BHARATHIDASAN UNIVERSITY

Tiruchirappalli- 620024, Tamil Nadu, India

Department of Physical Education and Yoga

Course Title :SCIENTIFIC PRINICIPLES OF SPORTS TRAINING

Course Code : 21MPE31

Unit- (III)

Dr.A. MAHABOOBJAN

Professor & Secretary (Sports)

Dr. V.SANKARALINGAM

Guest Lecturer,

Adaptation to LOAD

- Adaptation:- Adaptation may be define as the adjustment of physical and psychological functional systems accomplished under the influence of external load, to a higher performance standard and the adjustment to the specific external conditions. The physical and psychological adaptation is the similar process which brings about changes in the functional, biomechanical and structural changes in the human body.

- The Principle of Adaptation states that when we undergo the stress of physical exercise, our body adapts and becomes more efficient. It's just like learning any new skill. At first, it's difficult, but over time, it becomes second nature. Once the sportsmen adapt to a given stress, they require additional stress to continue to make progress.
-
- But there are limits to how much stress the body can tolerate before it breaks down and suffers injury. Doing too much work too quickly will result in injury or muscle damage. Doing too little too slowly will not result in any improvement. This is why personal trainers set up specific programs that increase time and intensity at a planned rate and allow rest days.
-

OVER LOAD

- WHAT IS OVERLOAD IN SPORTS TRAINING?
- *Overload in sports training*
- *During training, the load is given to the players as per their capacity whenever this load goes beyond the capability of an individual the physiological and psychological function of a sportsman get disturb this load does not affect immediate if the administration of the overload continuous for a longer period it leads causes to decrease in the performance capacity of an individual.*

overload principle

- The overload principle demands that the work intensity be maximal that it is to be gradually increased as the individual's fitness level improves during the course of the conditioning programme. In training, loading of the body system beyond the normal is over load. It means that to improve any aspects of physical fitness, the individual must continuously increase the demands placed on the appropriate body system.
- Overloading is also called an over-training it is beyond the capacity and ability of the sportspersons which leads to a decrease in performance. It happens because of some imbalance in intensity and volume of load and recovery. It should be avoided by the coach and a sportsman.
- Some other definition of overload
- It is the state of decreased performance capacity or phenomena disturbance in normal nervous activity.
- Overload in sports training is when the body's adaptive capacity is overwhelmed by an imbalance between external and internal loads. This can lead to injury, illness, or altered performance
- The sports performance depends not only on muscular efficiency but mainly on the efficiency of the nervous system. When the nervous system gets disturb the optimum utilization of energy and metabolic process also gets disturbed. Another system of the body also does not perform to the best of their capacity.
-

Overload Principles TO FOLOW

- I. increase loads gradually and progressively. Training loads should become more intense over a period of time, not increased too abruptly or with too much intensity.
- 2.Test maximums. Through testing, the intensity of training loads can be controlled and monitored.
- 3. Avoid muscular failure. Burnout sets are not advised for most sports training. It is not necessary to train until muscles fail or the athlete collapses.
- 4. Allow ample recovery time. Too little recovery over time can cause an overtraining effect. Too much recovery time can cause a detraining effect.
- 5. Plan and monitor training loads. Design long-range, periodized training programs, test athletes, and evaluate their progress to guide training decisions about overload.
- 6.Track team and individual progress. Identify general areas where there are common deficits compared to other fitness components and skill qualities. If athletes "run out of gas", for example, training can be overloaded to improve skilled performances when fatigued.
- 7. Alternate activities. Organize workouts to allow recovery on some aspects of training while increasing intensity on others. Use periodized planning to link into weekly and daily activities.
- 8.Coordinate all training activities and schedules. Fitness training loads should be adjusted for technical and tactical activities, travel, competitions, and other factors that could influence how overloading should occur..