



HOSMAT - The Hot-Spot Healer

Modern science in the form of Sports Medicine has undoubtedly helped in improving sporting standards in the world

It was a tough decision to make for the hockey officials in India. The hero of many a matches and ace hockey goal keeper Ashish Ballal had to be left out of the list of probables who would make it to the Indian hockey team to play in Atlanta Olympics. A major injury (recurrent shoulder dislocation and biceps tendon tear) which Ballal

sustained in one of the previous international tournaments had gone against him. But remarkably enough, he was brought back to fighting fitness as a result of an extensive treatment at HOSMAT (Hospital for Orthopaedics, Sports Medicine, Arthritis and Trauma), Bangalore, given by Dr. Thomas A. Chandy. Rejuvenated by this, Ballal

had to be considered for the probables coaching camp at Madras. That he didn't make it to the final hockey team which plays in Atlanta, had reasons beyond injury. Let us not go deep into this aspect.

What is most important here is the rapid pace at which Ballal could recover from his injury. This wouldn't have been possible, if not

Sports persons treated in HOSMAT for various injuries

SPORTS PERSON	DIAGNOSIS	TREATMENT GIVEN
Ashish Ballal (Hockey)	Recurrent shoulder dislocation and biceps tendon tear	Shoulder reconstruction and tendon repair
Venkatesh Prasad (Cricket)	Thoraco lumbar sprain (Back sprain)	Physiotherapy
Anil Kumble (Cricket)	1. Right thumb ligament tear 2. Medial meniscus tear with minimal sprain of right knee (Cartilage tear)	Physiotherapy Physiotherapy and exercises
Avinash Vaidya (Cricket)	Intra vertebral prolapsed disc L2 - 81 (slipped lumbar disc)	Traction, physiotherapy & analgesics
Nisha Millet (Swimming)	Impingement syndrome with rotator cuff tear (Frozen shoulder)	Physiotherapy
Manoj Prabhakar (Cricket)	Posterior tibial tendonitis (shin splints)	Physiotherapy

for a modern scientific methodology - Sports Medicine, which has given a new lease of life to sportspersons world over. This apart, it has undoubtedly enhanced the standards of sports performance on the planet.

Ballal's case is only an example of sports medicine being instrumental in bringing a critically injured person back to fighting form. Indian fast bowlers Venkatesh Prasad and Manoj Prabhakar, long distance runner Bahadur Prasad, sprinter Rosakutty, National swimming champion Nisha Millet and a host of other reputed sportspersons have got themselves treated in sports medicine to be in top notch fitness. (See box item)

Genesis

As the Olympic movement gained



Dr. Thomas Chandy Medical Director HOSMAT

momentum and international sporting events became more competitive, participating countries were forced to adopt newer methods to work and stay at the top. This

gave rise to **exercise physiology**, a scientific method of making athletes stay fit and to excel.

A much comprehensive scientific methodology was later developed in United States which came to be known as Sports Medicine (Exercise physiology was also a part of it). This method is practised worldwide today to evaluate sportspersons in terms of fitness, improving their performance scientifically and preventing injuries. It also involves treatment of injuries, rehabilitation of sportsmen and getting them back to play using modern scientific methods.

HOSMAT a hospital, which is the first of its kind in the country, has a full fledged sports medicine department to cater to the needs of sportspersons. Sports Medicine essentially



Fitness is the keyword

Exercise physiology is the part of the Sports Medicine where technology has played a vital role. 'HOSMAT' which is the only hospital in the country specialising in Sports Medicine, has a well equipped Physiotherapy lab and rehabilitation centre for sportsmen. With a sophisticated Gymnasium having 100% imported exercise equipment, HOSMAT provides the ideal place for sportsmen to exercise, stay fit and recoup when injured.

One of the exclusive facilities available here is a unique device called 'Cybex' (commercial name Orthotron 2) which determines the overall performance of an athlete. Apart from HOSMAT only Sports Authority of India (SAI) in Patiala has this device. There are 2 separate Cybex devices in HOSMAT, one to determine the strength, power and endurance of the upper extremity which includes parts of the body above the waist and the other for the lower extremity which covers the two limbs.

'Cybex' provides a computer output of the physical fitness of human body comprehensively measured with reference to different parameters. It provides a graphic summary chart which effectively pin points the areas in which a sports person needs improvement. This also evaluates how an injured person is responding to the treatment and

his progress. 'Cybex' allows the user to vary the resistance in terms of Flexion and extension.

While Cybex helps athletes in evaluating and improving their performance, it assists the injured to evaluate the performance of the part involved in injury in comparison with the uninvolved part (for ex:- if right leg was involved in an injury then the performance of right leg in comparison with left leg is measured). This helps the doctors to know the improvement pattern of the injured part of the body. A typical graphic summary is shown in the figure below.

Apart from Cybex there are many other isokinetic exercisers (isokinetic machines are hydraulically operated machines which resist force to the unit of force put in) which pits athletes against machines. It in effect provides an opportunity for a runner to race against himself. It includes Treadmill which allows an athlete to walk and run over a roller mat powered by a motor. With the results obtained, the working of heart, efficiency of pumping and analysis of expiration of CO₂ can be derived.

The other isokinetic exercisers in the Gym include static cycles, multigyms, deltoid / trapezoids, adductors & abductors of leg, neck, foot and ankle exercisers, shoulder presses, hip flexers and static skiers.



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Viswanath.M.Iyer, Orthopaedic surgeon in HOSMAT. The Ilizarov's arrangement allows the doctors to increase the length of fixator using specially designed screws. This method was started by a Russian Orthopaedic surgeon Ilizarov more than 30 years ago and hence came to be known as Ilizarov's technique.

Another important aspect of Sports Medicine is the exercise physiology. The effective physiological functioning of muscles, its energy and endurance is of utmost importance to the normal functioning of any human being and more so to sportsmen who subject their bodies to the highest order of stress. Sportsmen need to have a very high endurance limit. For this to be achieved, the muscles should function effectively which in turn ensures proper supply of blood and hence oxygen to the muscles. So, efficiency of performance of heart and lungs and proper circulation of blood to different parts of the body are the subjects of study in exercise physiology. HOSMAT with its modern physiotherapy lab, is in a good position to study the performance of sportsmen through exercise physiology.

Sports Psychology

Sports and games are no longer forms of relaxation. The prestige of a country and the emotions of its people are at stake in international sports today, and the popularity it commands is much more than what the entertainment industry does. The unruly behaviour of Calcutta crowd during the Wills World Cup when India was facing defeat, is too recent to be forgotten. In such a situation of high competition and high expecta-

tions of spectators, the players will naturally be under immense pressure to perform well. This takes a heavy toll of sportsmen not only physically but also mentally and psychologically. This aspect of modern sports is also of high importance in Sports Medicine.

Today all major teams participating in international events have a psychologist or atleast a physiotherapist in its team combination. This is borne out of the realisation that sports psychology is an essential ingredient of modern sports.

Dr. Thomas Chandy who is also **Sports psychology prepares an athlete to have a super drive.** 'I have to win' sort of drive which makes him perform at the peak of his ability.

the Medical Director & chief of Orthopaedics and Sports Medicine and who has spent seventeen years in U.S.A practicing Sports Medicine, at HOSMAT says "Sports psychology prepares an athlete to have a super drive - 'I have to win' sort of drive which makes him perform at the peak of his ability. This superdrive or the 'killer instinct', is very much lacking in Indian sports persons. Proper psychological training will go a long way in cultivating this in them".

Sports psychology involves various mental training to develop psyche, determination, concentration and extra mental drive to convince oneself that he/she is the best. Also sports psychology imparts proper relaxation techniques which is most important in today's highly competitive sports arena.

Nutrition

The most important and often underplayed, by especially Indian sportsmen is Nutrition, which is a powerful aspect of Sports Medicine. A balanced diet is the key to a good performance for an athlete. A common problem encountered with most Indian players, says Dr. Chandy is that they insist on taking only their ethnic food which may not always provide the right combination of nutrients. This also results in lesser intake of calories. For any human being the following balanced diet is essential for a healthy life

50% Carbohydrates

35% Fat (Nonsaturated)

15% Proteins

"This is true even for athletes. But a minimum intake of 5000 calories is essential for an active sports person to be fit and energetic. Indian athletes being rice eaters consume more fats in the form rice, oil & ghee and less proteins. This can be supplemented by consumption of more Dals and Soyabean." says Dr. Chandy.

Sportsmen and authorities in the country should understand a need to adopt modern scientific methods to improve standards of Indian sports, and Sports Medicine will be a major force in this regard. HOSMAT's contribution in improving the sporting standards in the country is most valuable. The standards of Indian sportsmen seem to be on the downtrend with passing years. In order to educate the concerned about the need of Sports Medicine, "HOSMAT" has also constituted a fellowship in Sports Medicine. Adopting this scientific method will certainly help in achieving better results for Indian sports in the coming years.