

OBESITY MANAGEMENT

UNIT 3.2 : AEROBIC AND ANAEROBIC ACTIVITIES

Aerobic and anaerobic activities or exercises are excellent forms of physical fitness. Most often when we think about exercise, we think aerobic. For most people, low to moderate exercise or exertion is generally aerobic. In Aerobic exercise, oxygen is carried through the breath to the muscles giving them the energy needed to sustain the effort. Oxygen is not present with anaerobic exercise. Presence of oxygen is the key difference between both forms of exercise. While anaerobic exercise uses energy from muscles, aerobic exercise uses the energy stored in the body from carbs, proteins, and fats in combination with the oxygen we breathe to make energy readily available to the muscles.

Aerobic Exercise

Aerobic is defined as "occurring in the presence of oxygen." So, the exercise done in the presence of oxygen is called Aerobic Exercise. **It** refers to how the body uses oxygen to sufficiently meet energy demands during exercise.

Aerobic exercise is any physical activity that makes you sweat, causes to breathe harder, and gets the heart beating faster than at rest. It strengthens the heart and lungs and trains the cardiovascular system to manage and deliver oxygen more quickly and efficiently throughout the body.

When we exercise aerobically, our bodies use glycogen and fat as fuel. This low to moderate level of exertion can be sustained over long periods. We're maximizing the amount of oxygen in the blood. The heart rate goes up, increasing blood flow to the muscles and back to the lungs. As one breathes more heavily, with exertion, carbon dioxide is expelled from the body. These exercise uses the large muscle groups, is rhythmic in nature, and can be maintained continuously for at least 10 minutes.

➤ ***Benefits of aerobic exercise***

In addition to strengthening the heart and cardiovascular system, participation in regular aerobic exercise has many health benefits. Aerobic exercise:

- may increase the endurance and reduce fatigue during exercise.
- activates immune system.

- strengthens the heart.
- boosts mood.
- may help to live longer than those who don't exercise.
- helps build lean muscle mass.
- may help lower and control blood pressure.
- Improves circulation and helps the body use oxygen better
- Increases energy. Mitochondria inside the muscle increase.
- Helps reduce the risk of developing heart disease
- Helps reduce the risk of developing diabetes
- Helps reduce body fat
- Helps you reach and maintain a healthy weight
- Helps reduce stress, tension, anxiety, and depression
- Improves sleep
- Improvement or maintenance of mental health
- Stimulate bone growth

➤ ***Types of Anaerobic Exercise***

1. jogging
2. brisk walking
3. swimming laps
4. aerobic dancing, like Zumba
5. cross-country skiing
6. stair climbing
7. cycling
8. elliptical training
9. rowing
10. Cross-Country run

➤ ***Risk of aerobic exercise***

Aerobic exercise can benefit almost anyone. But get the doctor's approval if you've been inactive for a long time or live with a chronic condition. If you're new to aerobic exercise, it's important to start slowly and work up gradually to reduce the risk of an injury. For example, start by walking 5 minutes at a time and add 5 minutes each time until you're up to a 30-minute brisk walk. Some drawbacks of aerobic exercise include:

- Overuse injuries because of repetitive, high-impact exercise such as distance running
- Is not an effective approach to building muscle
- Not an effective form of fat loss, unless used consistently.

ANAEROBIC EXERCISE/ ACTIVITY

Anaerobic exercise, a higher intensity, is different from aerobic exercise. Anaerobic exercise is a very common and effective workout. It is an activity that breaks down glucose for energy without using oxygen. Generally, these activities are of short length with high intensity. The idea is that a lot of energy is released within a small period of time, and the oxygen demand surpasses the oxygen supply. When you begin to exercise vigorously, there is a temporary shortage of oxygen getting delivered to the working muscles. That means anaerobic exercise must be fuelled using glucose through a process called glycolysis.

Glycolysis occurs in muscle cells during high-intensity training without oxygen, producing energy quickly. This process also produces lactic acid, which is the reason why the muscles get so tired after the energy burst. By engaging in anaerobic exercise regularly, the body will be able to tolerate and eliminate lactic acid more effectively. That means you'll get tired less quickly.

➤ ***Types of Anaerobic Activities***

Exercises and movements that require short bursts of intense energy are examples of anaerobic exercises. These include:

- weightlifting
- jumping or jumping rope
- sprinting
- high-intensity interval training (HIIT)
- Biking
- calisthenics, like plyometrics, jump squats, or box jumps

➤ ***The benefits of anaerobic exercise:***

If anaerobic exercise sounds like a lot of work, that's because it is. But the benefits that come with the intense fitness regime are enough to make you want to power through the next workout. Some of its benefits are as follows:

- Increases bone strength and density
- Promotes weight maintenance
- In addition to helping the body handle lactic acid more effectively, anaerobic exercise can help you maintain a healthy weight.
- One study^{Trusted Source} examining the effects of high-intensity training found that while the effect of regular aerobic exercise on body fat is small, HIIT training can result in modest reductions in stomach body fat.
- Increases power or strength
- Boosts metabolism: Anaerobic exercise helps boost metabolism as it builds and maintains lean muscle. The more lean muscle you have, the more calories you'll burn during the next sweat session. High-intensity exercise is also thought to increase the post-workout calorie burn.
- Increases lactic threshold: By regularly training above the anaerobic threshold, the body can increase its ability to handle lactic acid, which increases the lactic threshold.
- Fights depression
- Reduces risk of disease
- Protects joints

- Boosts energy: Consistent anaerobic exercise increases the body's ability to store glycogen (what the body uses as energy), giving you more energy for the next bout of intense physical activity. This can improve the athletic ability.
- Takeaway: Anaerobic exercises push the body and lungs to rely on energy sources stored in the muscles. The meaning of the term translates to "without oxygen." Practicing simple anaerobic exercises, like high-intensity interval training, sprints, and heavy weight training can reap the benefits of this powerful workout.

➤ ***Risks of anaerobic exercise***

Anaerobic exercise can be hard on the body. On a 1 to 10 scale for perceived exertion, high intensity anaerobic exercise is anything over a seven. It's not typically recommended for fitness beginners. Get the doctor's approval before adding anaerobic workouts to the routine. Work with a certified fitness professional who can help you create an anaerobic program based on the medical history and goals. Performing the exercises with proper technique is important for preventing an injury.

Sleep disturbances may be a sign of too much anaerobic activity. Excess anaerobic exercise can break you in the form of injuries, fatigue, chronic inflammation and weight gain.