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## **SPORTS INJURY REHABILITATION**

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The main concepts of sports, management is the way of arranging men, materials' and the conditions in sporting milieu so that the: goal and purposes are achieved.

Sports discipline is such area where possibility of getting injuries. remains always; it can not be stopped completely; but can be minimized by administering and managing certain preventive measures.

If the held injury do not handled properly the sports person/athlete may suffer long life. It indicates that to bring back to the sports field with one's full potentials well managed rehabilitation programmes. needed for each injured, athlete, and need of the time, physical education and sports. must undergo a managerial process in new dimension.

Why attention shall be given towards Rehabilitation programme? This cap understood by the research study cited below.

A study by the New York Public, High Athletic Association (import of .1971) Which includes over 61000 high school football players. The study showed rate of knee injury which was 15 to 17 times greater for those with previously injured knee than for players who had not sustained knee injury The remarkable side is that most of those rer ; injured had not Adequate rehabilitation programme.

An another example comes from the west point military academy study of 1969 pointed out that. 80% of knee injuries at the academy occurred in athletes previously injured in the high school. As a result of these findings; cadets with weak thigh muscles were, prohibited from; participating in contact sports. They were chenneld into a remedial programme instead, resulting; in marked decreased, in the total number of knee injuries.

Both the. study recommended. ;that. any athlete with knee, injury be palced in a 'planned rehabilitation programme under the direction of a physician.

Does it indicate the importance of rehabilitation ?

Yes, because one-the major contribution, the trainer/coach/physical educationist can make the welfare of the sports person/athletes in the area of rehabilitation.

### ***What is Rehabilitation.***

The word rehabilitation has been defined as the combined and coordinated use; of medical, social, education and vocational measures for training and retraining the individual to the highest possible level of



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functional ability".

"It is process where an injured athlete can bring to the state of his/her original physical condition to participate further sports competition".

Some of the important aspects related sports injury rehabilitation, are: **Rehabilitation council of India (RCI)**

R.C.I. is a statutory body under the R.C.I. act 1992 that came into force on 31<sup>st</sup> May, 1993 whose main function and responsibility is to regulate training policies and programmes for various categories of professional in the area of disability. It also maintain a central rehabilitation register (CRR) of persons possessing the recognized rehabilitation qualification, , Goal of Rehabilitation:

The type rehabilitation program that is prescribed frequently determines what level of athletic participation will be possible in the future. The goals rehabilitating an injured athlete are usually considered different from those for the general population. Vigorous, intense; but controlled exercises allow early return for participation, ensuring that the injured, part is as optimally conditioned.

In this connection Dr. Allman (USA) has said many times "the goal of . Rehabilitation must be restoration of. function to the greater possible degree in. the shortest possible time".Which means that rehabilitation begins at the same time as treatment of the injured part i.e. treatment and rehabilitation should blend imperceptibly into one, as an acute

care and early rehabilitation can , minimized the effects of the injury. Here aim is not necessarily to speed up healing but rather to do all that is, possible to avoid slowing it down.

The quality of rehabilitation also, influences the frequency of injury. Influencing factors of Rehabilitation programme:

- 1)The severity of the injury.
- 2) State of tissues that are healing.
- 3) type of treatment including surgery and all precautions of the particular, injury or surgical procedure affecting the rehabilitation program;



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- 4) Strength of muscles of the limb
  - 5) Pain on motion of the joint
  - 6) Range of joint motion.
  - 7) Swelling at joint
  - 8) Demands that will be made by the sports upon the injured part. Physiotherapy:-

It is the most important aspect of sports. injury rehabilitation, (where recovery is the main factor). It is used to help, prevent relieve or correct condition. that, interfere with a sports person's physical ability to function normally.

It involves treatment by such physical means as; heat, light and water. It may also include special exercises that restores the injured sport person's endurance and muscle strength.

Sports Rehabilitation Programme: An individual programme that is drawn up for each athlete is necessity. The programme should include how long, each session should last and the number of times per week that each exercise should be performed and should include long term plan that estimates when each exercise should be used.

The rehabilitation programme should be progressive and limits of discomfort are not exceeded. Minor injuries may be started on high intensity, while more serious injuries may need to begin at low to moderate intensity and then progress into the high-intensity program.,

Rehabilitation program should proceed in an orderly fashion through a number of planned stages (recovery rate). These stages generally include.

- 1) Initially-emphasis should be on cardio-vascular fitness and isometric contraction, if a joint is immobilized, exercising the opposite limbs may evoke crossover reaction and maintain muscle of the opposite limbs. Muscle stimulation is also frequently used at this stage.
- 2) When the immobilization is removed a pain -free range of motion is regained through graded exercises, proprioceptive neuromuscular facilitations (PNF) pattern, transcutaneous electrical nerve stimulation (TENS) and cry therapy. At this stage the effect of immobilization on the joint and soft tissue should always be kept in mind.



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- 3) As joint motion and flexibility return, resistance exercises can be increased.
  - 4) As strength is developed, more emphasis is placed on speed, power endurance.
  - 5) At the-last-step, specific skill pattern and sports related skills are prescribed with progressively complex drills.

#### Common mistakes In Rehabilitation

##### Programme:

- 1) It is often focused on a single muscle group only.
- 2) It is seldom continued until the injured limb is found to be equal or superior to the un injured side',
- 3) Exercises for developing proprioception are often forgotten.
- 4) Postural as well as bio-mechanical imbalances are frequently neglected when Rehabilitation program is developed.
- 5) Specific sports skills are often not incorporated into the Rehabilitation program ,

The criteria as listed below should measured during and at the end of rehabilitation program (i.e. before releasing the athlete for full activity equal measurement should be obtained from opposite uninjured side), are:

- 1) Strength of each muscle group.
- 2) Power of each muscle group.
- 3) Endurance of each muscle group,
- 4) Balance between antagonistic muscle groups.
- 5) Flexibility of the muscles around the joint that was rehabilitated.
- 6) Proprioception of the, injured joint and affected limb.



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7) Functional use of that ItmV in the required sports.

### **Conditioning Exercises for knee joint-**

- 1) Static isometric squat
- 2) Static swimming.
- 3) Extension of the leg
- 4) Static cycling
- 5) Exercise on quadriceps table
- 6) Exercise on sliding table
- 7) Exercise with iron shoes.
- 8) Static contraction.
- 9) Swimming on spot
- 10) Press on wall
- 11) Raising the heel.

### **Conditioning Exercises fur Elbow joint**

- 1) Biceps curl - Flexion and extension of the elbow joint with-weight
- 2) Triceps curl- flexion and extention of the elbow joint with reverse grip
- 3) Push up
- 4) Parallel bar dips
- 5) Wall wheel machine exercise
- 6) Pulley exercise
- 7) Flexion of the wrist alternately.



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