



Integrating *Marma Sharira*: Ayurveda's Insights into Modern Traumatology

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

Article Information

DOI: <https://doi.org/10.9734/ajmah/2024/v22i101104>

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/123815>

Short Communication

Received: 28/07/2024

Accepted: 01/10/2024

Published: 05/10/2024

ABSTRACT

Marma Sharira, an integral concept in *Ayurveda*, represents vital points in the human body where the life force (*Prana*) is concentrated. *Marma* points are certain anatomical locations on the human body that are important for understanding trauma management and injury prevention in addition to preserving health. When these sites are traumatized there can be profound effects on the body and mind. Several clinical observations suggests that *Marma* therapy i.e. manipulation of *Marma* points not only accelerates the healing process but also enhances the body's innate capacity for recovery by harmonizing the flow of *Prana* (vital life force) facilitating in pain management, stress reduction, musculoskeletal disorders, and enhancing overall vitality. By balancing the body's energy flow, it supports the immune system, accelerates healing processes, and improves quality of life. The paper also highlights the benefits of a multidisciplinary approach that combines traditional knowledge with modern medical procedures as reported in stroke management, and it explores how *Marma Sharira*'s tenets might help with trauma treatment today.

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Cite as: Soni, Gaurav. 2024. "Integrating *Marma Sharira*: Ayurveda's Insights into Modern Traumatology". *Asian Journal of Medicine and Health* 22 (10):58-65. <https://doi.org/10.9734/ajmah/2024/v22i101104>.

Keywords: *Marma Sharira; traumatology; holistic medicine; preventive therapy.*

1. INTRODUCTION

Ayurveda, the ancient Indian medicine system, encompasses a holistic approach to health and disease management. Traumatology is the area of medicine that deals with wounds and injuries; it is mostly concerned with treating and rehabilitating patients who have experienced physical trauma. The ancient Indian medical system known as *Ayurveda* has a distinctive viewpoint on trauma through the idea of *Marma Sharira*. *Marma Sharira* is a term used in Ayurvedic medicine and ancient Indian healing systems to describe key spots or energy centers in the body. The term "*Marma*" comes from the Sanskrit word "*Marmam*," which means "secret" or "hidden. Anatomical sites on the body known as *Marma* points are thought to be the spots where muscles, veins, ligaments, bones, and joints converge are believed to be energy points similar to acupressure or acupuncture points in traditional Chinese medicine [1]. According to *Ayurveda*, these points are essential for preserving life and health, and harming them might have dire repercussions.

The concept of *Marma Sharira* predates modern traumatology, yet it offers insights that are remarkably relevant to contemporary medical practices. By demonstrating how an awareness of *Marma*'s principles might improve the treatment of traumatic injuries, this review seeks to close the knowledge gap between traditional *Ayurvedic* medicine and contemporary traumatology.

2. HISTORICAL PERSPECTIVE OF *MARMA SHARIRA*

The ancient *Ayurvedic* books, such as the *Sushruta Samhita* and *Charaka Samhita*, have substantial documentation on the idea of *Marma*. Known as the father of surgery, *Sushruta* identified 107 *Marma* sites in the human body (Fig. 1). These points were categorized according to their structure, location, and potential for harm. *Marma* points, according to *Sushruta*, are connected to the movement of *Prana*, the essential life force, in addition to being anatomical markers. Depending on the position

and depth of the injury, a *Marma* point injury may result in excruciating agony, severe disability, or even death. Through appropriate stimulation of *Marma*, the *Prana* can be regulated to eliminate obstructions and modify the physical and subtle energy currents in the body, leading to the associated healing outcome [2]. Hence, in addition to providing physical care, the *Ayurvedic* response to trauma included managing the subtle energies that support life [3].

3. ANATOMICAL, PHYSIOLOGICAL AND PATHOLOGICAL IMPLICATIONS OF *MARMA* INJURY

The places where muscles, veins, ligaments, bones, and joints converge are known as *Marma* points in anatomy. The human body is known to have 107 *Marma* points, each of which is connected to a different physiological function [5]. From an Ayurvedic standpoint, these points are essential for preserving health and vigour since they are connected to the body's energy conduits (*Srotas*) and life force (*Prana*). *Marma* points are categorized according to their size, probable severity of harm, and position (head, neck, trunk, and limbs). The reported symptoms of *Marma* Injury by *Susruta* are *Bhrama* (giddiness), *Pralapa* (delirium), *Patana* (fainting), *Pramoha*(delusion), *Vicheshtana* (loss of activity of the body parts), *Sanlayana* (semi-consciousness), *Ushnataa* (increase of body temperature), *Srastaangataa* (weakness of body parts), *Urdhwavata* (increased expiration), *Vatastivraruja* (severe pain), and cessation of activity of all sense organs; which are same symptoms those are commonly reported in trauma cases[6].*Marma* points along with their location, injury symptoms and their consequences or outcomes as per *Susruta* are summarized in Table 1.

The study of *Marma* points in *Ayurveda* is very closely linked to the body's essential activities. *Prana* flow disruption caused by injury to a *Marma* point might have systemic implications [7]. For example, damage to *Sira Marma* can result in shock and excessive bleeding, while damage to *Hridaya Marma*, which is related to the heart, might cause cardiac arrest [8].

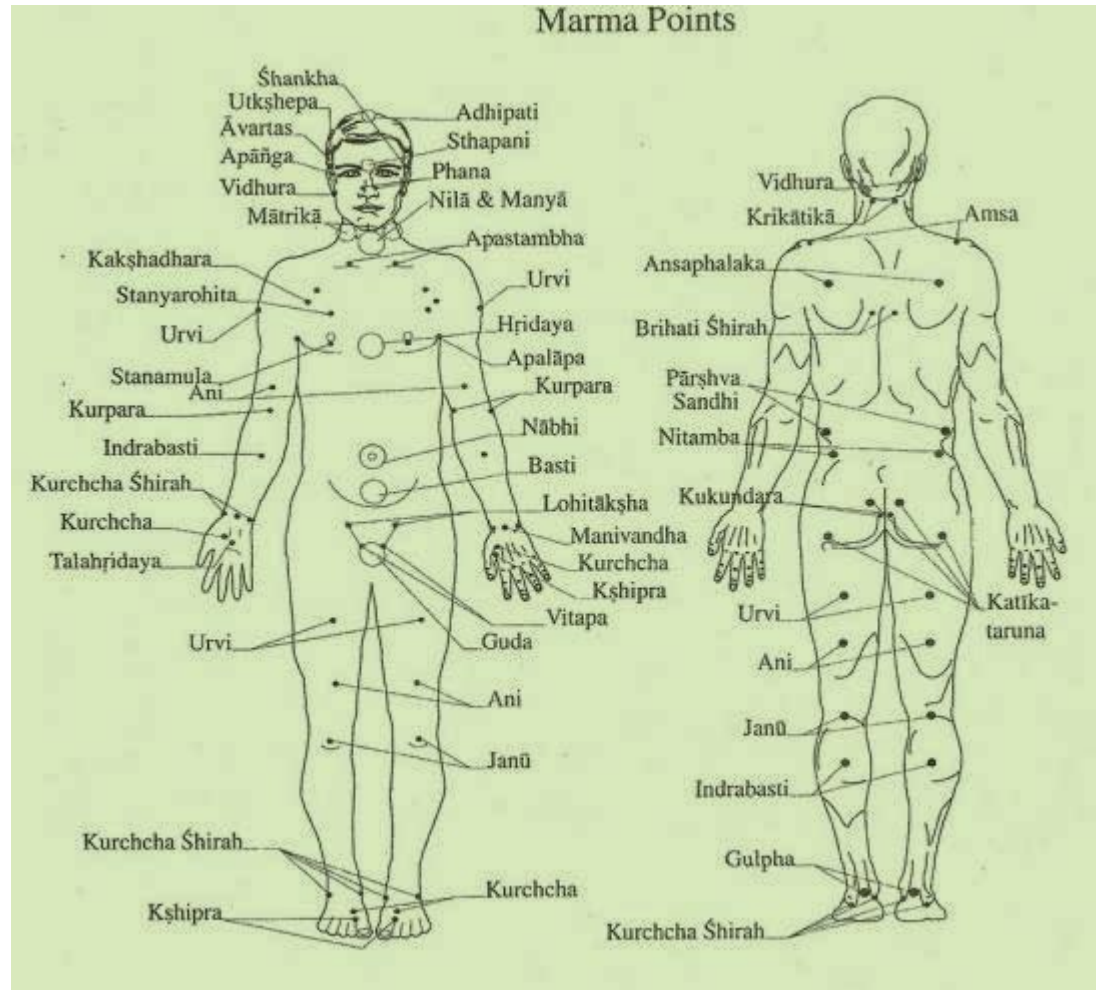


Fig. 1. Distribution of *Marma* Points as per Susruta [4]

Table 1. Name of Marma points, their location, traumatic symptoms and consequences as per *Susruta Samhita Sharir Sthana* chapter no 6

S. No.	Marma	Location as per <i>Susruta</i>	Effect of trauma	Outcome
1.	<i>Kshipra</i> (LL)	Between 2 nd toe and big toe (In the web)	Death due to convulsions	KP
2.	<i>Kshipra</i> (UL)	Between index finger and thumb (In the web)	Death due to convulsions	KP
3.	<i>Talahridaya</i> (LL)	6 fingers proximal to 3 rd toe, center of sole	Death due to severe pain	KP
4.	<i>Talahridaya</i> (UL)	In the palm's center, in line of middle finger, just below 3 rd metacarpo-phalangeal joint	Death due to severe pain	KP
5.	<i>Kurcha</i> (LL)	About 1 finger proximal to metatarso-phalangeal joint of big toe	Wrist drop/Foot drop and tremors	VK
6.	<i>Kurcha</i> (UL)	From thumb's base, 1 finger above (proximal)	Wrist drop/Foot drop and tremors	VK
7.	<i>Kurchashira</i> (LL)	On either side over the heel, below ankle joint	Pain and swelling	RK
8.	<i>Kurchashira</i> (UL)	1 finger below <i>Kurcha</i> , below wrist joint	Pain and swelling	RK
9.	<i>Manibandha</i> (UL)	On top of the wrist	Pain, wrist drop and deformity	RK
10.	<i>Gulpha</i> (LL)	Ankle joint	Pain, restricted ankle movement and deformity	RK
11.	<i>Indravasti</i> (LL)	In the mid-line, between 2 bellies of gastrocnemius muscle	Excessive haemorrhage and death	KP
12.	<i>Indravasti</i> (UL)	In the mid-line of hand, 4 finger below elbow crease	Excessive haemorrhage and death	KP
13.	<i>Kurpara</i> (UL)	On the either side of the elbow joint	Non-functioning and deformity of forearm	VK
14.	<i>Janu</i> (LL)	Knee joint	Non-functioning and deformity of leg	VK
15.	<i>Ani</i> (LL)	3 fingers above knee joint	Excessive swelling and dysfunction of limb	VK
16.	<i>Ani</i> (UL)	medial to mid-line of the hand, 3 fingers above elbow joint	Excessive swelling and dysfunction of limb	VK
17.	<i>Urvi</i> (LL)	Upper thigh's mid region	Haemorrhage and atrophy of limb	VK
18.	<i>Urvi</i> (UL)	4 fingers above <i>Ani</i> , in mid of arm	Haemorrhage and atrophy of limb	VK
19.	<i>Lohitaksha</i> (LL)	Thigh's upper part-below inguinal canal	Excessive bleeding, paralysis and death	VK
20.	<i>Lohitaksha</i> (UL)	Medial to mid-line of hand, over anterior axillary fold	Excessive bleeding, paralysis and death	VK
21.	<i>Kakshadhara</i> (UL)	Below lateral 1/3 rd of clavicle and medial to head of humerus, in delto-pectoral groove	Paralysis	VK
22.	<i>Vitapa</i> (LL)	Between testicles and inguinal canal	Impotency or decreased semen discharge	VK
23.	<i>Guda</i> (Ab)	Anus and anal canal, the area surrounding it	Immediate death	SP
24.	<i>Basti</i> (Ab)	Urinary Bladder, behind and above pubic symphysis	Immediate death	SP
25.	<i>Nabhi</i> (Ab)	In and around navel	Immediate death	SP
26.	<i>Hridaya</i> (Ab)	Heart, in thoracic cage's middle area, slightly to the left	Immediate death	SP
27.	<i>Stanarohita</i> (Ab)	Mammary glandsupper region (at about 2 nd - 3 rd intercostals space)	Haemothorax, cough, breathlessness and death	KP
28.	<i>Stanamula</i> (Ab)	2 finger below nipples' level (at about 6 th intercostals space)	Pleural effusion, cough, breathlessness and death	KP
29.	<i>Apalapa</i> (Ab)	On top of flanks and below shoulder joint	Pyaemia, septicemia and death	KP
30.	<i>Apastambha</i> (Ab)	On either side of sternum, at 2 nd intercostal space	Pneumothorax, cough, breathlessness sand	KP

S. No.	Marma	Location as per <i>Susruta</i>	Effect of trauma	Outcome
31.	<i>Katikataruna</i> (B)	Over the line joining ischial tuberosity and femur's greater trochanter	death Excessive haemorrhage, severe anaemia and death	KP
32.	<i>Kukundara</i> (B)	On lower iliac spine's either side	Loss of sensation and locomotive activity	VK
33.	<i>Nitamba</i> (B)	Buttock's upper region	Atrophy of lower limbs and death	KP
34.	<i>Parshvasandhi</i> (B)	Below the 12th rib's inferior border, between flanks and buttock, at renal angle	Renal injury, retroperitoneal haemorrhage & death	KP
35.	<i>Brihati</i> (B)	In line with either sacro-iliac (joint – just above the level of scapula's inferior angle	Haemorrhagic complications and death	KP
36.	<i>Ansaphalaka</i> (B)	Shoulder blade - just medial to scapular spine's root	Numbness and paresis of upper limbs	VK
37.	<i>Ansa</i> (B)	On top of back, between arm and neck	Stiff shoulder	VK
38.	<i>Krikatika</i> (H&N)	Joint of neck and head - just on occipital protuberance's inferior part	Instability of head continuous movement of head	VK
39.	<i>Nila</i> (H&N)	Just lateral to trachea - at throat's base	Aphonia, dysphonia and loss of taste	VK
40.	<i>Manya</i> (H&N)	About 1/2 finger downwards and posterior to angle of mandible - side of upper neck	Aphonia, dysphonia and loss of taste	VK
41.	<i>Matrika</i> (H&N)	Both the sides of neck	Sudden death	SP
42.	<i>Vidhur</i> (H&N)	Below and at the back of ears	Deafness	VK
43.	<i>Phana</i> (H&N)	Ala nasi's either side	Anosmia (loss of smell sensation)	VK
44.	<i>Apanga</i> (H&N)	Eyes' outer corner	Blindness or diminution of vision	VK
45.	<i>Avarta</i> (H&N)	At eyebrows' center - in orbital cavity's upper border	Blindness or diminution of vision	VK
46.	<i>Utkshepa</i> (H&N)	At hairline's border - above the temples	Death, if foreign body removed	VS
47.	<i>Sankha</i> (H&N)	On top of temporal bone	Sudden death	SP
48.	<i>Sthapani</i> (H&N)	On front of forehead - between the eyebrows	Death, if foreign body removed	VS
49.	<i>Simanta</i> (H&N)	Sutures of skull	Madness, phobia, chittanasha, death	KP
50.	<i>Sringataka</i> (H&N)	At the Center of confluence of veins that supply nourishment to eyes, ears, nose and tongue	Sudden death	SP
51.	<i>Adhipati</i> (H&N)	Top of head/crown	Sudden death	SP

{Location: LL- Lower Limb; UL- Upper limb; Ab- Abdomen/trunk; B-Back; H&N- Head and neck}{Outcome: SP-Sadyapranahara(fatal within 7 days); KP- Kalantarapranahara (death after 15 days, if proper treatment not done);VK- Vaikalyakara-Permanent Disability; RK- Rujakara (Extremely painful); VS- Vishalyaghna (Death, if foreign body removed forcefully)}

4. METHODS OF MARMA STIMULATION/THERAPY

Several methods of Marma stimulation i.e. *Marma* therapy are described by many renowned modern day therapist. According to Frawley, *Abhyanga* (massage), applying aromatic oils, or by applying medicinal herb paste on specific points or area can be a method of *Marma* therapy [9]. Lad and Durve have further elaborated the method including sudation, dry massage, oleation, deep pressure etc as forms to stimulate *Marma* [10]. Schrott has also included *Yogasanas*, *Pranayama*, meditation, etc as modes of therapy. Joshi has formulated a method of applying pressure at points in synchronous with heart and respiratory rate [11].

5. THE RELEVANCE OF MARMA SHARIRA IN TRAUMATOLOGY

Understanding Trauma and Injuries: *Marma* points are susceptible and, when injured, can lead to severe consequences, including pain, disability, or even death. Understanding the location and purpose of *Marma* points can help medical professionals diagnose trauma severity and anticipate possible sequelae. This information can be very helpful in emergencies where quick decision-making is required. *Susruta* has elaborately described the *Marma* along with their location and symptoms of injury and their consequences.

Preventive and Therapeutic Applications: *Marma* therapy has long been utilized by *Ayurvedic* doctors to rehabilitate trauma victims. *Marma* therapy is based on the idea that stimulating *Marma* points can aid in healing ease pain, and help the body regain its equilibrium [12]. These spots are stimulated via methods including massage, pressure application, and the use of herbal oils, providing a non-invasive approach to trauma healing [13]. The three *Gun*as, which include *Sattva* (mind), and the three *Dosh*as and their subtle forms (*Prana*, *Tejas*, and *Ojas*) come in balance state when *Marma* are stimulated. *Ojas* is the power of immunity; it can be well balanced by *Marma* stimulation to enhance the immune system and have a rejuvenating impact. Stress alleviation is possible with the appropriate activation of *Marma* through the connection with the *Sattva Guna* (mind). The preventative benefits of *Marma* therapy are especially noteworthy because it is thought that regular stimulation of these spots will increase resilience and reduce the risk of

injury and is proven via several studies like in stroke management [14].

Integration with Modern Traumatology: The idea of combining conventional medical systems with contemporary procedures is gaining traction. Understanding *Marma Sharira* provides important insights into trauma care, especially when it comes to surgical care, pain management, and rehabilitation [15]. *Marma Sharira's* tenets can enhance contemporary trauma care by providing an understanding of how injuries occur and useful treatment methods. Comprehending the *Marma* points associated with the neurological system and musculoskeletal components, for example, might facilitate the creation of tailored rehabilitation approaches [16].

A study done on basketball players of age group 13-20 years for ankle sprain i.e. related to *Gulpha Marma* evidenced the meticulous relief in pain by *Marm* stimulation. Here thirty players, were chosen on the basis of Ankle Sprain, made up the experimental group. They received 30 days of treatment on *Gulpha Marma* using *Mash Tail Snehana* and warm water *Swedana*; participants in the control group received additionally chosen, who, while engaging in the game, used a crape bandage. Day 0 was assessed, followed by Day 15 and Day 30. While the pain in the control group continued until day 30, the discomfort in the experimental group decreased from moderate on day 0 to 50% on day 15 and finally vanished on day 30. It demonstrated how well *Gulpha Marma* responded to the treatment [17].

Surgeons who use *Marma Sharira* in their practice can improve surgical results by avoiding or carefully controlling these critical areas, reducing potential problems and promoting speedier recovery [18]. By taking a more holistic approach to patient care and taking into account not just the physical but also the energetic and psychological elements of trauma, modern traumatology can benefit from the *Ayurvedic* perspective.

6. CHALLENGES AND FUTURE DIRECTIONS

Although the incorporation of *Marma Sharira* into contemporary traumatology exhibits potential, several obstacles need to be overcome. For *Marma* therapy to be more widely accepted, standardization of its methods, professional

training, and evidence-based research are essential. Clinical trials to confirm the effectiveness of *Marma*-based therapies should be the main focus of future research to close the knowledge gap with modern medicine.

7. CONCLUSION

One of *Ayurveda*'s major contributions to the field of traumatology is *Marma Sharira*. The idea of *Marma* points, which contains ancient wisdom, emphasizes the relationship between the physical and energetic parts of the human body and provides a holistic approach to trauma healing. Healthcare professionals can improve their approach to trauma management by adding preventive, diagnostic, and therapeutic measures based on traditional wisdom by learning and applying *Marma* points. The incorporation of *Marma Sharira* into contemporary medicine not only advances traumatology but also emphasizes the significance of a patient-centred, comprehensive approach to treatment.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that generative AI technologies such as <https://www.grammarly.com/> & <https://quillbot.com> have been used during the language editing & grammar corrections of manuscripts.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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