

MANAGEMENT OF SPORTS INJURIES – AN AYURVEDIC CONTRIBUTION

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Article Received on
28 Jan. 2025,

Revised on 18 Feb. 2025,
Accepted on 11 March 2025

DOI: 10.20959/wjpr20256-35923



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ABSTRACT

Injuries are very common and mandatory in the field of Games and Sports. Sports injury is defined as the one that happens due to over exertion when playing a particular sport or accidents during exercising, poor training practices and use of unscientific and improper gear. Not warming up before the play or exercise can also lead to injuries. Ayurveda plays a significant role in the management of sports injuries. Sports injuries are a common occurrence in the world of athletics, ranging from minor sprains to more severe fractures and chronic conditions. While conventional treatments like physiotherapy, surgery and allopathic medicine have been the go-to options, there is a growing interest in natural, holistic, and sustainable approaches to healthcare. Ayurveda, an ancient Indian science of life, offers a unique perspective on managing sports injuries and promoting overall well-being.

KEYWORDS: Sports Medicine, Pancha Karma, Games & Sports, Endurance Enhancers, Anti – inflammatory; Rehabilitation.

INTRODUCTION:

Injuries are very common and mandatory in the field of games and Sports. They happen due to over exertion when playing a particular sport or accidents during exercising, poor training practices and use of unscientific, improper gear, and not warming up before the play.

Effect of injuries on the sports persons is of extreme nature as it may bring a halt to their

career and gives a negative impact on the future of the individual and hence prevention, treatment and rehabilitation is very essential as the injuries affect career prospects of athletes.

Major Causes of Sports Injuries:

Improper Training	Improper Gear	Faulty Techniques
Improper Warming up	Over Strain	Un – Scientific Rehabilitation
Improper Fitness	Insufficient Rest	Poor Nutritional Status

Common Sports Injuries:

Soft-Tissue	Bones	Joints
<ul style="list-style-type: none"> • Abrasion • Avulsion Injury • Bruises • Contusion • Concussion • Overuse Injury • Rotator Cuff Injury • Sprain • Strain • Tears • Whiplash Injury 	<ul style="list-style-type: none"> • Apophysitis • Comminuted Fracture • Complicated Fracture • Compound Fracture • Depressed Fracture • Green-stick Fracture • Impacted Fracture • Simple Fracture 	<ul style="list-style-type: none"> • Bursitis • Disc Prolapse • Dislocation of Hip-joint • Lower-jaw Dislocation • Shoulder Jt. Dislocation • Sub-Luxation • Achilles tendon Injury • Tennis/ Golfer's elbow • Jumpers Knee

Ayurvedic Perspective:

In the context of sports medicine, Ayurveda offers several benefits that can enhance athletic performance, prevent injuries, and support recovery. When applied to sports injuries, Ayurveda focuses on healing and restoring balance through natural means such as herbal remedies, dietary changes, detoxification, and lifestyle adjustments thereby helping them to enhance performance and endurance and thus playing a significant role in the management of Sports Injuries.

Aims	Objectives
Prevention of Injuries	To improve Strength
Early Detection & Diagnosis	To enhance Speed
Assessment of Injury	To enhance Tolerance
Relief of Symptoms /Treatment	To enhance Endurance
Boosting up Tissue Healing / Recovery	To improve Functional Integrity
Rehabilitation	To improve Flexibility
Nutritional Balance	To facilitate Active & Passive Mobilization
Physical & Mental Well being	---
Early Return to Sport	---

Important Classical References:

S.No.	Reference	Contents
1.	Charaka Samhita	<ul style="list-style-type: none"> Balance of doshas (Vata, Pitta, and Kapha) and how imbalances can lead to physical injuries. Specific chapters address trauma and the use of herbs and treatments to heal injuries.
2.	Susruta Samhita	<ul style="list-style-type: none"> This text focuses more on Physical Aspects of Sports injuries and relevant surgical practices and trauma management, detailing methods of treating fractures, dislocations, and wound healing.
3.	Ashtanga Hridaya	<ul style="list-style-type: none"> This comprehensive text touches on the treatment of different physical conditions, including musculoskeletal injuries, and offers valuable insights into treatment methodologies.
4.	Yogaratanakara	<ul style="list-style-type: none"> Though this text does not specifically have detailed chapters devoted to sports injuries, Injuries resulting from improper practices or overexertion are discussed It has provided foundation for prevention and recovery of Injuries through proper practice of correct alignment, gradual increase of intensity, listening to the body, and certain therapies. The text has suggested ways to avoid or heal them through specific asanas, breathing techniques, and lifestyle adjustments. Specific yoga asanas, postures that gently stretch and strengthen muscles are advised for prevention, recovery & rehabilitation are explained. It also touches on Ayurvedic treatments, therapies and Panchakarma procedures that complement yoga practices in the management and speedy recovery
5.	Bhava Prakasha	<ul style="list-style-type: none"> While the Bhava Prakasha is not exclusively dedicated to sports injuries, the text addresses the management of trauma and injuries, in the context of Shalya Tantra (the branch of Ayurveda dealing with surgical and trauma-related treatments). It does contain valuable information on managing injuries, fractures, sprains, and dislocations, which can be applied to sports injuries. Outlines the external measures like Oil applications, Herbal Poultices & different Bandaging Techniques, Splints from various natural sources for immobilization It has also listed number of anti – inflammatory and pain relieving and strengthening herbs for Muscles, Ligaments, Tendons, Bones & Joints Though not explicitly detailed, Bhava Prakasha has frequently mentioned different Panchakarma procedures like Abhyanga, Swedana, Virechana & Vasti etc. as a treatment for recovery from injury. The text also highlights the importance of a nutritious diet in the healing process and emphasizes to avoid foods that may increase Kapha (leading to excessive swelling) or Pitta

		(causing excessive inflammation).
6.	Bhaishajya Ratnavali	<ul style="list-style-type: none"> • While this text does not focus solely on sports injuries, it contains relevant information regarding the treatment of musculoskeletal injuries, trauma, pain, and inflammation, which can be applied to sports-related injuries. • Bhaishajya Ratnavali offers a wealth of therapeutic options for treating sports injuries, focusing on herbal remedies, topical applications, and therapeutic oils. These treatments are designed to address common sports injuries, including fractures, sprains, strains, and joint pain, while promoting recovery through holistic and natural methods. • The text provides a range of remedies to address both acute and chronic pain associated with sports injuries. These include various topical applications, Herbal Poultices, Medicated Oils and specific Herbal formulations for injuries, particularly those affecting the muscles and joints to promote proper healing and alignment of bones. • It also mentions Ayurvedic therapies that can help in the post-injury rehabilitation. These include: • Bhaishajya Ratnavali emphasizes the importance of Rest, Dietary adjustments, Hydration and Detoxification through proper fluid intake, Herbal Teas in the healing process, particularly when dealing with injuries like fractures, sprains, and strains.

Ayurveda takes a natural approach to healing and emphasizes the importance of balance in both the physical and emotional aspects of the body. In order to achieve the objectives, Ayurveda often design customized rehabilitation plans which include specific lifestyle, dietary, and herbal protocols based on the individual's injury and body type. These plans may vary from person to person, so as to suit to the specific nature of the injury and the overall constitution of the athlete.

Management:

External Measures	Internal Medication	Panchakarma Procedures
Surgical Procedures	Para – Surgical Procedures	Allied Procedures
Strength Boosters	Performance Enhancers	Marma Therapy
Rasayana Therapy	Counselling & Yoga	Nutritional Balance

- The above measures are administered basing on the Purpose, Nature of the Injury and Doshic constitution of the Individual. Following are the commonly adopted measures in Ayurvedic management of Sports Injuries and their respective benefits.

Internal Medication:

S.No.	Category	Details
1.	Single Drugs	Guggulu; Manjishta; Yashtimadhu; Raktachandana; Asthi Srinkhala; Ashwagandha; Vidari; Kadali; Musali; Bala; Kushmanda; Shaliparni; Aamra;
2.	Ghritam	Guggulu-Tikta Ghritam; Pancha Tiktaka Ghritam; Dhanwantara Ghritam;
3.	Kashayam	Dhanwantaram; Guggulu-Tiktaka; Mustadi Marma;
4.	Tablets / Gel Capsules	Marma-Gulika; Kanchanara Guggulu; Yogaraja Guggulu; Lakshadi Guggulu; Sapta Vimsati Guggulu; Simhanada Guggulu; Vranari Guggulu; Panchatikta-Ghrita Guggulu; Vata-Vidhwansani Rasa; Sanjeevani vati; Agnitundi vati; Godanti Bhasma; Dashamula ghanavati; Ashwagandha churna; Gandha Tailam; Maharaja Prasarini Tailam; Dhanwantaram;
5.	Endurance Enhancers	Balya Dasaimani; Jivaniya Dasaimani; Brimhaniya Dasaimani; Sramahara Dasaimani;
6.	Performance Enhancers	Draksha; Priyala; Barbara; Dadima; Parooshaka; Iksu; Yava; Yashti-madhu; Shastika; Phalgu; Jeevaka; Rishabhaka; Meda; Mahameda; Kakoli; Ksheera-kakoli; Mudgaparni; Mashaparni; Jeevanti;
7.	Rasayana	Ksheera; Brahmi; Shankha-Pushpi; Amalaki; Shilajith; Tulasi; Bhallataka; Pippali; Vacha; Abha; Raupya-Bhasma; Abhraka Bhasma;
8.	Phyto-Steroids	Draksha; Dadima; Parooshaka; Ikshu; Yava; Pinda-Kharjura; Priyala; Rishabhaka; Maha- Meda; Kakoli; Ksheera-kakoli; Mudgaparni; Jeevanti; Madhooka; Ashwagandha;
13.	Anu-Shastra Karma	Agni-Karma; Rakta-Mokshana;

Important Drugs:

S.No.	Drug	Action
1.	Ashwagandha	Anti-inflammatory and analgesic. It helps in muscle recovery and reducing fatigue.
2.	Shallaki	Reduces Joint Inflammation and Pain, particularly in Joints, Tendons & Ligaments and Improves Joint health
4.	Ardraka	Anti - inflammatory and is often used to reduce Swelling and to improve Circulation.
5.	Haridra	A powerful anti-inflammatory and helps in reducing Swelling and Pain.
6.	Shighru	Anti – inflammatory, Cures Pain, Swelling, wounds & Ulcers
7.	Asthi Srinkhala	Reduces Pain & Swelling and also aids in Cell reinforcement and Regeneration, increases uptake of the minerals calcium, sulphur and strontium by the osteoblasts for better and improved bone health
8.	Nirgundi	Powerful Anti-inflammatory especially of Bones, Joints, Cartilages, Synovial lining and prevents deformity

Pancha Karma Procedures:

1.	General Benefits	Relief in Pain and Inflammation; Muscle Relaxation and Tension Relief; Improved Blood Circulation & Tissue Nourishment thereby facilitates healing and faster recovery; Detoxification and Healing; Prevention of injuries caused by joint overuse:
2.	Vamana	Relief in Inflammation; Enhancing Circulation; Clearing the Respiratory Passages and increasing Lung Capacity; Detoxification:
3.	Virechana	Promotes Healing of Injuries; Decreases Stagnation of Blood; Improvement of Circulation; Detoxification; Enhancement of Joint and Muscle Flexibility; Holistic Approach to Injury Recovery:
4.	Vasti	Relief in Pain and Inflammation; Muscle Relaxation and Speeds up the removal of metabolic waste products from the injured tissues, supporting faster recovery; It helps maintain better range of motion and prevents injuries caused by joint overuse:
5.	Nasya	Promoting Relaxation and Stress Relief; Enhancing Circulation; Clearing the Respiratory Passages and improved Hormonal Balance:
6.	Rakta - Mokshana	Reduction of Inflammation and Pain; Promotes Healing of Injuries; Decreases Stagnation of Blood; Improvement of Circulation; Detoxification; Holistic Approach to Injury Recovery;

Allied Procedures:

S.No.	Procedure	Benefit
1.	General Benefits of Sweda Karma	Aids in the rehabilitation process by improving circulation and muscle tone; Reduces swelling due to fluid retention, particularly in the limbs; Alleviate muscle pain, joint pain, and stiffness; Alleviates discomfort and stiffness in the Joints; Boost the metabolic rate, which assist in weight loss and Fat burning; Helps in lymphatic drainage and boosting immunity; Helps to relieve muscle fatigue, stress; Highly useful in Recovery & Rehabilitation periods for speedy recovery; Sweda Karma is specifically recommended in conditions such as neuromuscular disorders, where there is dryness, stiffness, and pain; Prevents Chronic Injury; Promote a general sense of well-being, increase energy levels, and enhance the body's natural vitality by encouraging relaxation. Promotes better oxygen and nutrient supply to the tissues thereby speeding up the healing process and enhancing the overall health of the tissues; Speed up the recovery process for injured muscles and joints; Useful for accelerating recovery from soft tissue injuries:
2.	Shashtika Shali Pinda Sweda	Relaxes the muscles and improves flexibility; Effective for muscle aches, strains, spinal stiffness; Improves muscle tone; Ideal for individuals suffering from chronic fatigue or weakness; Speed up the recovery process for injured muscles and joints; Helps relax the body and mind by soothing the nervous system:
3.	Kaya Seka	Improves Joint Flexibility & Mobility, Soothe Muscles, Ligaments, Tendons of Spine; Reduce characteristics of Fibro-Myalgia;
4.	Bashpa Sweda	Open up the pores of the skin and Flush out impurities, waste products through Sweating; The soothing sensation relieve muscle

		tension and help in feeling relaxed and rejuvenated; Boost the metabolic rate, which assist in weight loss and fat burning:
5.	Nadi Sweda	Nadi – Sweda helps the body to release toxins and impurities through perspiration thus supporting body's natural detoxification mechanism; Promotes better oxygen and nutrient supply to the tissues thereby speeding up the healing process:
6.	Patra Pottali Sweda	Effective in reducing stiffness and improving flexibility in Spasms & Cramps; Soothes joint pains and inflammation, enhancing mobility:
7	Jambira Pinda Sweda	Muscle and Joint Pain; Muscle Weakness; General Detoxification; Chronic Fatigue or Weakness; promote healing, circulation and mobility.
8.	Churna Pinda Sweda	Musculoskeletal Pains - both acute & chronic; Sprains & Fractures; Spondylosis, slip disc, back pain; Tendonitis and Bursitis; Swelling and Inflammation; Chronic Muscle Spasms & Post – Trauma recovery:
9.	Agni Karma	Endorphin providing relief from pain, Reduction in Inflammation; Tissue Healing; Improved Joint Function:
10	Murdha Taila	Calms the Mind; Reduces Stress & Anxiety; Improves Sleep Quality; Promotes Focus & Concentration; Reduces Mental Fatigue; Relieves Head – Aches and Migraine; Balances mind-body connection and enhance overall well-being:

Yoga & Counselling:

1.	Yoga	Sasankasana; Nikunchasana; Bharadwajasana; Ardha-Matsyendrasana; Marjarasana; Vyaghrasana; Sethubandh- asana; Noukasana; Shalabhasana; Paada Hastasana; Paschimottanasana; Pranayama; Dhyana:
2.	Psychological	Visualization; Counseling:

External Measures:

S.No.	Procedure	Benefit
1.	Abhyanga	Calms Nervous system; Reduces Anxiety and Stress; Activate Parasympathetic Nervous System; Promotes Deep Relaxation; Enhances Circulation; Deliver Nutrients to Tissues; Relieves Muscle Stiffness and Tension; Improves Flexibility & Reduce Pain; Rejuvenate the Body and increase the Energy:
2.	Aalepana	Relives Muscle pain, Joint Stiffness and Inflammation, Muscle soreness; Improves the Elasticity; Reduce Muscle Spasm:
3.	Ava-Peedana	Stress Reduction; Improves Circulation; Better Sleep; Skin Nourishment; Muscle and Joint Relief; Enhanced Immunity:
4.	Bandhana	Support and Stabilization; Pain Reduction; Prevention of Swelling and Edema; Enhanced Confidence and Security; (Adhesive & Kinesiology Tape) :
5.	Lepana	Local Pain Relief; Relieves Inflammation; Muscle Relaxation; Prevents Further Damage:
6.	Mardana	Pain Relief; Stress Reduction; Improved Circulation; Better Flexibility:

7.	Paadaghata	Improves Blood Circulation; Boosts Energy; Reduces Stress; Promotes Mental Clarity; Improves Joint Health:
8.	Peedana	Pain Relief; Stress Reduction; Improved Circulation; Better Flexibility; Enhanced Lymphatic Drainage:
9.	Samvahana	Helps in the delivery of oxygen and nutrients to the tissues and organs; Promotes Lymphatic Drainage; Improves flexibility and Promotes Joint and Muscle Health:
10.	Udgharshana	Mobilizes and eliminate excess Body Fats; Aids in Weight Management by promoting Fat – Breakdown; Improves Circulation & Lymphatic Drainage; Relieves Joint-Stiffness, Soreness and pain;
11.	Udwartana	Promotes Weight Loss and Reduces Cellulites; Reduces Water Retention; Enhances Circulation and Lymphatic Drainage:
12.	Unmardana	To relieve Pain, Stiffness and to improve local circulation
13.	Unveshtana	Muscle stiffness, tension, and pain including that of Spine & Discs in Lower – Back & Pelvic areas.
14.	Upanaha	Muscle Stiffness & Joint pains & Inflammation
15.	Upa-Veshtana	Improves Circulation; Relieves Stress & Strain:
16.	Utsadana	Helps in detoxification, improving circulation, Removes Fatigue and Improves Rejuvenation:

Oils & Others for External Usage:

1.	Kuzhambu	Prabhanjana Vimardana; Dhanwantara Kuzhambu; Karpasastyadi Kuzhambu; Vatamardana Kuzhambu; Sahacharadi Kuzhambu; Balaswagandhadi Kuzhambu:
2.	Taila	Murivenna; Kottomchukkadi; Prabhanjana Vimardana; Dhanwantara; Maha Narayana; Karpura; Shashtika; Maha Masha; RasaTaila: GandhaTailam; VranaropanaTailam; PindaTailam; ShatahwadiTailam; BalaTailam; MarmaTailam; Maha-MashaTailam; KsheerabalaTailam; Narayana Tailam;
3.	Lepa	KanakaLepa; Manjishtadi Lepa; DashangaLepa; Bajaranga Lepa;

Dietary Recommendations:

S.No.	Category	Details
For Proper Nutritional Status which is essential for recovery, Ayurveda suggests foods that are easy to digest and promote healing. Some of the dietary guidelines include:		
1.	Warm & Cooked Foods	Easily digestible foods like soups, stews, and porridge can nourish the body and provide energy for recovery
2.	Anti-inflammatory Foods	Include turmeric, ginger, garlic, and green leafy vegetables to reduce inflammation and support the immune system.
3.	Proteins	Foods like lentils, moong beans, and dairy can help rebuild tissues and support muscle recovery.
4.	Hydration	Ayurveda stresses the importance of proper hydration, with herbal teas or warm water to keep the body balanced and help with detoxification.

Dos & Don'ts:

Dos	Don'ts
Customized Approach Based on Dosha	Ignoring Body's Signals
Warm-Up and Cool Down	Exercising on an Empty Stomach
Incorporating Pranayama	Overexertion especially in Pitta Season
Mindful Eating for Energy	Consuming Heavy, Hard-to-Digest Foods Before or After Exercise
Hydration with Herbal Teas	Neglecting Mental Well-being
Herbs for Recovery	Using Excessive Supplements or Herbs without Guidance
Adequate Rest and Sleep	Skiping Warm-Up and Cool Down workouts
Balance Intensity with Recovery	Ignoring Seasonal Adjustments

DISCUSSION:

Sports injuries are a common occurrence in the world of athletics, ranging from minor sprains to more severe fractures and chronic conditions. While conventional treatments like physiotherapy, surgery and allopathic medicine have been the go-to options, there is a growing interest in natural, holistic, and sustainable approaches to healthcare.

Ayurveda, an ancient Indian science of life, offers a unique perspective on managing sports injuries and promoting overall well-being.

Ayurvedic Sports medicine is intended to manage the health issues of the sportsmen in the prevention, diagnosis, treatment and rehabilitation in sport injuries, thereby helping them to enhance performance and endurance.

When applied to sports injuries, Ayurveda focuses on balancing the mind, body, and spirit to promote overall well-being and healing. Ayurveda offers several benefits like healing and restoring balance through natural means such as herbal remedies, dietary changes, detoxification, and lifestyle adjustments that can enhance athletic performance, prevent injuries, and support recovery.

CONCLUSION:

Ayurveda views sports injuries as a result of an imbalance in the body's doshas. When there's an excess or deficiency in one of the doshas, it may lead to pain, inflammation, or dysfunction of tissues, which results in injuries.

It takes a natural approach to healing and emphasizes the importance of balance in both the physical and emotional aspects of the body. By combining herbal medicine, dietary

adjustments, lifestyle modifications, and physical treatments such as massages and yoga, Ayurveda supports the healing process and enhances recovery. Hence, incorporating Ayurvedic practices into sports medicine offers a holistic and preventative approach to athlete care.

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