BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI - 620 024

(Accredited With A+ Grade By NAAC In The Third Cycle)

Department Of Physical Education And Yoga

Bachelor Of Physical Education (B. P. Ed)

CC- VII SPORTS TRAINING (21BPE31)

Sem. -III **Credit-4**

Unit-2

Training Components

Definition of Strength

- Strength is the ability of a muscle to get overcome resistance.

While playing different games and sports, the sportspersons overcome the following four types of resistance:

- Resistance of equipment.
- Resistance of own body.
- Resistance of opponent.
- Frictional resistance.

Types of strength

Maximum Strength

- It is the ability of muscle to get over resistance of maximum intensity of stimulus in a single muscular contraction. The best examples are weight lifting and throwing events (shot, discus and hammer throws in track and field).

Explosive Strength

- It is the ability of muscle to get over resistance of sub maximum intensity of stimulus as possible. The best examples are sprints, jumps, smashing in volleyball, hitting in hockey etc…

Strength Endurance

- It is the ability of muscle to get over resistance of medium intensity of stimulus for as long time as possible. The best examples are long distance races in track and field, swimming, distance cycling, wrestling, boxing etc.

Speed

- Speed is the ability to execute motor actions, under given conditions, in minimum possible time.

Definition of speed

- Speed is used in sports for such muscle reactions (motor movements) that are characterized by maximally quick alteration of contraction and relaxation of muscle.

Types of speed or forms of speed

Reaction speed

- It is the ability to respond to a give stimulus as quickly as possible. The different forms of stimuli experienced in sports are visual, optic and tactile.

Speed movement

- It can be defined as the maximum speed of contraction of a muscle or a chain of muscle in a single course of movement e. g. jumping, throwing, kicking etc. it depends to a great extent on explosive strength and technique.

Acceleration speed

- It is the ability to increase speed from jogging to running and finally sprinting. This form of speed, to a great extent, depends upon explosive strength, frequency of movement and technique.

Sprinting speed (loco motor speed)

- It can be defined as the ability to maintain maximum speed of locomotion over as long distance as possible for maximum possible duration.

Speed endurance

It is defined as the ability to perform motor movements as possible, under conditions of fatigue. It is a combination of speed and endurance ability. This ability depends upon anaerobic capacity, psychic factors and level of skill.

Flexibility

- Flexibility, often also referred to as joint mobility or suppleness, can be defined as the ability to perform movement with greater range of motion or large amplitude. It is the controlled partly by the energy liberation process of the body and partly by the coordinative processes of central nervous system.

Forms of flexibility

Flexibility can be classified into two types.

Passive flexibility

- It is the ability to perform movement with greater range with external help e.g., doing stretching movement with the help of a partner. This flexibility is generally dependent on the anatomy of the joint and extensibility of the muscles and ligaments.

- **Active flexibility**
- It is the ability to perform movement with greater range without external help i.e., with the help of muscular force e.g., performance of a stretching or mobility movement by the sportsman himself with the help of muscular force. Active flexibility is always less than passive flexibility.

Active flexibility is divided into two types:

Static flexibility - Ability to perform movement with large amplitude from a stationary position i.e. standing, sitting and lysing e.g., arm circling from standing position, forward trunk bending from long sitting position.

Dynamic flexibility - Ability to perform movements with large amplitude when the body is in motion e.g. running, jumping, kicking, hitting etc.

- Besides above forms of flexibility, some other terms are also used e.g., general flexibility and special flexibility. The term general flexibility describes flexibility of all joints of the body whereas special flexibility denotes ability to perform specific movements of a game or a sport with greater range.

Endurance

- Endurance is also a conditional ability depends on the liberation process. It is the ability to delay the onset of fatigue for a long time and also the ability to recover quickly from he fatigue.

Definition

- Endurance is the ability to resist fatigue.
- Endurance is the ability to do sports movements with desired quality and speed under conditions of fatigue.

Types of endurance

- Endurance can be classified according to

  Nature of activity.

  Duration of activity.

Nature of activity

i) Basic endurance

- It is the to do movements involving large number of muscles at a slow pace for prolonged periods eg: jogging, swimming and walking at moderate speed for periods lasting more than 30 minutes.

ii) General endurance

- it is the ability to do sports movements of general nature under conditions of fatigue. Genera endurance is not specific to any sports and is developed through general exercises. This ability helps to do various types of movements with higher or lower intensity for sufficiently long period without getting tired.

iii) Specific endurance

- it is the to do sports movements of a particular sport under conditions of fatigue. Depending on the nature of sport the specific endurance may be largely determined by aerobic or anaerobic metabolism or the combination of both.

E.g. The endurance needed for a 10,000 mts runner to cover the distance in minimum time the conditions of fatigue.

Duration of activity

- This is based on the fact activities of different durations are made possible by different combination of aerobic energetic process. Therefore, activities of different duration depend upon different biological and psychological factors.

Speed endurance

- This ability is required for the cyclic activities lasting up to 45 seconds. The 400mts sprint is the classical example for speed endurance ability.

Short time endurance

- This endurance ability is needed for cycle activities lasting from about 45 seconds to two minutes. The 800m run is the typical example for short time endurance.

Middle time endurance

- This endurance ability is needed for cyclic activities lasting from about 2 – 11 minutes. 1500m run and 3000m steeplechase are the typical examples for middle time endurance.

Long-time endurance

- This endurance ability is needed for cyclic activities lasting from about more then 11 minutes. The 1500m swimming and marathon are the typical examples for long time endurance.


thank
you