



**SCOPE AND POSSIBLE MAGNITUDE OF PANCHAKARMA
IN SPORTS MEDICINES - A REVIEW**

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ABSTRACT:

Sports medicine is a branch of medicine that deals with physical fitness and the treatment and prevention of injuries related to sports and exercise. Data bridge market research analyses that the India Sports Medicine Market is growing with a CAGR of 14.75% in the forecast period of 2022 to 2029. The main functions of sports medicine are promotive, educative, formative, recreative, competitive, therapeutic and rehabilitative in nature. The goals of treatment for a sports injury are recovery of the injured part of the body and prevention of future injuries. Ayurveda is the oldest system of medicine with an aim, maintaining the health of healthy person and cure the illness. Though sports related injuries were not mentioned directly in Ayurvedic texts but in ancient times many Ayurvedic formulations were used by warriors to enhance their performance during war and also to heal the injuries & rehabilitation of injured muscles and

bones. Injuries in sports are increasing day by day. Injuries like muscle injury, tendon injury, ligament injury becoming more common now a day. Ayurveda has very effective remedies that can be used for preventive, curative and rehabilitative purposes in sports injury. Procedures like *Abhyanga*, *Swedana*, *Upnaha*, *Lepam*, *Bandhana*, *Dhara*, *Basti*, *Shali Shashtik Swedana* and other procedures are helpful for preventive, curative and rehabilitative purposes. Thus, an integrative approach of Ayurveda and convention science is the need of the era for promoting and improving the life of injured sportsmen.

KEYWORDS: Ayurveda, Sports medicine, Panchakarma

INTRODUCTION:

. Although most sports teams have employed team physicians for many years, it is only since the late 20th century that sports medicine emerged as a distinct field of health care. Sports medicine may be called *Sport and Exercise Medicine* (SEM), which is now well established in many countries. Although sports medicine was only established formally as a specialty in the 20th Century, the history of doctors having involvement in treating athletes goes back to ancient times in Greek, Roman and Egyptian societies.¹ Data bridge market research analyses that the India Sports Medicine Market is growing with a CAGR of 14.75% in the forecast period of 2022 to 2029. Sports medicine is the area which creates a positive environment, so an athlete converts his all genetic potentialities into phenotypic realities. The main objective of sports medicine is to prevent the damage to the human system caused mostly by inactivity i.e. lack of movement or hypokinesia due to sedentary habits of modern world with various push button facilities, automation and lack of physical exercise or the damage caused to the sportsmen because of excessive training and load in the competitive world.

Globally, the incidence of sports injuries has increased over the last few years, primarily due to the growing participation in sports as well as active participation in fitness activities. The incidence of ligament tears and fractures is high among the people participating in sports. Also, the lower extremity constitutes a major portion of sports injuries. In India, The Centres for Disease Control and Prevention (CDC) report that over 2.6 million 0-19-year-old children are treated annually in emergency departments for sports and recreation-related injuries.

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The current model of sports medicine is currently working majorly in preventive, curative and rehabilitative aspect. Preventive aspect of management of sports injuries includes administration of supplements and multivitamins to increase the strength of the muscles, ligaments, and bones. The management of such injuries is chiefly done with the principles of immobilization, pain management by NSAIDS and steroidal treatment. Studies of long term use of NSAID show that chronic NSAID use increases the risk of peptic ulcer disease, acute renal failure, and stroke/myocardial infarction.² Long term use of steroidal treatment leads to thinning of bone leading to osteoporosis.³ The R-I-C-E method is used to relieve pain and inflammation and to speed healing in cases of minor injuries. RICE means rest, ice, compression and elevation. Rehabilitation is the treatment principle used after the injury has healed. It is complete a rehabilitation program before returning to the activity that caused the injury. A plan aimed at rebuilding strength and range of motion of the injured part of the body, and easing any residual pain is designed. A rehabilitation program can help to return to previous level of activity and reduce the chance of reinjury.

THE AYURVEDIC PERSPECTIVE

Ayurveda is a life science. It amalgamates the human science with the art of living. In Ayurveda though we do not find readymade management for sports injury but close observation correct perception of implied meaning of ancient words of wisdom shows enormous possibilities in sport injury. Ayurveda can prevent sports injuries by following specific Pathya Ahara(diet), technique to rejuvenate muscles and proper Dinacharya (life style). Ayurveda have better management in various minor sports injuries. Its effective remedies that can either be used as a main therapy or as a supportive therapy in numerous orthopedic problems associated with sports.⁴

Sports injuries are due to direct, indirect, twisting force and repetitive overuse injury. The injuries are classified as soft tissue (muscle, tendon, ligament) injury or hard tissue (bone and tooth) injury.⁵ Injuries are divided into acute and chronic. In Ayurvedic point of view, Sports injury can be classified under aagantuja vyadhi.⁶ Acharya Charak has mentioned the causes of aagantuja vyadhi as patana, peedana etc.⁷ Acute sports injuries can be studied under the

headings of Aagantuja sotha, Sadyo vrana, Bhagna, Vranashopha. The aagantuja vyadhi if not treated or rehabilitated properly, it converts to nija vyadhi. Chronic sports injury can be studied under the headings of *Vaat vyadhi, Asthibhanga, Asthikshaya, Asthitoda, Asthivrana, Dwijaprapatan, Bhagna, Kandaragata vata, Mamsagata vata, Sandhimukta, Asthibhanga*.⁸

The Ayurveda management of sports medicines can be divided into 3 aspects. Preventive aspects includes – panchakarma procedures like Matra Basti , Abhyanga , Swedana , Shirodahara , Vamana , Virechana. Curative aspect includes *Taila Dhara, Basti , Sthanika Basti , Upnaha , Netra trapan , Patra pinda swedna, Nadi Swedana, Bandha, lepa*. Rehabilitative aspect includes *Yapna basti , Shirodhara , Shali shatik pinda swedana , Anna lepan , Thalam , Thala potichil , Sravanag dhara*. In the following table an attempt is made to design a brief SOP for management of most common sports injuries based on Ayurveda principles.⁹

Table 1: Brief SOP for management of most common sports injuries

Injury	Recommended procedures
Strength	<i>Shali Shatik Pinda Swedana , Yapna Basti , Matra Basti</i> ¹⁰
Endurance	<i>Marma Abhyanga, Matra Basti</i> ¹¹
Joint strength	<i>Kati , Janu , Greeva Basti</i>
Mental calmness / Performnace stress / pressure	<i>Shriodhara , Nasya</i>
Flexibility	<i>Abhyanga, Pinda Sweda</i> ¹²
FATIGUE	<i>Abhyanga</i> ¹³
Ligamaent tear	<i>Upnaha , Dhara</i> ¹⁴
Fracture	<i>Tikta Ksheer Basti, Lepam, Bandhana, Matrabasti</i> ¹⁵
Neurological injury	<i>Shirodhara, Abhyanga, Nasya, Basti</i> ¹⁶
Muscle stretch	<i>Abhyanga, Dhara, Bandhana</i> ¹⁷
Sprain	<i>Swedana, Lepam, Bandhan</i> ¹⁸
Rotator cuff injury	<i>Swedana, Lepam, Bandhan</i> ¹⁹
Tennis elbow	<i>Dhara, Swedana, Lepam, Bandhan</i> ²⁰
Hamstring strain	<i>Dhara, Swedana</i> ²¹

Hip flexion strain	<i>Dhara, Swedana</i> ²²
Dislocation	<i>Dhara, Swedana, Lepam, Bandhan</i> ²³
Bruises	<i>Dhara, Lepa, Bandhan</i> ²⁴

Discussion:

Sports medicine is difficult to define because it is not a single speciality but an umbrella area that includes various facets sports right from diet, life style, performance, physiotherapy, nutraceuticals, rehabilitation and treatment.²⁵ In management of sports injuries, if principles of Ayurveda along with procedures is integrated along with conventional medicine, it could yield positive outcomes. Ayurveda can also help in complete detoxification and rejuvenation of the musculoskeletal system. Out of various effective therapies that are helpful in sports injury or as a sports medicine, Panchakarma is one of the topmost of them.²⁶

Panchakarma in sports medicine: Panchakarma can help in preventive, promotive, curative and rehabilitative aspect to the field of sports medicine. Charaka (200 BC)²⁷ advises the massage after exercises which would enable the body to endure extreme strain. It reduces fatigue after stress. It further emphasizes that by massage, one gets the power of endurance, if afflicted by injury. Subtle massages with antiinflammatory natural oils can help with pain relief. In ligament injuries immobilization along with murivenna bandage can be applied. Fractured one has to lie in a wooden cot with 5 bolts that meant to immobilize the affected parts. Before starting vyayama abhyanga (massage) should be done to decrease vata vardhana, skin protection and increase stamina. After vyayama whole body can be massaged mildly and can drink ksheera which will remove exhaustion. One can do pratimarsha nasya after physical exercise to remove tiredness. Acharya Susruta explain udvartana i.e upward and downward movements with oils and dry powders, with the help of palm of hand and udgharshana i.e. more forceful rubbing with greater friction generally with dry powders to strength-then the calf and thigh muscles. Ayurveda explains different types of massage technique and these massages can be used according to the specific conditions to get quick relief. Below is the compilation of a protocol of Panchakarma utility in different sports, athletic activity/ injury:

Table 2: Panchakarma in preventive, promotive, curative and rehabilitative aspect to the field of sports medicine**Panchakarma techniques**

<i>Snehan</i>	Sneha pacifies abnormal vata, renders the body soft and clears the accumulated wastes in the body. It promotes the body strength and integrity of senses. It increases the power and tone of muscles, tendons and ligaments. Tarpana relaxes eye muscles, improves vision.
<i>Swedan</i>	Swedana dissolves the waste products metabolism and thereby expels out through sweating. It helps in decreasing chronic inflammation in the injury site, relaxes local musculature by physical effect of heat and thereby reduces stiffness and spasm of different muscles, increases the flexibility of the body.
<i>Udvartana</i>	Upward and downward movements with oils and dry powders, with the help of palm of hand and also fingers (Sushruta (100 BC) ²⁸ and Dalhana) ²⁹
<i>Udgharshana</i>	more forceful rubbing creating greater friction generally with dry powders. Sushruta (100 BC) ³⁰ advises Udgharshana with Phenaka (Samudraphena) to strength-then the calf and thigh muscles
<i>Utsadana</i>	very gentle rubbing especially with medicated oils
<i>Mardana & Unmardana</i>	Vagbhata (300 AD) ³¹ advises mardane i.e down ward movements of hands while squeezing the muscles after exercise. Sushruta (100 BC) ³² recommends both Mardana and Unmardadana (Opposite to the former) in Mamsagata Vata.
<i>Samvahana</i>	Gentle tingling massage with oils, which causes a pleasing sense and reduce fatigue. Samvahana helps on regaining the vitality in muscles (Sushruta 100 BC.) ³³
<i>Padaghata</i>	Massage with feet to is more vigorous and emphasis in greater pressure and crushing effect. Done only after proper ailation, possibly muscles become stronger and stress resistant.
<i>Peedana and Avapeedana</i>	Massage in which kneading of individual muscle is undertaken with the help of knuckles and fingers. Peedana is deep kneading. One more Pari-peedana is circular kneading
<i>Unvestana & Upavesthana</i>	massage applied to the limbs especially over shoulders thighs and waist. Udvestana is upward movement and upavestana the opposite.

<i>Basti</i>	Basti is the best treatment for disarranged vata dosha, whereas it can be used for all vitiated doshas. It is effective in the healing process of torn ligaments, tendons and fractured bone.
<i>Kati basti</i>	Kati basti is meant for local healing and to reduce inflammation locally. It gives strength to local muscles, tendons, ligaments etc. Local hyperthermia provides flexibility to the joints.
<i>Virechan</i>	Mild therapeutic purgatives can be used in chronic inflammatory cases of musculo-skeletal system. It helps in reducing chronic inflammation.
<i>Nasya</i>	The drug administered through nose as nasya reaches to the Shringataka marma (Sira Marma) and nourishes all the sense organs. Nasya is an easy and effective modality in the management of sports injuries.
<i>Raktamokshana</i>	Bloodletting procedures help in reducing local inflammation, pain and swelling. Leech therapy is very helpful in acute injuries.
<i>Shirodhara</i>	The procedures like Shirodhara, Murdhnitaila, Talam etc. procedures stabilize the mental faculty. Hence, helpful in the management of psychological distress related to sports.

CONCLUSION:

The goals of treatment for a sports injury are recovery of the injured part of the body and prevention of future injuries. By reviewing the concept of sports injuries in Ayurveda classics, we get to know that there are multiples of principles explained in Ayurveda in management of such injuries. Procedures like Abhyanga, Swedana, Upnaha, lepam,, bandhana, dhara, basti, shali shashtik swedana and other procedures are helpful for preventive, curative and rehabilitative purposes. Thus, an integrative approach of Ayurveda and convention science is the need of the era for promoting and improving the life of injured sportsmen.

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