

Physiology and Benefits of Exercise

What is exercise?

1. Exercise is an activity that results in contraction of skeletal muscle. The term is usually used in reference to any activity that improves physical fitness. Although muscle contraction is the common element of all forms of exercise, many other organs and systems are affected, for example, the heart and lungs.

Basic physiology of exercise

2. Contraction of skeletal muscles, the muscles under conscious control, is the primary physiological event during exercise. Because skeletal muscles can actively contract, but are not designed to actively lengthen, they are arranged as opposing pairs. As one muscle shortens, another is stretched. An example of such a pair of muscles can be observed in the upper arm, where the biceps and triceps have opposite actions.

Anaerobic exercise

3. This type of exercise involves heavy work by a limited number of muscles, for example during weight lifting. These types of activities are maintained only for short intervals, and the supply of oxygen is insufficient for aerobic metabolism, resulting in a substantial oxygen debt. This exercise increases strength and muscle mass, but is of limited benefit to cardiovascular health.

Aerobic exercise

4. This type of exercise uses oxygen to keep large muscle groups moving continuously at an intensity that can be maintained for at least 20 minutes. This form of exercise uses several major muscle groups throughout the body, resulting in greater demands on the cardiovascular and respiratory systems to supply oxygen to the working muscles.

Benefits of exercise

5. Regular exercise reduces the risk of death due to heart disease and stroke, aids in reducing weight, strengthens bones, and enhances immune function. The psychological benefits are also broad. It is clear that regular exercise, along with a generally healthy lifestyle, is beneficial.