Physical Condition

Basic Physical Capacities: These are the basic components of Physical Education, therefore, in order to improve physical performance, work to develop must be based on the training of different capacities. These capacities are:

- Strength, speed, endurance and flexibility.

- Health: Traditionally, the concept of health has been understood as absence of disease. However the World Health Organization (WHO) defined it as "the state of complete physical, mental and social well-being and not merely the absence of disease."

- Physical Activity / Healthy Sports: It’s one that contributes in some way and with minimal risk to the person who practices physical, mental and social well-being.

There are another capacities or abilities which take part in physical condition like balance, coordination, agility, etc.

1. ENDURANCE

Endurance is part of what have been called as Basic Physical Capabilities and also stand at the basis of fitness and health.

- It can be defined as "the physical and mental capacity that the athlete has to support fatigue versus relatively long efforts and / or the ability to quickly recover after finishing the effort."

- Fatigue is defined as the decrease in performance capacity.

- Subjective symptoms of fatigue: dizziness, muscle pain, weakness, eye blinking etc.

TYPES OF ENDURANCE

Aerobic Endurance
The ability of the body to make efforts medium or low intensity for a long period of time and with enough oxygen. The heart rate in this type of effort is between 140 and 160 ppm. It is going to have a better impact on our health.

Anaerobic Endurance
The ability of the body to make efforts intensive but in a short period of time in conditions of low oxygen.
Effects of endurance training

- Increase of heart cavity, which will allow the heart to store more blood throughout the body.
- Therefore, thanks to the aerobic work, the heart will work more efficiently and effectively.
- Increase in the thickness of the heart wall (work anaerobic).
- Improve the functioning of the respiratory system.
- The set of changes that occur in the system with the practice of physical activity, are closely related to the cardiovascular system. Cardio respiratory structures become more efficient and effective.
- A high endurance capacity provides a strong basis and stability for overall health.
- Although the endurance is trainable in all ages, the sensitive phase is situated at puberty due to the increased size of the rib cage and therefore the heart and lungs. It is for this reason that, in aerobic endurance training at this stage affects the later performance capacity.

Training methods for improving the endurance

- **Continuous running to a uniform rate**: consists of running form continuously, that is, for a long period of time to a slow, medium or fast rhythm.
- **Continuous running to a variable rate**: It consists of running form continuously, that is, for a long period of time by changing the intensity of the race.
- **Continuous running to a progressive rhythm**: The running starts slowly and gradually it is increasing.
2. STRENGTH

Strength from the point of view of Physical Activity and Sport represents the ability of an individual to overcome or support resistance. This ability of the human being is given as a result of the muscular contraction.

TYPES OF STRENGTH

- **Maximum strength**
  - Ability to raise a maximum load.
  - (weight lifting).

- **Strength-speed**
  - Ability to mobilize a no maximum load on the lower time possible.
  - (shot put).

- **Strength endurance**
  - Ability to mobilize a no maximum load for a period of time (cycling).
  - This one is going to have a better impact on our health.

POSITIVE EFFECTS AND RISKS IN STRENGTH TRAINING

**Positive effects:**

- Increase the volume-muscle size and strength it can generate.

- Increase in muscle capillaries (through capillaries perform exchanges O2, CO2, nutrients and waste products between blood and tissue cells of the body).

- Increases muscle tone, which helps maintain a correct body posture in our daily lives.

**Risks:**

These are given as a result of inadequate implementation of strength training.

**Negative effects:**

- Trouble on joints and bone growth if apply excessive loads on growth ages.

- Deformities of the spine if the exercises are performed adopting incorrect or overweight positions.

- Muscle injuries due to lack of warm up.
3. FLEXIBILITY

It can be defined as "the ability that allows movement in all its range, either a body part or all of it." This capability is directly related to health.

DETERMINANTS OF FLEXIBILITY

- **Joint Mobility**: Ability to move with the joints. The range of motion will depend on the structure of the joint itself.
- **Extensibility**: Ability of muscle to be extended without in normal ranges, suffer any damage.
- **Elasticity**: The ability of the muscle to return to its original state once it has been extended or shortened.

Flexibility = + Joint Mobility + Extensibility Muscular + Muscular Elasticity

TYPES OF FLEXIBILITY

**Static Flexibility**

Ability to make large movements without emphasis on speed of execution.

**Dynamic Flexibility**

Ability to make large movements putting some emphasis on the speed of execution.

POSITIVE EFFECTS AND RISKS AT WORK OF FLEXIBILITY

**Positive effects:**
- Improved range of motion and joint function. Increase of the ability to perform tasks of daily life and tasks sports.
- Prevents muscle damage and improve the treatment of the same.

**Risks:**
- If you do flexibility exercises without heating up your body, there is a greater risk of injury.
- It must not exceed the limits of muscle extensibility (overstretching).
- Avoid rebounds for stretching.
4. SPEED

From the point of view of Physical Education, "speed is the ability of an individual to do motor actions in the shortest time and maximum efficiency".

It is important to include a warm up as the first part of any speed training exercise. Simply stretching and jogging for ten or more minutes is usually a sufficient warm up. Likewise, it is important to cool down after a demanding session of speed training exercises. Light stretching and jogging can help keep the body from getting hurt.

SOME IMPORTANT FACTORS OF SPEED

✓ Speed is a basic physical ability influenced by others, but strength stands as the most determining capacity.
✓ The highest percentage comes from fast fibres (white), compared with slow fibres (red). It is a matter of inheritance, it is said that "the sprinter is born and distance runner is made."
✓ The muscular elasticity degree y and extensibility.
✓ The intramuscular and intermuscular coordination.
✓ The muscle temperature.
✓ The motivation and willingness degree to make the effort.
✓ Etc.

OBJECTIVES INSIDE THE TYPES OF SPEED

- In the movement speed: it is important to reduce the time wasted on cover a given distance.
- In the reaction-speed: reducing the time it takes to react to a stimulus or signal.
- In the acceleration: reducing the time it takes to accelerate to achieve optimal speed quickly.
- The maximum speed: achieving maximum speed in a displacement in the shortest possible time.
- The speed endurance: trying to maintain an optimal speed as long as possible.