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# A REVIEW STUDY ON *MANIBANDHA MARMA* WSR WRIST DROP

**[1]Dr. Shailesh Singh, [2]Dr. D. K. Sharma, [3]Dr. Deepa, [4]Dr. Kalpesh Jajoria, [5]Dr. Swaroop Kumar and [6]Dr. Deepmala Kumawat**

[1]PG Scholar, Deptt. of Rachana Sharir, M.M.M. GOVT. Ayurveda College Udaipur (Raj.).

[2]Assistant Professor, P.G. Department of Rachana Sharir, M.M.M. GOVT. Ayurved College, Udaipur (Raj.).

[3]Lecturer, P.G. Department of Rachana Sharir, M.M.M. GOVT. Ayurveda College Udaipur (Raj.).

[4]PG Scholar, Deptt. of Rachana Sharir, N.I.A. Jaipur (Raj.).

[5]PG Scholar, Deptt. of Kriya Sharir, M.M.M. GOVT. Ayurveda College Udaipur (Raj.).

[6]PG Scholar, Deptt. of Ras Shastra and Bheshjya Kalpana, N.I.A. Jaipur (Raj.).

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***Corresponding Author**
**Dr. Shailesh Singh**
PG Scholar, Deptt. of Rachana Sharir, M.M.M. GOVT. Ayurveda College Udaipur (Raj.).

## ABSTRACT

Ayurveda is an ancient science which is known for it's incredible contribution in medical science. *Marma* are vital points of body; where *Praan* (life) resides. Injury to theses points causes drastic changes in normal functioning of *Marma* or lethal effects like death. The *Manibandha marma* is a *Rujakar* type *marma*, its normal functioning gives the natural movement of hand but the injury on it causes abnormality; just like wrist drop. In wrist drop, hand doesn't show the movement because the injury to *Manibandha marma*. In present paper we tried to explore the relation between the *Manibandha marma* and its injury aspect related to wrist drop.

**KEYWORDS:** *Marma, Rujakar, Manibandha,* wrist drop.

## INTRODUCTION

The science of *Marma* trade in *Ayurveda* a surgico-anatomical learning. *Acharya Sushruta* made a great contribution in the field of *Ayurveda* by giving the concept of *Marma*. *Acharya* explained 107 such vital points in various parts of body, which should be considered carefully during surgery and should always be protected from direct or indirect injuries.[1] *Acharya* described the *Marma* that, it is the confluence of *Mamsa, Sira, Snayu, Asthi* and

*Sandhi*.[2] *Acharya* explained it in other words, part of the body, on which injury causes death or disability or extreme pain, is called *Marma*. Injury to those place shows different types of sign and symptoms, which is depend on involved structures. One type of *Marma* on the basis of result is *Parinamkar*; according to this *Sadyopranahara, Kalantar pranahara, Vishalyaghana, Vaikalyakar* and *Rujakar*. *Rujakar Marma* is 08 in number, *Manibandha*(2), *Gulpha* (2), *Kurchashir* (4).[3] The present paper is on *Manibandha Marma*, which is a *Rujakar Marma* and *Shakhagat Marma*.

Wrist drop is a condition is which the wrist and the fingers cannot extend at the metacarpophalangeal joints.

## AIMS AND OBJECTIVES

Understanding of *Manibandha Marma* with wrist drop through literary study.

## MATERIAL AND METHODS

Literary and conceptual study will be undertaken by the data compiled from *Brihatrayees, Laghutryees* and other classical text and correlated with knowledge of contemporary science on the subject.

### *Manibandha Marma*

These are two in number, type of *Sandhi Marma*, size is 02 *Angula*, located at the wrist joint, underlying important anatomical structures are distal radioulnar joint, anterior and posterior ligaments of radioulnar joint, wrist joint (radiocarpal joint), radio-carpal ligaments, radial, ulnar, median nerve and ulnar and radial artery. Qualities relative to injury is *Rujakara* (pain causing), cause is trauma to near structures.[4][5]

### Wrist

In human anatomy, the wrist is variously defined as (1) the carpus or carpal bones, the complex of eight bones forming the proximal skeletal segment of the hand; (2) the wrist joint or radiocarpal joint, the joint between the radius and the carpus and; (3) the anatomical region surrounding the carpus including the distal parts of the bones of the forearm and the proximal parts of the metacarpus or five metacarpal bones and the series of joints between these bones, thus referred to as wrist joints. This region also includes the carpal tunnel, the anatomical snuff box, bracelet lines, the flexor retinaculum, and the extensor retinaculum.[5]

**Clinical Significance**

Damage to the main trunk of the radial nerve results in a wrist drop due to paralysis of all the wrist extensors. Damage to the posterior interosseous nerve, however, leaves extensor carpi radialis longus intact, as it is supplied from the radial nerve above its division; this muscle alone is sufficiently powerful to maintain extension of the wrist. The disability produced by a wrist drop is inability to grip firmly, since, unless the flexor muscles are stretched by extending the wrist, they act at a mechanical disadvantage.[6]

**CAUSES**

The following situations may result in wrist drop

- Stab wounds to the chest at or below the clavicle–The radial nerve is the terminal branch of the posterior cord of the brachial plexus. A stab wound may damage the posterior cord and result in neurological deficits, including an inability to abduct the shoulder beyond the first 15 degrees, an inability to extend the forearm, reduced ability to supinate the hand, reduced ability to abduct the thumb and sensory loss to the posterior surface of the arm and hand.
- Broken humerus–The radial nerve can be damaged if the humerus (the bone of the arm) is broken because it runs through the radial groove on the lateral border of this bone along with the deep brachial artery.
- Lead poisoning–Wrist drop is associated with lead poisining due to the effect of lead on the radial nerve.
- Persistent injury–Persistent injury to the nerve is a common cause through either repetitive motion or by applying pressure externally along the route of the radial nerve as in the prolonged use of crutches or extended leaning on the elbows. The colloquial terms for radial nerve palsy are derived from this cause.
- Correcting dislocated shoulders–Radial nerve palsy can result from the now discredited practice of correcting a dislocated shoulder by putting a foot in the person's armpit and pulling on the arm in attempts to slide the humerus back into the glenoid cavity of the scapula.
- Neuropathy in the hands and/or arms in patients with rheumatoid arthritis may in rare cases cause wrist drop. “When a joint swell, it can pinch the nerves of sensation that pass next to it. If the swelling irritates the nerve, either because of the inflammation or simply because of pressure, the nerve can send sensations of pain, numbness, and/or tingling to the brain. This is called nerve entrapment. Nerve entrapment most frequently occurs at

the wrist (carpal tunnel syndrome) and elbow (ulnar nerve entrapment). A rare form of nerve disease in patients with rheumatoid arthritis that causes numbness and/or tingling is neuropathy. Neuropathy is nerve damage that in people with rheumatoid arthritis can result from inflammation of blood vessels (vasculitis).”[7]

**Types of wrist drop**

are distinguished by the nerves affected

- Weakness of brachioradialis, wrist extension and finger flexion = radial nerve lesion
- Weakness of finger extension and radial deviation of the wrist on extension = posterior interosseous nerve lesion
- Weakness of triceps, finger extensors and flexors = c7,8 lesion
- General weakness of upper limb marked in deltoid, triceps, wrist extension and finger extension = corticospinal lesion[7]

**SIGN AND SYMPTOMS**

- Numbness from the triceps down to the fingers.
- Problems extending the wrist or fingers.
- Pinching and grasping problems.
- Weakness or inability to control muscles from the triceps down to the fingers.
- Wrist drop – when the wrist hangs limply and the patient cannot lift it.

**DISCUSSION**

Wrist extension is achieved by muscles in the forearm contracting, pulling on tendons that attach distal to (beyond) the wrist. If the tendons, muscles, or nerves supplying these muscles are damaged or otherwise not working as they should be, wrist drop may occur. In *Ayurveda*, *Acharya* already mentioned this situation as *Marma viddha lakshan.* In *Manibandh marma,* if the injury or excessive pressure exerted then stiffness in hand or disability occurs.

**CONCLUSION**

*Manibandha marma* is *Rujakara marma* which involves anatomical structures likewise joint, radio – ulnar, radio- carpal ligaments, radial and median nerve and artery. Injury to this causes stiffness of the joint, loss of movements of joint and severe pain during movement, functional deformity of hand likewise loss of extension of wrist and fingers at metacarpophalangeal joints. By comparing the location, structures involved, causes, symptoms of injury, clinical significance of wrist drop.

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