis screening remain underutilised. Recent medico-legal reforms and ongoing physician migration further complicate service sustainability. Addressing these challenges will require coordinated national planning focused on infrastructure, workforce stability, guideline implementation, data development, and preventive public health strategies.

Introduction

Egypt's health system is under increasing strain due to rapid population growth, estimated at 114.5 million in 2023, and a shifting disease burden toward non-communicable diseases [1]. Within this context, orthopaedic care plays a critical role, given the high prevalence of musculoskeletal disorders, trauma, and degenerative joint disease. Road traffic injuries, fragility fractures, and osteoarthritis remain among the leading causes of morbidity, disability, and hospital utilization [2,3].

Orthopaedic conditions exert a dual burden on the health

system. In addition to the high direct costs of surgical and inpatient care, they contribute substantially to long-term disability, reduced workforce participation, and loss of productivity. This review aims to provide an overview of orthopaedic practice in Egypt, identify key systemic challenges, and highlight opportunities for improving musculoskeletal health at a national level.

Health System Context

Egypt allocates approximately 4.6% of its gross domestic product to health expenditure [1]. Life expectancy at birth is estimated at 71.5 years, with a healthy life expectancy of approximately 62 years. The health care system comprises public, private, and university hospitals, with tertiary orthopaedic services largely concentrated in major urban centers such as Cairo and Alexandria. In contrast, rural areas and Upper Egypt remain comparatively underserved.

Although Egypt produces a large number of medical graduates annually, workforce distribution remains uneven. International migration of physicians and concerns related to medico-legal frameworks have raised questions regarding long-term workforce retention and system resilience [4].

Burden of Orthopaedic Conditions

Trauma: Road traffic accidents represent a leading cause of orthopaedic admissions and surgical intervention. Egypt continues to report among the highest regional rates of road traffic injuries [2,3].

Osteoporosis and Fragility Fractures: Fragility fractures are increasing in frequency, with hip fractures imposing a particularly high clinical and economic burden. The estimated direct cost of hip fracture management ranges from EGP 75,000 to 110,000 (USD 2,400–3,600) per episode [5]. One-year mortality following hip fracture has been reported in local cohorts to be high, with one-year mortality exceeding 30%, underscoring the seriousness of this condition [6]. Despite this, osteoporosis screening and preventive treatment remain inconsistently applied [7].

Osteoarthritis: Osteoarthritis is a major contributor to chronic pain and disability. The publication of the first Egyptian national clinical practice guideline for knee osteoarthritis in 2025 represents a significant milestone in standardizing care [8].

Pediatric and Congenital Disorders: Conditions such as clubfoot and developmental dysplasia of the hip remain prevalent and continue to place demands on pediatric orthopedic services.

Infections: Surgical site and prosthetic joint infections remain an ongoing challenge, with reported rates exceeding international benchmarks in some settings [9].

Current Orthopedic Practice

Orthopedic care in Egypt is characterized by high surgical volumes in metropolitan and university hospitals, where advanced procedures such as arthroplasty, spinal surgery, and complex trauma fixation are increasingly performed. However, access to rehabilitation services remains limited, and multidisciplinary care pathways are inconsistently implemented.

Professional societies, including the Egyptian Orthopedic Association, have shown increasing engagement in continuing medical education and guideline development. Nevertheless, translation of guidelines into routine clinical practice varies considerably across institutions and regions.

Challenges

Key challenges affecting orthopedic care in Egypt include:

- **Resource constraints:** Limited availability of operating rooms, intensive care beds, implants, and rehabilitation services in public hospitals.
- **Geographic inequities:** Concentration of services in urban centers, leaving rural populations underserved.
- **Workforce migration:** Ongoing emigration of physicians driven by economic factors and medico-legal concerns [4].
- **Infection control:** Persistently elevated rates of surgical site infection in some facilities [9].
- **Data limitations:** Lack of national trauma, arthroplasty, and outcomes registries.
- **Policy instability:** Regulatory changes that may further impact workforce retention and service continuity.

Opportunities and Strengths

Despite these challenges, several strengths and opportunities exist:

- The development of national clinical practice guidelines reflects strong professional engagement and leadership [8].
- Pilot fracture liaison services have been introduced in selected centers, offering a foundation for secondary fracture prevention [7].
- Expansion of digital health initiatives and electronic

health records creates opportunities for national registries and quality improvement [10].

- A large pool of medical graduates provides a potential foundation for scaling specialist training, provided retention strategies are strengthened.

Recommendations

To strengthen orthopedic care in Egypt, the following priorities are proposed:

- Expand orthopedic and rehabilitation infrastructure in underserved regions.
- Improve physician retention through competitive remuneration, career development pathways, and balanced medico-legal frameworks.
- Promote consistent implementation of national clinical practice guidelines across all sectors.
- Establish national registries for trauma, arthroplasty, and osteoporosis to support data-driven policy and quality improvement.
- Strengthen preventive strategies, including road traffic injury prevention, osteoporosis screening, and fall prevention programs.
- Enhance infection control through adoption of standardized perioperative protocols and outcome monitoring.

Conclusion

Orthopedic care in Egypt stands at a pivotal point. Rising demand for musculoskeletal services, combined with resource constraints and workforce challenges, threatens system sustainability. At the same time, national guideline development, emerging fracture prevention initiatives, and digital health expansion provide a strong platform for progress. A coordinated national approach integrating prevention, standardized care, workforce development, and robust data systems is essential to ensure equitable and high-quality orthopedic care across Egypt.

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