

## WARMING UP AND COOL DOWN:

### WARMING UP

Warming up is a set of exercises previously conducted before any physical activity or sport.

First some general exercises targeting to the whole body and after them more specific ones in terms of later activity. The objective of these exercises is to start every organic system of the athlete.

### WARMING UP TARGETS

The aims of warming up **performance** are mainly to prevent **injuries** and to prepare the athlete physically (muscles and joints), mentally (nervous and concentration) and physiologically (increase heart and breathe rate, amount circulatory blood and oxygen increased, and specific metabolism procedures), for the beginning of a physical activity, as would be a training or higher **effort** if competition.

### WARMING UP PARTS:

a. **General warming up:** With general warming up we are looking for the **involvement** of large muscle groups. In General warming will plan general activities aimed at medium intensity to revolve so that large muscles and joints can be properly prepared for their function; its goal is the launching of the whole organism. From 5 to 10 minutes may be enough.

1<sup>a</sup> **Activation:** exercises and / or games involving the whole body. Its aim is the overall stimulation of the body with moderate intensity exercise, involving as many muscle groups as possible. (Run slowly 3-4 minutes)

2<sup>a</sup> **Joint and muscular mobility:** static and dynamic exercises and / or games aimed at the specific mobility of each body segment. (See de picture below)

3<sup>a</sup> **Stretching** aimed to muscular group is being used after.

4<sup>a</sup> **Explosive movements:** high intensive exercise, it should be done progressively, for example increasing speed in a short race.

b. **Specific Warming up:** focus on muscle groups, fine **coordination** and specific **skills** for further activities. In the specific warming up we will plan exercises and movements directly related to the principal activity of the session, for example, if we are going to play basketball, make lay-out to the basket or play ten passes game in small groups. From 5 to 10 minutes.

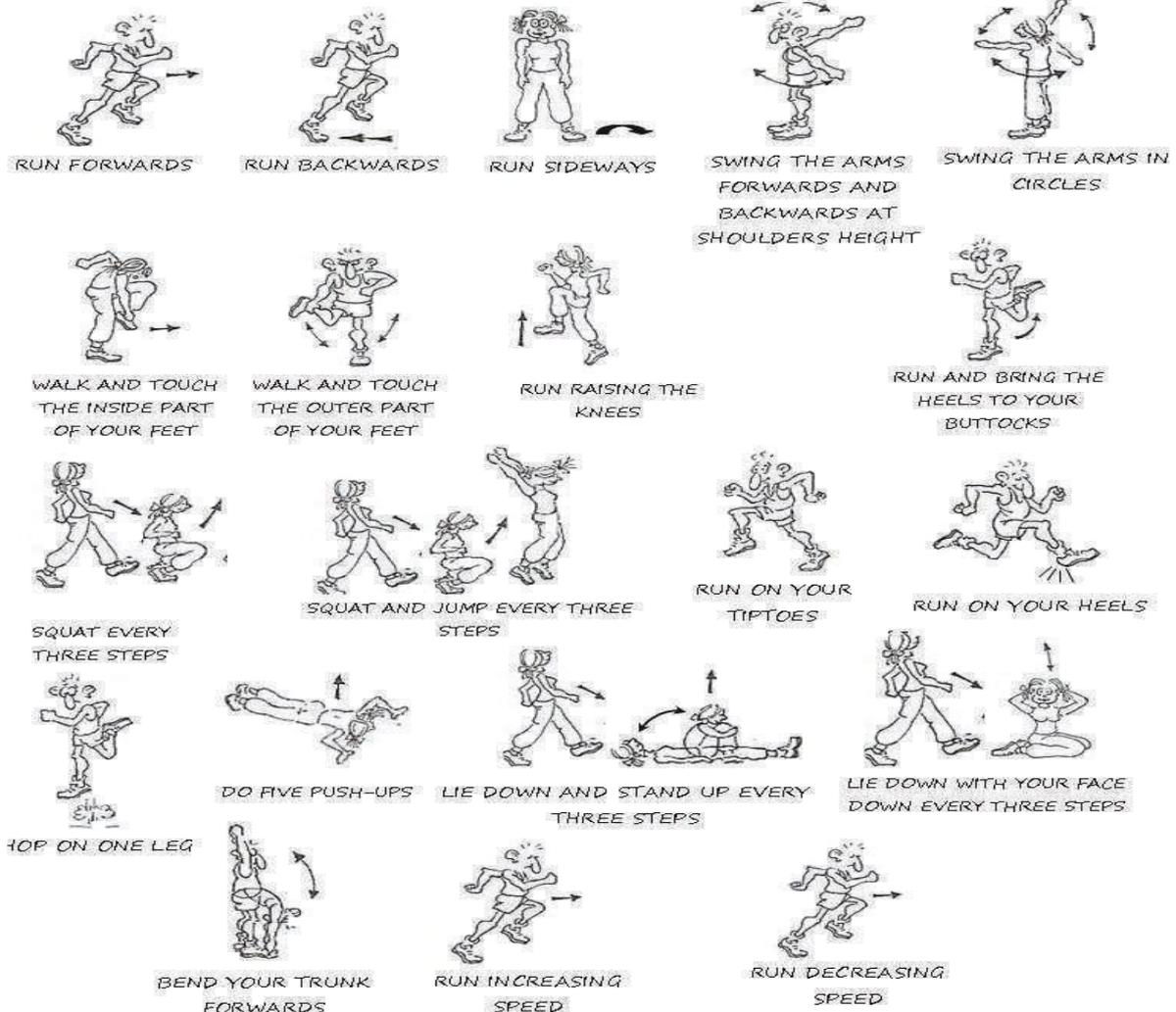
Warming up profits disappear around 6-10 minutes after finish it. You should start the main activity in this period; if you want to maintain the warming up effects.

## COOLING DOWN

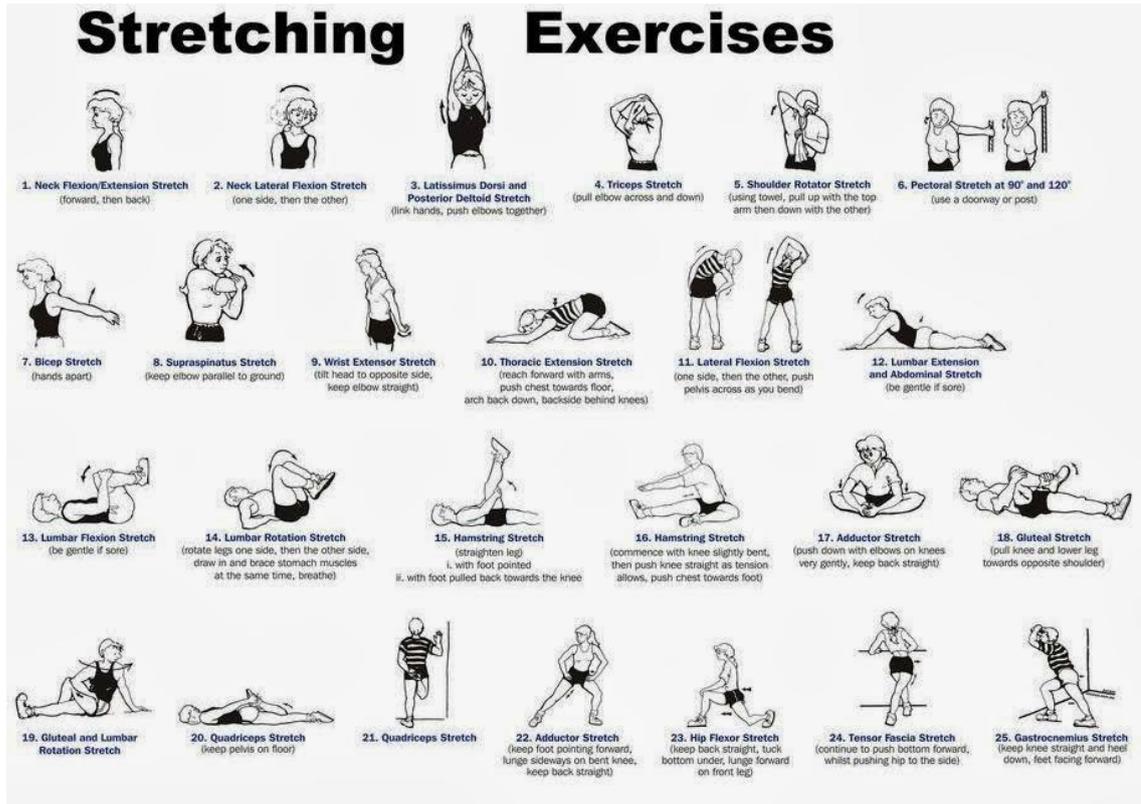
Cooling down is a group of exercises that opposite to the warm up, try to soften the abrupt change from activity to rest. Like in the warming up, there are two phases:

1. **Active phase:** a more light activity, usually jog for two or three minutes is done, to help the body to complete remove waste products accumulated during the last phase of the exercise. They should be soft not to continue accumulating them.
2. **Passive phase:** mainly composed of stretching exercises. These are carried out to help the muscle to recover its resting length, due to after exercise the muscle is shortened. Thus help provide muscle injuries and contractures. Besides this passive phase may contain exercises and muscle relaxation massage or body discharge the major muscle groups, carried out independently or with the help of a partner.

### THE GENERAL WARM UP



**NOW DO THE STRETCHES FOR THE MUSCLES. NO MORE THAN 20" EACH**



## WHY DO WE WARMING UP?

Warming up helps to us to prepare our body (physiologically: muscles, joints, heart, vessels...) and mind (psychologically: motivation, concentration, attention...) to practice activities with higher intensity than normal activities. To achieve it, warming produce:

1. In a **physiologically** point of view:

- Increased body temperature:** the correct warm up produces an increase in body temperature, this results in increased muscle elasticity, decrease joint stiffness and increased oxygen uptake by muscle fibers. This predisposes to injury prevention: it helps all body parts prepare for further effort, so the risk of injury decreases.
- Increased heart rate:** the heart **accelerates** with increasing frequency, and cardiac output in proportion to exercise intensity (it will cause a smaller deficit of oxygen to start the activity with a previous supply).
- Increased blood pressure.**
- Increased blood volume:** Heart rate increase **sends** more blood to the organs and systems that involve driving more substrates and oxygen to the muscle metabolism and greater removal of waste products.

- e) **Increased respiratory rate:** Due to a demand oxygen increase by the muscles, the body accelerates the breathing rate, increasing the uptake of air, and therefore oxygen.
- f) **Neuromuscular processes improvement:** Warming up prepares the nerve endings to function properly at the right time and the chains forming the transmission of sensations from the muscles to the brain. Warming up favors situations in advance in sports and facilitates neuromuscular coordination between agonist and antagonists.

2. In a physiologically point of view:

- g) Warming up helps us to start the activity with **motivation** to achieve the aims. It induces to a state of **mental alert** an optimum excitation level of the nervous system. Among other benefits we highlight:
  - a. It decreases anxiety exercise as it increases motivation and self-confidence in pursuing the goal.
  - b. It promotes concentration and motivation: warming up introduces the person progressively in the exercise to be performed. All physical activity requires perfect coordination between the mind and the body of the person.