

# Ayurvedic Perspective on Fractures: A Comprehensive Analysis of Classification, Treatment, and Rehabilitation

Dr. Tushita Badhani<sup>1</sup>, Dr. Sunil Kumar Gupta<sup>2</sup>,  
Dr. Pankaj Kumar Sharma<sup>3</sup>, Dr. Udai Narain Pandey<sup>4</sup>

<sup>1</sup>PG Scholar, Department of Shalya Tantra, UAU, Gurukul Campus, Haridwar, Uttarakhand, India

<sup>2,3</sup>Professor, Department of Shalya Tantra, UAU, Gurukul Campus, Haridwar, Uttarakhand, India

<sup>4</sup>Associate Professor, Department of Shalya Tantra, UAU, Gurukul Campus, Haridwar, Uttarakhand, India

## ABSTRACT

Fractures have been a longstanding concern in the medical realm, demanding holistic insights that transcend time and cultural contexts. This article delves into the rich Ayurvedic perspective on fractures, encompassing their classification, treatment principles, and rehabilitation strategies. Drawing from ancient texts, primarily *Acharya Sushruta's* foundational contributions, this work highlights the profound understanding of fractures (*bhagna*) within the Ayurvedic framework. Rehabilitation strategies elucidated by *Acharya Sushruta* emphasize the gradual progression of exercises and the utilization of *Asthisandhaniya Dravyas* for accelerated bone healing. Notably, the inclusion of specific dietary recommendations and the assessment criteria for optimal bone healing contribute to a comprehensive recovery regimen. This article underscores the holistic nature of Ayurvedic insights into fractures, where classification, treatment, and rehabilitation converge to offer a well-rounded approach. The intricate interplay of concepts presented in this article sheds light on the enduring relevance of Ayurvedic principles in the realm of orthopedic care.

**KEYWORDS:** Fractures, Bhagna, Kanda Bhagna, Sandhan, Bandhan

## INTRODUCTION

The Ayurvedic perspective on holistic health revolves around achieving a harmonious balance between the body, mind, and spirit, as well as a harmonious alignment with one's environment. Rooted in ancient Indian philosophy, Ayurveda views health not merely as the absence of disease, but as a state of complete well-being on physical, mental, emotional, and spiritual levels.

Ayurveda recognizes that each individual is unique, with a specific constitution determined by the dominance of the three doshas – Vata, Pitta, and Kapha. The balance of doshas is fundamental to maintaining health. Imbalances can lead to ailments. Ayurveda also places great emphasis on a strong digestive fire, or Agni. It is responsible for efficient digestion, assimilation of nutrients, and elimination of waste. Balanced Agni is vital for overall health.

Serving as a branch of the Vedas, Ayurveda not only delves into the domains of philosophy and medicine but also embraces the art of surgery. It offers a comprehensive view of life, delineating principles of prophylaxis, prevention, and therapeutics to combat various ailments. The human body, termed as the "Sharira," is conceptualized as a harmonious fusion of the Atma (soul), Manas (mind), and Pancha Maha Bhoota (five fundamental elements). Within this framework, all constituents of living beings manifest as Dosha (bioenergetic forces), Dhatu (body tissues), and Mala (waste materials).

Amidst this intricate interplay of elements, the structural integrity of the human body finds a cornerstone in the sapta dhatu, where the "Asthi" or bone tissue holds paramount significance. This

**How to cite this paper:** Dr. Tushita Badhani | Dr. Sunil Kumar Gupta | Dr. Pankaj Kumar Sharma | Dr. Udai Narain Pandey "Ayurvedic Perspective on Fractures: A Comprehensive Analysis of Classification, Treatment, and Rehabilitation" Published in International

Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-7 | Issue-5, October 2023, pp.315-319,

URL: [www.ijtsrd.com/papers/ijtsrd59884.pdf](http://www.ijtsrd.com/papers/ijtsrd59884.pdf)

Copyright © 2023 by author (s) and International Journal of Trend in Scientific Research and Development Journal. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) (<http://creativecommons.org/licenses/by/4.0>)



pivotal framework of the body provides crucial support and resilience.

In addition to various other surgical methodologies, Acharya Sushruta and his contemporaries have extensively elucidated the etiology, pathogenesis, clinical manifestations, categorization, and treatment protocols for diverse traumatic musculoskeletal conditions. These encompass subluxations, injuries to soft tissues, dislocations, fractures, and more.

### **Categorization of Fractures**

The classification of fractures, as delineated by various Acharyas such as Sushruta, Vagbhata, Madhavakara, Chakradatta, Bhavaprakash, and others exhibits remarkable semblance.

### **Sushruta's Classification:**

Sushruta classifies fractures into two broad categories:

1. Sandhimukta (Joint Dislocation)
2. Kanda Bhagna (Bone Fracture)

### **Vagbhata's Classification:**

Vagbhata's classification aligns with the aforementioned categorization with only a change in terminology:

1. Sandhi Bhagna
2. Asandhi Bhagna

**Madhukosh Tikakar** has added an additional layer of division based on clinical manifestations:

1. Savrana Bhagna: Pertains to fractures where the bone protrudes through the skin immediately after the injury, resulting in an external wound.
2. Avrana Bhagna: Characterized by fractures where the bone is broken, yet the skin's surface remains intact without any apparent wound.

The classification of joint dislocations has been further delineated into six distinct varieties, while bone fractures have been intricately subdivided into twelve distinct types. Acharya Sushruta's classification holds universal acceptance. However, Vagbhata introduces alternative terminologies for fracture variations; for instance, he uses the term "Vellita" instead of "Kanda Bhagna," "Darita" in place of "Patita," and "Shoshita" rather than "Chinna."

Acharya Madhavakara contributes to this discourse by utilizing different terms, such as "Vichurnita" replacing "Churnita," "Astichallita" instead of "Astichallita," and "Majjagata" in place of "Majjanugata." Notably, Acharya Madhavakara further classifies "Chinna" fractures into two distinctive categories:

1. Ekamanuvidaritam
2. Bahanuvidaritam

Acharya Sharangadhara mentions eight distinct varieties of fractures, remarkably akin to Sushruta's types:

1. Bhagna prista
2. Vidarita
3. Vivartita
4. Vishlishata
5. Adhogata
6. Urdhvagata
7. SandhiBhagna
8. Tiryaka kshipata

### **Clinical Features:**

The understanding of fractures emerges through an amalgamation of historical accounts and clinical observations. Remarkably, the clinical manifestations elucidated in Ayurvedic texts seamlessly align with those documented in contemporary surgical references on fractures. Within this framework, both general and specific signs and symptoms come to the fore.

General Attributes of *Kanda Bhagna*:

1. *Shvyathubahulyam* (Pronounced Swelling): Typically, fractures, irrespective of their type, lead to a varying degree of swelling.
2. *Sparshasahisnutvam* (Tenderness): The presence of tenderness, consistently observed across all fracture types, serves as a universal sign.
3. *Avapidyamane shabda* (Crepitus): The occurrence of crepitus stands as a definite marker of fracture, offering a confirmatory diagnosis through clinical assessment.
4. *Vividhavedanapradurbhavah* (Diverse Pain Manifestations): Prior to reduction and immobilization, fractured bones induce an array of pain. This depends upon various factors, including the nature of trauma, specific bone affected, displacement, and the extent of soft tissue damage.
5. *Sarva Avasthasu Na Sharmalabha* (Discomfort in All Positions): The patient's inability to find solace in any bodily position characterizes a fracture. Until proper immobilization is achieved, the discomfort persists, rendering the patient restless and uneasy regardless of posture.

### **Fracture Treatment Principles:**

Four fundamental approaches have been described by Acharya Sushruta:

1. *Anchana*: Employing traction to manipulate the fractured parts.
2. *Pidana*: Employing localized pressure to manipulate the fractured parts.

3. *Sankshepana*: Aligning and stabilizing the fragmented bone by opposing forces.
4. *Bandhana*: Imposing immobilization.

*Acharya Sushruta's* elucidation of fracture reduction principles, which persists in contemporary practice, emphasizes sequential actions. The first step involves applying traction from either side of the fragments—this is *Anchana*. Following this, the surgeon proceeds to elevate depressed fragments or press elevated fragments to their proper position—this is *Pidana*. If fragments are distant, they are carefully manipulated to bring them into proximity—this is *Sankshepana*. These three principles collectively strive to attain optimal alignment of fractured fragments before their definitive immobilization, i.e., *Bandhana*.

### **Bandhana (Immobilization):**

Ensuring proper immobilization of the fractured limb stands as a cornerstone in the management process, with the utilization of splints being elaborately outlined by *Acharya Sushruta*. In this regard, *Acharya Sushruta* has distinctly highlighted the significance of specific tree barks, including Ashwatha (*Ficus religiosa*), Vamsha (*Bambusa bambos*), Kakubha (*Terminalia arjuna*), Madhuka (*Madhuca indica*), Palasha (*Butea monosperma*), Sala (*Shorea robusta* Gaertn.), Udumbara (*Ficus racemosa* Linn.), and Vata (*Ficus bengalensis*), to serve this purpose effectively.

### **General Management of Fractures**

*Acharya Sushruta* provides comprehensive guidance on the general approach to fracture treatment, encompassing preliminary steps before progressing to specific interventions.

#### **1. Pariseka (Sprinkling)**

Prior to embarking on the subsequent stages, *Acharya Sushruta* recommends adhering to a general treatment regimen. *Pariseka* entails the continuous application of medicated liquids, such as decoctions or oil preparations, onto the affected area. This practice is sustained over a specified timeframe, aiming to induce analgesia and facilitate *Dosha shamana*. Diverse *Pariseka dravyas* are outlined based on the patient's *Prakriti* (constitution) and the prevailing season (*Ritu*). These include:

- A. *Nyagrodhadi* decoction: Administered to individuals with a *Pittaja Prakriti* and during the *Grishma Ritu* (summer season).
- B. *Pancha mula siddha dugdha*: Employed in cases of *Vata-pradhana Prakriti* with intense pain. This preparation also aids in pacifying *Pitta*.
- C. *Chakra Taila*: Utilized predominantly for *Vata* and *Kapha Prakriti* individuals, especially when

fractures occur during the *Sheeta Ritu* (cold season) and are accompanied by severe pain. This oil preparation, possessing *Ushna Virya*, alleviates pain and swelling at the fracture site.

#### **2. Lepa (Topical Application):**

The application of medicinal pastes or ointments directly to the affected area is termed *Lepa*. *Acharya Sushruta* also introduces *Manjisthadi Lepa*, a concoction containing *Manjistha*, *Yastimadhu*, *Shalipishti*, *Raktachandana*, and *Shatadhautagritha*. This application alleviates pain and swelling while facilitating the absorption of ingredients through the skin, promoting bone healing. Following these steps, interventions like *Anchana* are implemented.

Upon the completion of these general measures, *Acharya Sushruta* proceeds to delineate the treatment approaches for various types of fractures occurring within each bone of the body which are exhaustive.

### **Rehabilitation**

*Acharya Sushruta* aptly recognized the significance of physiotherapy in managing limb injuries. He advocated a gradual approach to exercise, beginning with lighter exercises and progressively intensifying them. This strategy prevents overwhelming the injured limb by avoiding an immediate imposition of the full exercise regimen. For instance, in the case of upper limb rehabilitation, the process starts with grasping a mud ball, followed by a heavier item like a lump of rock-salt, and ultimately progressing to more substantial objects such as stones. This systematic progression ensures a balanced and controlled recovery process.

The three stages involved in this process are as follows:

1. *Mritapinda Dharana*
2. *Lavana Dharana*
3. *Pashana Dharana*

In conjunction with these methodologies, the ancient Acharyas have expounded a multitude of medicinal formulations designed to expedite the healing of fractured bones. These *Asthisandhaniya Dravyas* not only accelerate the fusion of bone but also fortify its strength, contributing to overall well-being. Several *Asthisandhaniya Yogas*, as chronicled in antiquated texts, encompass preparations like *Gandha Taila*, *Gandhaprasarini Taila*, *Chakra Taila*, *Bhagnasandhana Taila*, *Laksha Guggulu*, *Ashwagandha Chaturbhadra choorna*, *Pravala Panchamruta*, *Sudha Bhasma*, among others.

In addition to these practices, *Acharya Sushruta* advocates the consumption of milk from a first-time calving cow, processed with *Ghrita* (ghee), as well as sweet substances (*Madhuragana*) and *Laksha* (Lac)



daily during the morning hours. This comprehensive approach underscores the multifaceted nature of rehabilitation, spanning from carefully structured exercises to the integration of specialized medicinal preparations and dietary considerations.

### Dietary and Lifestyle Recommendations

A patient with a fracture should abstain from consuming *Lavana* (salty), *Katu* (pungent), *Kshara* (alkaline), and *Amla* (sour) tastes. It is advised to maintain strict continence, limit sun exposure, and avoid rigorous physical exercises. The patient's diet should predominantly consist of nourishing and building foods, such as *Shali* rice, meat soup, milk, *ghee*, and other nutrient-rich items. Although milk is generally not recommended for *Vranipurush* (those with wounds), fractures are an exception.

### Clinical Indicators of Optimal Bone Healing:

1. Absence of swelling or hardness upon palpation at the fracture site.
2. No noticeable shortening or deformation of the bone.
3. Pain-free and effortless mobility.

### Conclusion

In Ayurveda, holistic health is not a one-size-fits-all approach; it is about embracing personalized care. By recognizing the unique constitution of each individual and addressing imbalances through tailored practices, Ayurveda seeks to prevent diseases and promote longevity. The holistic approach is a lifelong journey, encouraging individuals to be active participants in their well-being.

Ayurvedic literature extensively covers the definition, causes, classification, types, general and unique features, as well as prognosis of fractures. The treatment of fractures encompasses both general principles and specific approaches for various bones, along with clinical criteria to evaluate bone healing. Following this, the *Pathya* (favorable practices) and *Apathya* (restrictions) guidelines are offered to guide patients toward a holistic recovery journey.

### REFERENCES:

- [1] Acharya Sushruta, Sushruta Samhita with commentaries Nibandha samgraha by Dalhana and Nyayacandrika by Gayadasa, Chaukhamba Orientalia, Varanasi; 5th Ed. (reprint 1992), Nidana Sthana chapter 16/17.
- [2] Acharya Sushruta, Sushruta Samhita with commentaries Nibandhasamgraha by Dalhana and Nyayacandrika by Gayadasa, Chaukhamba Orientalia, Varanasi; 5th Ed. (Reprint 1992), Nidana Sthana chapter 16/4.

- [3] Acharya Vagbhata: Ashtanga Hridaya: with commentaries of Sarvanga Sundara by Arundatta and Ayurveda rasayana of Hemadri, Chaukhambha Orientalia, Uttar Tantra chapter 27/1.
- [4] Madhvacharya: Madhava Nidana: with commentaries of Madhukosa by Vijayrakshita and srikantha, edited by G. D. Singhal, S. N. Tripathi and K. R. Sharma Chaukhambha Shubrati Prakshan, Varanasi, 2008 chapter 44/1.
- [5] Madhvacharya: Madhava Nidana: with commentaries of Madhukosa by Vijayrakshita and srikantha, edited by G. D. Singhal, S. N. Tripathi and K. R. Sharma Chaukhambha Shubrati Prakshan, Varanasi, 2008 chapter 44/1.
- [6] Madhvacharya: Madhava Nidana: with commentaries of Madhukosa by Vijayrakshita and srikantha, edited by G. D. Singhal, S. N. Tripathi and K. R. Sharma Chaukhambha Shubrati Prakshan, Varanasi, 2008 chapter 44/5.
- [7] Sushruta: Sushruta Samhita: with commentaries Nibandha samgraha by Dalhana and Nyayacandrika by Gayadasa: Chaukhamba Orientalia, Varanasi: 5th Ed. (reprint 1992), Nidana Sthana chapter 16/9.
- [8] Sushruta: Sushruta Samhita: with commentaries Nibandha samgraha by Dalhana and Nyayacandrika by Gayadasa: Chaukhamba Orientalia, Varanasi: 5th Ed. (reprint 1992), Nidana Sthana chapter 16/10.
- [9] Madhvacharya: Madhava Nidana: with commentaries of Madhukosa by Vijayrakshita and srikantha, edited by G. D. Singhal, S. N. Tripathi and K. R. Sharma Chaukhambha Shubrati Prakshan, Varanasi, 2008 chapter 44/5-6.
- [10] Madhvacharya: Madhava Nidana: with commentaries of Madhukosa by Vijayrakshita and srikantha, edited by G. D. Singhal, S. N. Tripathi and K. R. Sharma Chaukhambha Shubrati Prakshan, Varanasi, 2008 chapter. 44/5-6.
- [11] Madhvacharya: Madhava Nidana: with commentaries of Madhukosa by Vijayrakshita and srikantha, edited by G. D. Singhal, S. N. Tripathi and K. R. Sharma Chaukhambha Shubrati Prakshan, Varanasi, 2008 chapter 44/5-6.

- [12] Madhvacharya: Madhava Nidana: with commentaries of Madhukosa by Vijayrakshita and srikantha, edited by G. D. Singhal, S. N. Tripathi and K. R. Sharma Chaukhambha Shubrati Prakshan, Varanasi, 2008 chapter 44/5-6.
- [13] Madhvacharya: Madhava Nidana: with commentaries of Madhukosa by Vijayrakshita and srikantha, edited by G. D. Singhal, S. N. Tripathi and K. R. Sharma Chaukhambha Shubrati Prakshan, Varanasi, 2008 chapter 44/5-6.
- [14] Madhvacharya: Madhava Nidana: with commentaries of Madhukosa by Vijayrakshita and srikantha, edited by G. D. Singhal, S. N. Tripathi and K. R. Sharma Chaukhambha Shubrati Prakshan, Varanasi, 2008 chapter 44/5-6.
- [15] Madhvacharya: Madhava Nidana: with commentaries of Madhukosa by Vijayrakshita and srikantha, edited by G. D. Singhal, S. N. Tripathi and K. R. Sharma Chaukhambha Shubrati Prakshan, Varanasi, 2008 chapter /5-6.
- [16] Sushruta: Sushruta Samhita: with commentaries Nibandhasamgraha by Dalhana and Nyayacandrika by Gayadasa: Chaukhamba Orientalia, Varanasi: 5th Ed. (reprint 1992), Chikitsa Sthana chapter 3/118-119.
- [17] Sushruta: Sushruta Samhita: with commentaries Nibandhasamgraha by Dalhana and Nyayacandrika by Gayadasa: Chaukhamba Orientalia, Varanasi: 5th Ed. (reprint 1992), Chikitsa Sthana chapter 3/6.
- [18] Sushruta: Sushruta Samhita: with commentaries Nibandhasamgraha by Dalhana and Nyayacandrika by Gayadasa: Chaukhamba Orientalia, Varanasi: 5th Ed. (reprint 1992), Chikitsa Sthana chapter 3/6.
- [19] Sushruta: Sushruta Samhita: with commentaries Nibandhasamgraha by Dalhana and Nyayacandrika by Gayadasa: Chaukhamba Orientalia, Varanasi: 5th Ed. (reprint 1992), Chikitsa Sthana chapter 3/11.
- [20] Sushruta: Sushruta Samhita: with commentaries Nibandhasamgraha by Dalhana and Nyayacandrika by Gayadasa: Chaukhamba Orientalia, Varanasi: 5th Ed. (reprint 1992), Chikitsa Sthana chapter 3/11.
- [21] Sushruta: Sushruta Samhita: with commentaries Nibandhasamgraha by Dalhana and Nyayacandrika by Gayadasa: Chaukhamba Orientalia, Varanasi: 5th Ed. (reprint 1992), Chikitsa Sthana chapter 3/7.
- [22] Sushruta: Sushruta Samhita: with commentaries Nibandhasamgraha by Dalhana and Nyayacandrika by Gayadasa: Chaukhamba Orientalia, Varanasi: 5th Ed. (reprint 1992), Chikitsa Sthana chapter 3/70.