

AN ANATOMICAL AND CLINICAL REVIEW OF PHANA MARMA: INTEGRATING AYURVEDIC PERSPECTIVES WITH MODERN INSIGHTS

¹*Dr. Mohammed Mudassir, ²Dr. Mohammad Arif and ³Dr. Rajendra Singh Patel

¹Associate Professor Department of Rachana Sharir, Mansarovar Ayurvedic Medical College,
Hospital and Research Centre, Bhopal (MP).

²Associate Professor Department of Rachana Sharir, Sri Sai Institute of Ayurvedic Research
and Medicine, Bhopal (MP).

³Associate Professor, Post Graduate Department of Shalaky Tantra, Mansarovar Ayurvedic
Medical College, Hospital and research Centre, Bhopal (MP).

Article Received on
21 July 2024,

Revised on 11 Aug. 2024,
Accepted on 01 Sept. 2024

DOI: 10.20959/wjpr202417-33815



***Corresponding Author**
Dr. Mohammed Mudassir

Associate Professor
Department of Rachana
Sharir, Mansarovar
Ayurvedic Medical College,
Hospital and Research
Centre, Bhopal (MP).

ABSTRACT

Phana Marma is one of the 107 vital anatomical points described in Ayurveda, located bilaterally near the nostrils. This review aims to explore the anatomical, physiological, and clinical significance of Phana Marma by integrating traditional Ayurvedic perspectives with modern anatomical insights. In Ayurveda, Phana Marma is classified as a *Sira Marma* (related to blood vessels) and is categorized as *Vaikalyakara* (causing deformity upon injury). Injury to this Marma can result in nasal deformities, olfactory disturbances, respiratory issues, and epistaxis. Ayurvedic therapies like *Nasya* (nasal administration of medicated oils) and *Marma Chikitsa* (Marma therapy) often involve the stimulation of this region for treating sinusitis, headaches, and respiratory ailments. From a modern anatomical standpoint, Phana Marma corresponds to the external nasal arteries, veins, and nerves critical in nasal function and surgeries. Understanding Phana Marma's role enhances both preventive and curative strategies for nasal and facial care. The review underscores the significance of integrating Ayurvedic concepts with contemporary medical practices, offering a holistic approach to nasal health and Marma therapy.

KEYWORDS: Phana Marma, Ayurveda, Marma therapy, nasal anatomy, Sira Marma, nasal function, integrative medicine.

INTRODUCTION

The concept of *Marma* is one of the most unique and vital aspects of Ayurvedic anatomy, representing critical points in the human body where muscles, veins, ligaments, bones, and joints converge.^[1,2] These sensitive points are crucial in maintaining health and well-being, as any injury or damage to them can result in severe physiological consequences, ranging from deformity to death. Among the 107 Marma points identified in the classical Ayurvedic texts, *Phana Marma* holds particular significance due to its anatomical location and clinical relevance.^[3,4]

Phana Marma is classified as a *Sira Marma* (related to blood vessels) and is located bilaterally near the nostrils.^[5] It is categorized as a *Vaikalyakara Marma*, which implies that any injury to this region could result in deformity, although it is generally not fatal. The term "Phana," meaning "hood" in Sanskrit, metaphorically refers to the flared appearance of the nostrils, resembling the hood of a snake. This Marma plays a vital role in the physiological processes of respiration, olfaction, and facial aesthetics.^[6]

The clinical implications of *Phana Marma* are significant, particularly in conditions involving the nasal passages, olfactory function, and facial symmetry. Damage to this Marma can lead to a range of issues including nasal deformities, compromised olfactory sense, breathing difficulties, and frequent episodes of epistaxis. In traditional Ayurvedic practice, therapies like *Nasya* (nasal medication) and *Marma Chikitsa* are commonly employed to stimulate this region, aiming to restore nasal function and treat related disorders.^[7]

From a modern anatomical perspective, *Phana Marma* corresponds to the external nasal arteries, veins, and nerves, which are crucial for nasal function and are often considered during nasal surgeries such as rhinoplasty. Integrating Ayurvedic insights with contemporary anatomical knowledge provides a comprehensive understanding of *Phana Marma*'s significance in both traditional and modern healthcare practices. This study seeks to bridge the gap between ancient wisdom and modern science by thoroughly reviewing the anatomical and clinical aspects of *Phana Marma*, emphasizing its relevance in integrative medicine.^[8]

AIM OF STUDY

The aim of this study is to explore the anatomical and clinical significance of Phana Marma by integrating traditional Ayurvedic concepts with modern medical insights for holistic healthcare applications.

MATERIALS AND METHODS

Review of Literature^[9-13]

Ancient Literature

The term *Phana* refers to the broad head of a snake, shaped like a *Darvi* (a concave vessel used for cooking), characterized by a concave structure that can expand and contract, resembling how the size of a snake's head increases or decreases.

Sushruta Samhita, Sharira Sthana 6/27

घ्राण मार्ग उभयतः स्रोतःमार्ग प्रतिबद्धे अभ्यन्तरतः फणे तत्र गन्ध अज्ञानम्।

Phana Marma is located bilaterally in the nasal passage and is internally connected to a channel. Injury to this Marma results in a loss of the sense of smell.

Dalhana's Commentary on Sushruta Samhita, Sharira Sthana 6/27

घ्राणित्यादि घ्राण मार्गस्य द्वयोः पार्श्वयोः अभ्यन्तर विवर सम्बद्धे फणे

According to Acharya Dalhana, Phana Marma is situated in both nasal passages, laterally positioned, and closely attached to the internally situated openings.

Ashtanga Samgraha, Sharira Sthana 7/37

घ्राण मार्ग उभयतः श्रोत्र मार्ग प्रतिबद्ध अभ्यन्तरतः फणे तयोर्गन्ध अज्ञानम्

Phana Marma is described as two in number, located on either side of the nasal passage and internally connected to the path leading to the ears. Injury to this Marma results in a loss of the sense of smell.

Ashtanga Hridayam, Sharira Sthana 4/30

फणे उभयतः घ्राण मार्ग श्रोत्र पथानुगो अन्तरगता स्थितो वेधात् गन्धविज्ञान हरणः

Phana Marmas are situated on either side of the nasal passage, closely related to the ear channels and located internally in the throat region (*Gala Pradesh*). Injury to these Marmas results in the loss of the ability to perceive smells.

Sarvanga Sundari Commentary on Ashtanga Hridayam, Sharira Sthana 4/30

फणविव संस्थानम रूपमणयोः फणविति नाम

According to the *Sarvanga Sundari* commentary, Phana Marmas possess the features (*Sansthana*) and appearance (*Rupa*) of a Phana, which is why they are referred to as Phana Marmas.

Description of Phana Marma

- **Name of Marma:** Phana
- **Number:** 2
- **Site:** *Ghrana Marga Ubhayataha Srotomarga Pratibaddhe Abhyantartaha*
- **Type (according to Rachana):** Sira Marma
- **Type (according to Aghataja Parinama):** Vaikalyakara Marma
- **Type (according to Pramana):** Ardha Angula
- **Sign if Injured:** Loss of the perception of smell

Concept of Marma in Ayurveda

1. **Definition and Importance:** In Ayurveda, *Marma* refers to vital anatomical points where multiple structures like muscles, veins, ligaments, bones, and joints converge. These points are highly sensitive and are essential for maintaining the integrity and functionality of the body.
2. **Classification of Marmas:** According to *Sushruta Samhita*, Marma points are classified based on their:
 - **Location:** Specific regions of the body such as head, chest, and limbs.
 - **Structural Involvement:** The anatomical structures involved (muscles, veins, ligaments, bones, joints).
 - **Effects of Injury:** Marmas are categorized based on the severity of injury they can cause, ranging from pain and disability to death.
3. **Types of Marmas:** The *Sushruta Samhita* categorizes Marmas into five types:
 - **Mansa Marma:** Involves muscles.
 - **Sira Marma:** Involves blood vessels (veins).
 - **Snayu Marma:** Involves ligaments.
 - **Asthi Marma:** Involves bones.

- **Sandhi Marma:** Involves joints.
- 4. **Clinical Relevance:** Knowledge of Marma points is critical for surgeons in Ayurveda, as injury to these points can lead to severe outcomes such as pain, deformity, disability, or even death. This understanding is vital in surgical procedures and therapeutic interventions like *Marma Chikitsa*.

Phana Marma: An Overview

1. **Classification:** Phana Marma is a *Sira Marma*, indicating its association with blood vessels. It is classified under the category of *Vaikalyakara Marma*, which means that an injury to this Marma can cause deformity, though it is not typically life-threatening.
2. **Location:** Phana Marma is located on either side of the nose, near the nostrils. This area is essential for functions like respiration and olfaction.
3. **Etymology and Structure:** The term "Phana" in Sanskrit means "hood," symbolizing the snake-like appearance of the nostrils when flared. This Marma point is crucial for nasal aesthetics and function, as it influences breathing, smell, and overall facial harmony.
4. **Physiological Significance:** Phana Marma is directly involved in the regulation of airflow through the nostrils and plays a key role in olfactory processes. Any injury to this Marma can lead to issues such as nasal deformity, difficulty breathing, and loss of smell.
5. **Clinical Implications:** Phana Marma is particularly important in managing conditions like nasal obstruction, sinusitis, and olfactory dysfunction. It is a key focus in Ayurvedic treatments like *Nasya* and *Marma Therapy*.

Anatomical Location and Structure of Phana Marma

Ayurvedic Perspective

- **Location:** Phana Marma is positioned bilaterally near the nostrils, at the junction where the nasal bones meet the cartilaginous framework of the nose. This Marma is considered superficial and classified under *Sira Marma*, meaning it primarily involves the **Sira** (veins) and **Snayu** (ligaments).
- **Importance in Ayurveda:** According to classical Ayurvedic texts, this Marma is sensitive and vulnerable to injury. Trauma to Phana Marma can lead to significant functional loss, particularly affecting the sense of smell (*Gandha Agyanam*). The understanding of Marma includes both structural and functional components, emphasizing how vital points in the body can impact health when disturbed.

Modern Anatomical Correlation:

- **Location:** In modern anatomical terms, Phana Marma corresponds to the area near the nostrils, where the nasal bones converge with the cartilaginous parts of the nose.
- **Structures Involved:** The external nasal arteries, veins, and nerves are key structures in this region. These include:
 - **External Nasal Artery:** A branch of the facial artery that supplies blood to the outer surface of the nose.
 - **Nasal Nerves:** Branches of the trigeminal nerve (like the infraorbital nerve) that provide sensory innervation to the nasal area.
- **Clinical Significance:** Any damage to these structures, similar to what is described for Phana Marma in Ayurvedic texts, can lead to disturbances in nasal functions, such as impaired smell or nasal obstruction.

Integration of Perspectives: The Ayurvedic view that Phana Marma involves *Sira* and *Snayu* aligns with modern anatomy's understanding of veins, arteries, and connective tissue in this area. Both perspectives recognize the significance of this region in sensory functions (like smell) and its susceptibility to injury.

Physiological Significance

Phana Marma is crucial for proper nasal function. It is responsible for facilitating respiration, regulating the airflow through the nostrils, and supporting olfactory function. Additionally, the aesthetic balance and structural integrity of the nose depend heavily on this region.

Modern Literature on Nasal Anatomy**1. Nose Overview**

- The nose serves both respiratory and olfactory functions.
- It consists of two main parts: a) **External Nose:** A prominent, pyramidal structure made of bone and cartilage. b) **Internal Nose/Nasal Cavity:** An irregular space between the roof of the mouth and the cranial base, extending from the nostrils to the choanae. It is divided by a vertical osseocartilaginous septum into two halves, each containing a vestibule, floor, roof, and medial and lateral walls.

2. Lateral Wall Structure

- Composed of cartilage, bone, and soft tissue.
- Key bony elements include the nasal bone, maxilla, ethmoid labyrinth, and more.

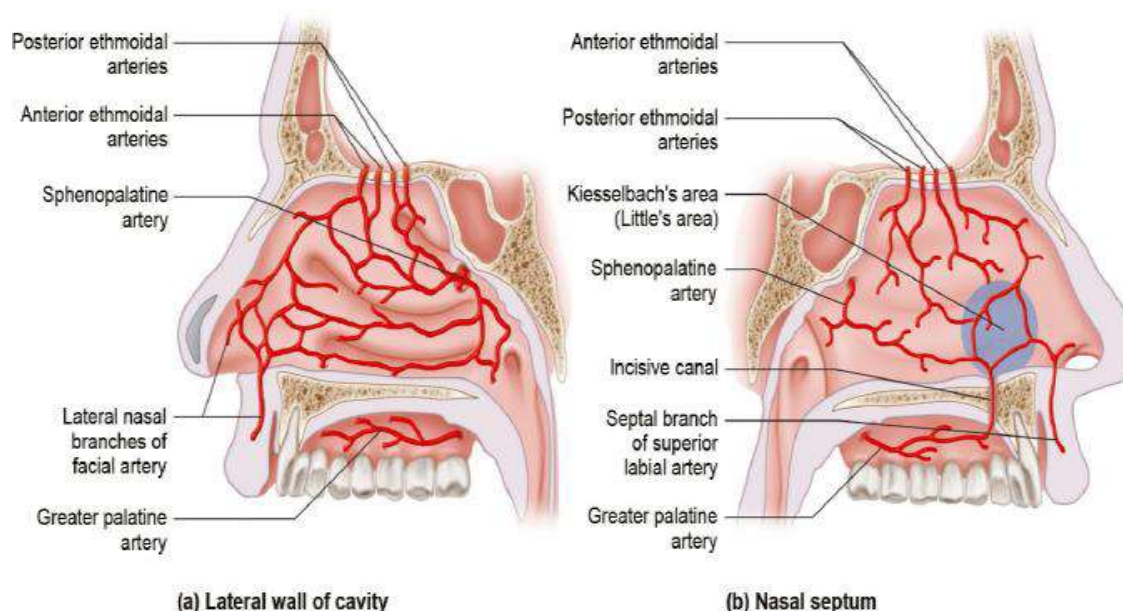
- The **sphenopalatine foramen** is a key opening in the lateral wall, transmitting important nerves and arteries.

3. Nasal and Olfactory Mucosae

- **Olfactory Region:** The upper third of the nasal cavity, lined with specialized olfactory epithelium, responsible for the sense of smell.
- **Respiratory Region:** The lower two-thirds, lined with respiratory epithelium, covering most of the nasal cavity's surface.

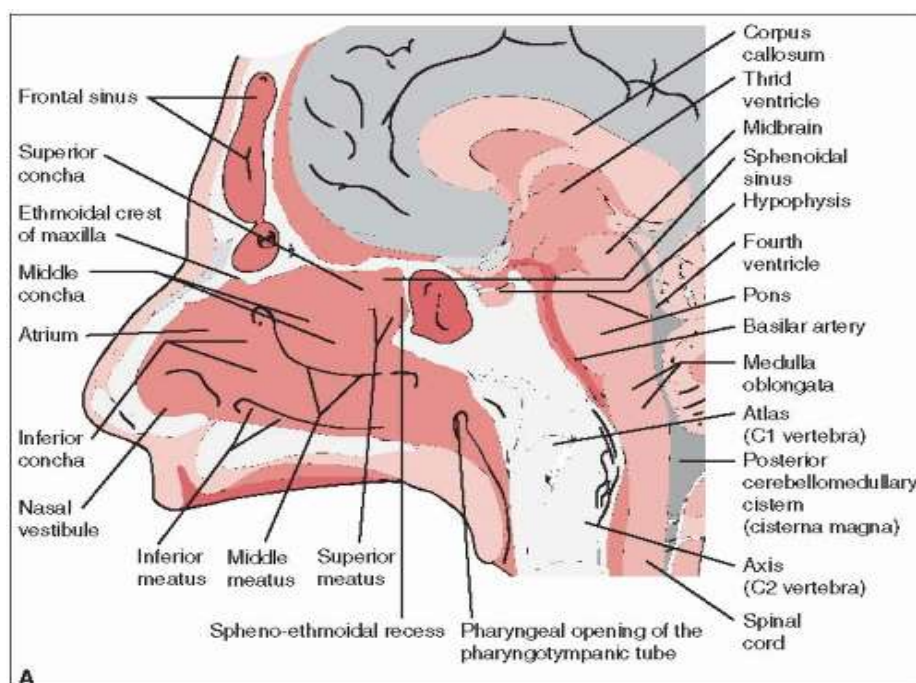
4. Blood Supply

- The **sphenopalatine artery** is the primary blood supplier to the nasal fossa, branching into septal and posterior lateral nasal arteries.
- The **anterior and posterior ethmoidal arteries**, originating from the ophthalmic artery, also contribute significantly, especially to the olfactory mucosa.



5. Nasopharynx Anatomy

- Located behind the nasal cavity, extending from the skull base to the soft palate.
- The **Eustachian tube** opens into the lateral wall, connecting the nasopharynx to the middle ear.
- Injuries or surgical procedures affecting the Eustachian tube can lead to complications such as hearing loss.



Injury to Phana Marma: Clinical Implications

Injury to Phana Marma can result in the following consequences:

1. **Deformity of the Nose:** Injury can cause nasal deformities, which may lead to both functional and aesthetic issues.
2. **Impaired Olfactory Function:** The olfactory nerves passing near this area could be affected, leading to anosmia (loss of smell).
3. **Breathing Difficulties:** Damage to the nasal passages could obstruct airflow, leading to respiratory challenges.
4. **Epistaxis (Nosebleeds):** Injury to the vascular structures in the area may cause recurrent nosebleeds.

Therapeutic and Clinical Applications

In Ayurvedic therapies, the Phana Marma region is often stimulated during procedures such as *Nasya* (nasal administration of medicated oils) and *Shiroabhyanga* (head massage). Stimulation of this Marma can help in managing respiratory disorders, sinusitis, and headaches. The proper understanding and application of Phana Marma are essential in Panchakarma and Marma Chikitsa.

Phana Marma in Modern Healthcare

In modern medical science, the region corresponding to Phana Marma is critical in rhinoplasty, nasal surgeries, and managing conditions like nasal obstruction and sinusitis.

Understanding the traditional concept of Phana Marma can enhance the holistic approach to nasal and facial treatments.

Clinical Application of Phana Marma

1. Preventive Care:

- Incorporating Ayurvedic techniques like **Nasya** (nasal administration of medicated oils) to nourish and protect the Phana Marma, thereby supporting respiratory health and preventing conditions such as sinusitis or olfactory disturbances.

2. Surgical Awareness

- In procedures like rhinoplasty, septoplasty, or transsphenoidal surgeries, understanding the anatomical location and significance of Phana Marma can help avoid complications such as bleeding, nerve damage, or loss of smell.

3. Post-Trauma and Post-Surgical Care

- Integrating Ayurvedic marma therapy in post-operative care to promote healing and minimize complications related to nasal trauma, including olfactory dysfunction or respiratory issues.

4. Holistic Treatment of Respiratory and Olfactory Disorders

- Combining Ayurvedic approaches with modern medical treatments for conditions like chronic sinusitis or anosmia, targeting Phana Marma to enhance therapeutic outcomes.

5. Innovation in Therapeutics

- Developing new treatment protocols that integrate Phana Marma therapy with contemporary medical practices, potentially offering novel approaches to managing respiratory and olfactory conditions.

CONCLUSION

Phana Marma is an important anatomical and functional entity in Ayurveda. Its location, physiological role, and clinical relevance are well-defined in classical texts. With the growing interest in integrative medicine, understanding Marma points like Phana Marma offers insights into holistic treatment approaches that combine traditional Ayurvedic wisdom with modern medical practices. Future research should focus on exploring the physiological and therapeutic effects of Phana Marma stimulation in managing nasal and respiratory disorders.

REFERENCES

1. *Sushruta Samhita*, Sharira Sthana 6/27. Varanasi: Chaukhambha Sanskrit Sansthan; 2014.
2. *Ashtanga Samgraha*, Sharira Sthana 7/37. Varanasi: Chaukhambha Sanskrit Series Office, 2016.
3. *Ashtanga Hridayam*, Sharira Sthana 4/30. Varanasi: Chaukhambha Krishnadas Academy, 2018.
4. *Sarvanga Sundari* Commentary on *Ashtanga Hridayam*, Sharira Sthana 4/30. Varanasi: Chaukhambha Krishnadas Academy, 2018.
5. *Sushruta Samhita*, Sharira Sthana 6/27. Varanasi: Chaukhambha Sanskrit Sansthan, 2014.
6. *Ashtanga Samgraha*, Sharira Sthana 7/37. Varanasi: Chaukhambha Sanskrit Series Office, 2016.
7. *Ashtanga Hridayam*, Sharira Sthana 4/30. Varanasi: Chaukhambha Krishnadas Academy, 2018.
8. *Sarvanga Sundari* Commentary on *Ashtanga Hridayam*, Sharira Sthana 4/30. Varanasi: Chaukhambha Krishnadas Academy, 2018.
9. Shastri HP. *Amarkosha*. Varanasi: Chaukhambha Prakashan; 2017. Khand 1, Varga 8, shloka 9, 115.
10. *Sushruta Samhita*, Sharira Sthana 6/27. Varanasi: Chaukhambha Sanskrit Sansthan, 2014.
11. *Ashtanga Samgraha*, Sharira Sthana 7/37. Varanasi: Chaukhambha Sanskrit Series Office, 2016.
12. *Ashtanga Hridayam*, Sharira Sthana 4/30. Varanasi: Chaukhambha Krishnadas Academy, 2018.
13. *Sarvanga Sundari* Commentary on *Ashtanga Hridayam*, Sharira Sthana 4/30. Varanasi: Chaukhambha Krishnadas Academy, 2018.