

CONFERENCE PAPER

A Historical-Descriptive Study of the Orthopedic Chapters in *Cerrahiyetü'l-Hâniyye*: Revisiting a Neglected Surgical Source in the Islamicate Tradition

Abstract

This historical-descriptive study investigates the orthopedic chapters of *Cerrahiyetü'l-Hâniyye*, the first illustrated surgical manual in Turkish authored by Şerafeddin Sabuncuoğlu in the 15th century. The focus is on the manuscript preserved at the Bibliothèque nationale de France, believed to be autograph and illustrated by the author. We examined treatments of fractures and dislocations, specialized surgical terms, instruments, and illustrations showing stepwise orthopedic procedures. The methodology included codicological examination, textual analysis comparing with classical sources (especially al-Zahrawī's *al-Taşrīf*), and visual analysis. Results showed coordinated text and image use, practical adaptations of classical teachings, detailed management techniques including reduction, immobilization, and post-operative care, and innovations suited to local clinical settings. This work underscores *Cerrahiyetü'l-Hâniyye* as both pedagogical and historical document in the Timurid-Ottoman surgical tradition.

Key words: History of Medicine, Bone Fractures, Orthopedic Procedures, Surgical Instruments, Islamic Medicine

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Zahra Ghahremani (Ph.D. Candidate)¹

Sobhan Ghezloo (Ph.D. Candidate)¹

Shahrzad Irannejad (Ph.D.)²

1- Department of History of Medicine, School of Persian Medicine, Tehran University of Medical Sciences, Tehran, Iran
2- Institute of the History of Pharmacy and Medicine, Philipps University of Marburg, Marburg, Germany

Correspondence:

Sobhan Ghezloo
Department of History of Medicine, School of Persian Medicine, Tehran University of Medical Sciences, Tehran, Iran

e-mail: ssobhanghezloo@gmail.com

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Introduction

Cerrahiyetü'l-Hâniyye is the first illustrated surgical manual written in Turkish and represents a landmark in pre-modern medical literature (Sabuncuoğlu, 1465 AD). The author, Şerafeddin Sabuncuoğlu, lived during the Timurid-Ottoman period, where Arabic and Persian medical traditions were integrated with local knowledge (Ghezloo, and Sadr, 2024). While the manual has been noted for its illustrations and accessible language, the orthopedic chapters remain underexplored. This study provides a historical-descriptive analysis of these chapters, focusing on the interaction between text and images, surgical instruments, and the author's clinical experience.

The manuscript at the Bibliothèque nationale de France, likely penned and illustrated by the author himself, was designed as a teaching tool rather than a mere compilation of classical sources (Sabuncuoğlu, 1465 AD; Özel, 1992). This research addresses three questions:

- 1) How are the steps for treating fractures and dislocations represented in text and image?
- 2) What are the characteristics of orthopedic instruments and techniques?
- 3) How does Sabuncuoğlu supplement classical sources with his clinical experience?

Methods

This study was conducted in three stages:

1. Codicology: Page layout, headings, and illustration placement;
2. Textual analysis: Identification of orthopedic terminology, diagnostic steps, treatment techniques, and clinical advice;
3. Visual analysis: Review of surgical instruments and illustrations of sequential procedures.

Comparisons were made with al-Zahrawī's *al-Taşrīf* to identify classical references and innovations. Two researchers independently analyzed the manuscript and resolved differences by discussion (Spink and Lewis, 1973).

Results

- Organization: Orthopedic chapters begin with general principles and proceed limb by limb.
- Therapeutic approaches: Diagnosis by crepitus and functional loss; reduction by gradual traction; immobilization with splints and bandages; emphasis on prevention of secondary injury.
- Instruments: Simplified yet functional tools—splints, wedges, traction devices—depicted clearly.
- Relation to classical sources: While grounded in *al-Taşrīf*, Sabuncuoğlu provides practical instructions from his own experience.



Table 1: Summary of orthopedic management in *Cerrahiyetü'l-Hâniyye*

Topic	Textual Reference	Visual Representation	Practical Technique
Diagnosis	Crepitus, loss of function	Protective limb positioning	Manual examination before manipulation
Reduction	Traction and counter-traction	Assistant stabilizes proximal segment	Gradual longitudinal traction with gentle pressure
Immobilization	Splint application	Sequential layers of bandaging	Maintain alignment using splints and bandages

Conclusion

The orthopedic chapters of *Cerrahiyetü'l-Hâniyye* provide detailed textual and visual instruction for fracture and dislocation management (Sabuncuoğlu, 1465 AD; Özel, 1992). The combination of text and illustration establishes the manuscript as a practical and educational resource. The author's experience-based additions demonstrate how classical knowledge was adapted to local conditions (Taqi and AlNasrallah, 2025). This work serves as a valuable document of surgical innovation and knowledge transmission in the Timurid-Ottoman context (Özel, 1992).

Authors' Contribution

Sobhan Ghezloo conceived the main idea of the study. ZG, with the assistance of Shahrzad Irannejad, designed the research roadmap. Sobhan Ghezloo and Zahra Ghahremani jointly reviewed the sources; Zahra Ghahremani focused on orthopedic aspects, while Sobhan Ghezloo concentrated on the Ottoman historical context and source accessibility. Shahrzad Irannejad supervised the overall process, provided critical recommendations, and carried out the final revision and editing.

All authors read and approved the final version of the work.

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Conflict of Interest

None.

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