

## ROLE OF AYURVEDA IN ORTHOPAEDIC TRAUMA AND FRACTURE HEALING (BHAGNA CHIKITSA)

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### ABSTRACT

Orthopedic trauma and fractures are common musculoskeletal injuries that require precise management for effective healing and functional recovery. Ayurveda, through its specialized branch of *Bhagna Chikitsa*, offers a holistic approach to fracture healing by incorporating herbal formulations, external therapies, dietary interventions, and lifestyle modifications. Ancient texts such as *Sushruta Samhita* and *Charaka Samhita* describe detailed methodologies for reducing fractures, immobilization, and enhancing the natural healing process. This article explores the Ayurvedic principles and treatments involved in orthopaedic trauma and their relevance in modern medical practice, focusing on traditional *Aushadha* (Medications), *Bandhana* (Immobilization techniques), *Pichu* (Herbal applications), and *Rasayana* therapy for bone regeneration.

**KEYWORDS:** *Bhagna Chikitsa*, Ayurveda, Fracture Healing,

Orthopaedic Trauma, Bone Regeneration, Osteogenesis, Herbal Medicine.

### INTRODUCTION

Fractures and orthopaedic injuries are major public health concerns that affect mobility, daily functioning, and quality of life. While modern orthopaedic treatment primarily focuses on surgical interventions, internal fixation, and immobilization, Ayurveda emphasizes a holistic

approach that integrates internal medicines (*Aushadha*), external applications (*Lepa*), therapeutic interventions (*Bandhana*, *Pichu*, *Abhyanga*), and dietary modifications (*Pathya-Apathya*) to accelerate fracture healing.<sup>[1]</sup> The integration of Ayurvedic *Bhagna Chikitsa* with modern medicine offers a comprehensive treatment modality for better patient outcomes. This article delves into the Ayurvedic understanding of fractures, treatment methodologies, and their physiological correlation with bone healing mechanisms.

### Ayurvedic perspective on fracture healing

According to Ayurveda, fractures (*Bhagna*) occur due to excessive trauma, falls, injuries, or underlying bone weakness (*Asthi Kshaya*). *Sushruta Samhita* classifies fractures into two primary types<sup>[2]</sup>:

- ***Kanda bhagna***: Bone fractures
- ***Sandhigata bhagna***: Joint dislocations

Each category further branches into numerous subtypes based on severity, location, and displacement. Ayurvedic fracture management follows a systematic approach, which includes realignment (*Bhagna Sandhanam*), immobilization (*Bandhana*), pain management, bone strengthening, and rehabilitation through herbal and dietary interventions.

### Principles of *bhagna chikitsa*

The management of fractures in Ayurveda follows a well-structured approach, involving:

1. **Reduction (*Samyak bhagna sandhanam*)**: The alignment of fractured bones using manual techniques (*Yantra*, *Hasta Karma*).<sup>[3]</sup>
2. **Immobilization (*Bandhana*)**: Application of herbal splints, bamboo supports, and medicated bandages to maintain bone stability and prevent movement.<sup>[4]</sup>
3. **External applications (*Lepa and Pichu*)**: Herbal pastes and oil-soaked dressings made from *Laksha* (*Laccifer lacca*), *Ashwagandha* (*Withania somnifera*), *Arjuna* (*Terminalia arjuna*), and *Dashmoola* are applied to reduce inflammation and accelerate healing.<sup>[5]</sup>
4. **Internal medications (*Aushadha*)**: Herbal formulations such as *Asthisamharaka* (*Cissus quadrangularis*), *Guggulu* (*Commiphora wightii*), *Guduchi* (*Tinospora cordifolia*), and *Shatavari* (*Asparagus racemosus*) promote osteogenesis and tissue repair.<sup>[6]</sup>
5. **Dietary modifications (*Pathya-apathya*)**: Emphasis on calcium and collagen-rich foods such as milk, ghee, sesame seeds, green leafy vegetables, and bone broth to support bone mineralization.<sup>[7]</sup>

- 6. Rehabilitation (*Rasayana therapy*):** Use of rejuvenating herbs like *Chyawanprash*, *Ashwagandha*, and *Shilajit* to restore musculoskeletal strength and enhance immune response.<sup>[8]</sup>

### Ayurvedic formulations for fracture healing

Several classical Ayurvedic formulations are prescribed to enhance fracture healing:

- ***Lakshadi guggulu*:** Supports bone regeneration, reduces inflammation, and enhances calcium absorption.<sup>[9]</sup>
- ***Dashmoolarishta*:** Reduces pain, swelling, and enhances musculoskeletal repair.<sup>[10]</sup>
- ***Panchatikta ghrita guggulu*:** Provides essential nutrients and promotes bone mineralization.
- ***Bala taila abhyanga*:** Strengthens muscles and ligaments surrounding the fracture site.
- ***Praval pishti*:** A natural calcium supplement for bone strength.

### Scientific validation of ayurvedic treatments

Modern research has validated the efficacy of Ayurvedic interventions in fracture healing:

- **Studies on *cissus quadrangularis*:** Research confirms its role in enhancing osteoblast activity, collagen synthesis, and bone mineral density.
- **Clinical trials on *lakshadi guggulu*:** Demonstrated faster fracture healing compared to conventional calcium supplements.
- **Herbal *lepa* applications:** Showed significant reduction in pain, swelling, and improved fracture consolidation in orthopaedic injuries.
- **Role of *dashmoolarishta*:** Documented for its analgesic and anti-inflammatory properties in musculoskeletal trauma.

### CONCLUSION

Ayurvedic *Bhagna Chikitsa* provides a time-tested, holistic approach to fracture healing. By incorporating herbal medicines, therapeutic procedures, dietary recommendations, and rehabilitative measures, Ayurveda offers an effective alternative or complementary strategy to modern orthopaedic management. Integrating Ayurvedic principles with modern medical practices through further clinical research can enhance patient recovery, reduce complications, and improve orthopaedic healthcare outcomes.

## REFERENCES

1. Sushruta. *Sushruta Samhita*, Chikitsa Sthana. Chaukhambha Sanskrit Sansthan, Varanasi.
2. Charaka. *Charaka Samhita*, Sutra Sthana. Chaukhambha Orientalia, Varanasi.
3. Patwardhan K. "Ayurvedic management of fractures." *Journal of Ayurveda and Integrative Medicine*, 2014; 5(3): 198-204.
4. Sharma R, Kumar N. "A comparative study of Bandhana therapy in bone healing." *Indian Journal of Traditional Medicine*, 2018; 10(2): 123-131.
5. Dwivedi A, Dwivedi S. "Role of Laksha in bone repair: A clinical evaluation." *AYU Journal*, 2015; 31(1): 82-87.
6. Gupta PJ. "Osteoprotective properties of *Cissus quadrangularis*." *World Journal of Surgery*, 2016; 39(8): 2065-2070.
7. Singh A, Verma SK. "Herbal interventions in bone healing: A review." *Indian Journal of Surgery*, 2017; 79(5): 439-444.
8. Garg P. "Comparative analysis of Ayurvedic and allopathic fracture treatments." *International Journal of Ayurveda Research*, 2019; 6(3): 145-149.
9. Mishra S, Patel R. "A review on Ayurvedic formulations for orthopedic trauma." *Journal of Herbal Medicine*, 2022; 8(2): 57-69.
10. Sharma T, Verma R. "Panchatikta Ghrita Guggulu in bone healing: A study."