

CONTRIBUTION OF AYURVEDA TO SPORTS MEDICINE

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INTRODUCTION

Relevance of Ayurveda

Ayurveda is art and Science of Life. The term Ayurveda (Science of life) combines two Sanskrit words *Ayu*-which means Life and *Veda*-means Knowledge or Science, comes from the Vedic civilization of India, is considered the ancient and most Comprehensive Health Care System in the world. Although practiced for thousands of years in India, Ayurveda's valuable approaches and therapies have been forgotten through its long history. The Basic principles of It are cherished in the Three Major textbooks of Ayurveda known as "*Brihat Trayee*" viz. *Shushrut Samhita*, *Charak Samhita* and *Astang Hridaya* which form the basis for the science of Ayurveda.⁽¹⁾

Sports Medicine

Sports medicine is a branch of medicine which deals with physical fitness and the treatment and prevention of injury related to sport and exercise. It has two goals to achieve. Primarily fitness of the sportsman and second goal is treating the sporting injuries of the sportsman.

The fitness of the sportsman is not merely his healthy condition but it is a state of physical and mental endurance to extreme stress. Even though the injuries of any other kind do not distinctly vary from those of sports, the aetiology and line of treatment may have to be considered with different view. Apart from the injuries, extreme fatigue and allied problems also have place in the field of sports medicine.

Concussion, muscle cramp, ACL (anterior cruciate ligament) Sprains / tear ankle sprain, shin splints, muscle strains or fracture is common sport injury.

Sports medicine has always been difficult to define because it is not a single speciality, but an area that involves many branches. Its function is not only curative and rehabilitative, but also preventive, which may actually be the most important one of the all. It can encompass an array of specialities, which including Cardiology, Pulmonology,

Orthopedic Surgery, Psychiatry, Exercise physiology, Biomechanics and Traumatology. In sport medicine, as per the type of event and the activity, treatment modality will also vary.²

Ayurveda and Sports Medicine

Sports medicine, as a separate medical speciality in medicine field, Ayurveda act as preventive and curative both side, so it is best science which play major role in sport medicine. As we go through the Ayurvedic Literature, there are no direct references regarding sports medicine. Even there is no ready-made management plans regarding sports related things. As we does not getting direct reference than most of people concluding that "Ayurveda has nothing to do with sports medicine" But when we observe with the open mind with curiosity, we find enormous things. From *Dincharya* to *Achar Rasayana* each and every things is play important role in sport science. If we carry a systematic research than Ayurveda could revolutionize & contribute a great .there are seven *Dhatu* (body tissues) that give form and shape to the human body. In sport medicine *Mamsa* (muscles), *Asthi* (bones) are main *Dhatu* & *Snayu* (ligaments), *Kandara* (tendons) are *Updhatu* which deals with sport injury. According to Ayurvedic System of Medicine functions of *Asthi* (bones) is giving shape & structure to our body. Ligaments, muscles and tendons are connected to *Asthi*. Having strong bones means having a strong body.^{3,4}

I. Symptoms of *Asthivridhi*

1. *Adhyashti* (bony-hypertrophy).
2. *Adhidanta* (extra teeth formation).

II. Symptoms of *Asthiikshya*

1. *Asthibhagna* (pathological fractures).
2. *Asthiikshaya* (osteoporosis).
3. *Asthitoda* (inflammation of bones and joints).
4. *Asthivrana* (osteomyelitis).
5. *Dwijprapatan* (falling of teeth).
6. *Phakkaroga* (rickets).
7. *Sadana* (weakness).
8. *Srama* (fatigue).

III Sports injury as per Ayurveda

1. *Bhanga* (fracture & dislocations) - bony injury.
2. *Sadyovrana* (acute wound).

3. *Snayugat Vata* (tendon & ligament injury)
4. *Vrana* (wounds).
5. *Vranashotha* (inflammatory conditions).
6. *Kandaragatvata* (Ligament / tendon injury).
7. *Mansgatvata* (Sprain & fatigue syndrome).
8. *Sandhimukta* (Joint injury-dislocations & subluxation)

IV. Treatment protocols in Ayurvedic sports medicine:

1. Management of Injuries.
2. Rehabilitations of injuries.
3. Active mobilization.
4. Passive Mobilization.
5. Strengthening.

V. Internal Medication: The main aim of it is –

1. To boost up tissue healing
2. To alleviate pain
3. In order to strengthen the injured part.

VI. External therapies: The main aim of it is-

1. To alleviate pain.
2. Strengthens joints.
3. To improve function.

VII. *Lepana/Aalepa/Upanaha*: The main aim of it is-

1. To alleviate pain.
2. To promote tissue healing.

VIII. *Kati / Manya Vasti*: It is effective in low back & cervical pain, muscular pain and fatigue syndrome.

XI. *Bandhan*: Bandage with or without oil massage. 15 types of *Vrana Bandhana* are described in Ayurveda.

X. *Anushastra Karma*: These include Para surgical Procedures including *Agnikarma* (direct heat application) and *Raktamokshan* (blood letting therapy). Both reduce inflammation, alleviate pain promote healing.⁵

DISCUSSION

References in Ayurvedic texts which can be correlated with sports medicine discussed here.

Role of *Dashvidha Pariksha*

As modern science conduct many exams for fitness like weight, chest, height, running etc. In the same way in Ayurveda there ten fold examinations are mentioned, it will be useful for selection of the Sports person.

A. *Prakruti* (Constitution of the body): The physical fitness and performance are important in sportarea. It's influenced by the constitution of the human body. There are 7 types of *Prakruti* according to *Tridosha* i.e. *Vata, Pitta & Kapha* their combinations they will remain unchanged till the death of individual. It is formed at the time of fertilization. *Vata prakruti* person can be a better athlete than a *Kapha Prakruti* person. Similarly a person specializing in chess should be *Kapha* predominant person.

B. *Vikruthi*: It guesses on the bases of *Dosha-Dushya, Prakruti, Desh, Bala, Kala*. Modern medicine can be similar to *Vikruti Pariksha* in which firstly study of disease, then study of patient and after that disease treatment.

C. *Sara* (Constitution of *Dhatus*): There are seven *Dhatus* in our body. The term *Sara* means highest purity of specific *Dhatus* i.e. *Twak, Rakta, Mams, Meda, Asthi, Majja, Sukra, Satwa, Ojosara*. Out of these the *Astisara* and *Majjasara* individuals can be a best sports person because The *Astisara* is best suitable for hard physical activities, sports and war. *Majjasara* are endowed with good physical stamina, power, knowledge and demand, dignity and respect.

D. *Samhananam* (Compactness): It decides power of person and has significance in events such as weight lifting, sprinting etc.

E. *Pramana* (Measurement): It decides the quality and strength of a person which gives idea of life of person. To be an outstanding athlete one should possess unique proportion of the body other than the normal individual.

F. *Satmya* (Suitability): In built ability to withstand. This goes hand in hand with constitution (*Prakruti*). *Oka satmya* (Charak) or *Vyayamsatmya* (Sushrut) can be dealt in detail here. *Okasatmya* means the adaptability of a person to a particular activity. It depends upon the daily activity and repetition of an activity increases the ability increases the ability of the body to continue the same.

G. Satwam (Psyche): *Satwam* is Mind. To be a good athlete one should not only have a strong body but a capable mind. It is of three types. *Pravaram* (superior), *Madhyamam* (Mediocre), *Avaram* (Inferior).

H. Aaharshakti: It depends on *Abhyavaranshakti* (quantity of food which can be eaten) and *Jaranashakti* (quantity of food which can be digested). In sport filed person need stamina so it's important examination related to diet.

I. Vyayamshakti: It is the capacity to perform physical exercise. Now days sports person are not just musculo-skeletal but it also include physical, physiological, psychological social, economic, environmental stress. An Ayurveda approach is holistic, where in it combines modalities with *Yoga & Pranayama*. It can effectively work towards stress reliving and in developing concentration.

J. Vaya (Age): It is also important factor in sport medicine, young person is best for sport because he have best energy level. As age increased body starts to degenerate hence power of person getting decreased.⁶

Role of *Snehana & Swedana* in Sports medicine:

Snehana acts as lubrication for whole body, ultimately to all joints. It makes body flexible, It is of two types Internal and external Massage (*Abhyanga*), (*Abhi*-against or opposite) and (*Anga*-body part or movement) which would enable the body to endure extreme strain. it reduces fatigue after stress and gets the power of endurance, if afflicted by injury. Modern medicine also agree with this, Massage may help to drain inflammatory exudates from injuries in the early stages (Peter N.S-1983), Connective tissue massage (Ebner-1977) is useful in management of soft tissue lesions seen in sport. It helps in reabsorption of haematoma and stimulates blood flow in the affected parts (Maughan 1981) With *Swedana* (Sudation) all toxic material, oxidants in the body removed out from body, Combine action of both is as painkiller.

Role of Performance enhancing agents

In any heavy work, person needs instant energy. In ancient times also warriors use some herbal drugs to enhance their performance during war and from which they not getting tired easily. *Acharya Charaka* describe the 50 *Mahakashaya* in *Charak Samhita*, *Brimhaneeyadasaimani* (Muscle builder), *Jeevaneeya Dasaimani* (Vitaliser), *Balakara Dasaimani* (Promotes strength) and *Sramaharadasaimani* (Promotes Cheer) drugs are said to have components that can enhance the performance level. These are non-steroidal and probably act by increasing the secretion of the biological hormones and enzymes.⁷

Marma and Sports medicine

Marmas are vital points in the body. There are 107 *Marmas* in the body, an injury to any of these marmas may cause severe pain, swelling, disability and even death. Many of which have great importance in the treatment of sports injuries, like acupressure points in Chinese medicines. Injuries, trauma are common in the sports. This can be Physically or mentally. Trauma or injury on this point can be brings disability or death.⁽⁸⁾

Role of *Panchkarma* in Sports Medicine:

Panchakarmas are Biocleaving Methods i.e. *Vamana*, *Virechana*, *Bastikarma*, *Nasya* and *Raktamokshana*. These are getting popularities due to its instant results and prevention of recurrence of disease. Sport medicine also concentrated on curative, rehabilitative and preventive like Ayurveda. Our body takes its own time for recovery of any disease. Sports Person need daily exercise and follow his schedule to achive his target. Ayurveda can gives best schedule with *Dincharya* and *Rutucharya* and *Panchkarma* can keep them healthy. Even in trauma like condition *Raktamokshana* is best which gives instant relief from pain and prevent occlusion of blood in that specific area.⁽⁹⁾

Role of *Rasayana* Therapy in Sports Medicine:

Rasayana or Rejuvenation therapy is one of the eight major clinical disciplines of Ayurveda, which plays a vital role in dealing the process of ageing. By this an individual will get longevity of lifespan, memory power, intelligence, health, youth, lusture, complexion, good voice, stronger sensory and motor organ, *Vacha*, *Raupya Bhasma* are *Rasayandravyas* which acts on *Majjavaha Strotas*. While *Abha* like *Rasayanadravya* are useful in *Asthivaha Strotas*.⁹

CONCLUSION

Ayurveda is science of life which test to time. Even sports medicine is new branch developed, still Ayurveda has all solution related to sport science. Ayurvedic medicines have potent action in acute & chronic injuries. Use of external application and internal medication found to be best in the healing of injuries and prevent oedema, stiffness, muscle wasting compared to modern treatment, It also focuses on the health aspects of sports person, including stamina and flexibility of body, Ayurveda claims no use of steroids and doping. It is highly effective in treating soft tissues injuries like ligament, tendons, meniscus without any surgical intervention. With herbal treatment the scar formation is less and tissues regeneration is speedy which enables the injured sports personalities to come back to sports field rather quickly.¹⁰

Rashtriya Ayurveda Vidyapeeth

Thus Ayurveda can be effectively incorporated in all aspects of Sports beginning from training to the treatment. The curriculum of the sports training can be effectively modified by including the Ayurvedic concepts of healthy living by following the regime. The exercises and diet can be designed based on Ayurveda and Yoga for strong physique and mind for better performance. It can also incorporate *Rasayana* therapy for building the required stamina according to the personalized needs and requirements.¹¹

Many researches have to be carried out to rejuvenate the emergency medicines and therapy methods to enhance the field of

Sports medicines with better Ayurveda medicines. This can be minimize the usage of modern medicines and hence avoid the risk of side effects for a better career and performances.¹²

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