

**AEROBICS: THE BODY TRAINER FOR KEEP FIT****Hinal S. Mehta and Prof. Dr. Dhrubo Jyoti Sen***

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ABSTRACT

Aerobic literally means "with oxygen", and refers to the use of oxygen in muscles' energy-generating process. Aerobic exercise includes any type of exercise, typically those performed at moderate levels of intensity for extended periods of time that maintains an increased heart rate. In such exercise, oxygen is used to "burn" fats and glucose in order to produce adenosine tri-phosphate, the basic energy carrier for all cells. Initially during aerobic exercise, glycogen is broken down to produce glucose, but in its absence, fat starts to decompose instead. This latter is a slow process and is accompanied by a decline in performance level. Aerobics is an effective physical exercise which is often done to music. It can be defined as "any activity that uses large muscle groups, can be maintained continuously and is rhythmic in nature." Aerobic exercise is any repetitive activity that you do long

enough and hard enough to challenge your heart and lungs. In order to work your heart and lungs hard enough, you must get your largest muscle groups involved. They include your legs, gluts, back and chest. It is a type of exercise that overloads the heart and lungs and causes them to work harder than at rest. The important idea behind aerobic exercise today, is to get up and get moving!! There are more activities than ever to choose from, whether it is a new activity or an old one. Find something you enjoy doing that keeps your heart rate elevated for a continuous time period and get moving to a healthier life.

There are various types of aerobic exercise. In general, aerobic exercise is one performed at a moderately high level of intensity over a long period of time. For example, running a long distance at a moderate pace is an aerobic exercise, but sprinting is not. Playing singles tennis, with near-continuous motion is generally considered aerobic activity, while golf or

doubles tennis, with their more frequent breaks, may not be. Aerobic exercise is a fabulous workout that not only helps in maintaining your fitness level, but also makes your heart stronger. There are distinct forms of aerobics like cycling; biking, jogging, running, swimming, dancing etc. You can also carry out your aerobic workout on different machines in the gym like treadmill, stationary exercising bike, stair-stepper etc.

*Aerobic exercise is like **Aerobic Dance, Bicycling, Cross Country Skiing, In-Line Skating, Fitness Walking, Jumping Rope, Running, Stair Climbing, Swimming.***

The benefits of aerobics are (1) Increased maximal oxygen consumption (VO₂max) (2) Improvement in cardiovascular/cardio respiratory function (heart and lungs) (3) Increased maximal cardiac output (amount of blood pumped every minute) (4) Increased maximal stroke volume (amount of blood pumped with each beat) (5) Increased blood volume and ability to carry oxygen (6) Reduced workload on the heart (myocardial oxygen consumption) for any given sub maximal exercise intensity (7) Increased blood supply to muscles and ability to use oxygen (8) Lower heart rate and blood pressure at any level of sub maximal exercise (9) Increased threshold for lactic acid accumulation, Lower resting systolic and diastolic blood pressure in people with high blood pressure (10) Increased HDL Cholesterol (the good cholesterol) (11) Decreased blood triglycerides (12) Reduced body fat and improved weight control (13) Improved glucose tolerance and reduced insulin resistance.

Health benefits of aerobics are Aerobic exercise confers many health benefits. Burning calories effectively and increasing the basal metabolic rate, accomplished by regular aerobic exercise, both aid in weight loss.

There are innumerable health benefits of aerobics, some are given below:

(1) It helps in utilizing oxygen more efficiently, thereby paving way for increased fat burning (2) The chances of having diabetes and other diseases are largely reduced (3) If you are keeping unwell, then aerobics exercise can help you a great deal in faster recovery (4) Aerobic also acts as a fantastic stress relieving therapy (5) Strengthening the muscles involved in respiration, to facilitate the flow of air in and out of the lungs (6) Strengthening the heart muscle, to improve its pumping efficiency and reduce the resting heart rate (7) Toning muscles throughout the body which can improve overall circulation and reduce blood pressure (8) Increasing the total number of red blood cells in the body, to facilitate transport of oxygen throughout the body (9) Regular, vigorous aerobic activity can, as a result, reduce

the risk of death due to cardiovascular problems (10) High-impact aerobic activities (such as jogging or jumping rope) can stimulate bone growth, as well as reducing the risk of osteoporosis for both women and men.

Thus, it can be said that it helps to maintain your overall fitness, on one hand it enables you to have a beautiful fit body and on the other hand, it ensures that your mind remains stress free.

Aerobic capacity describes the functional status of the cardio respiratory system, including, for example, the heart, lungs or blood vessels. Aerobic capacity is defined as the maximum volume of oxygen which can be consumed by ones muscles during exercise. It is a function both of one's cardio respiratory performance and of the ability of the muscles to extract the oxygen and fuel delivered to them. To measure maximal aerobic capacity, an exercise physiologist or physician typically directs a subject to exercise on a treadmill, first by walking at an easy pace and then, at set time intervals during graded exercise tests, gradually increasing the workload. The higher a cardio respiratory endurance level, the more oxygen transported to exercising muscles and the longer exercise can be maintained without exhaustion. Higher aerobic capacity means the higher the level of aerobic fitness. In the present times, carrying out aerobics has become the most happening workout trend among the youth. Not only is performing aerobic exercise interesting, but also is very beneficial for health. Aerobics is very popular with women who do it together in a group following an instructor or alone in front of the television. Girls are usually fond of dancing, so why not use hobby to keep one fit. These days; it has actually become a trend of joining aerobic dance classes. The best part about the aerobic dance is that, not only it helps in keeping you in shape, but also it's a fun time activity, for which you don't mind sparing time, because you derive pleasure in doing it. Even a person who always tends to escape from exercising, the right aerobic type is fitness walking. Aerobic is now going to be a part of one's life and very close to be a lifestyle.

KEYWORDS: VO₂, Lactic acid cycle, Pyruvic acid, Aerobic, Anaerobic, Glycolysis, Aerobic Dance, Bicycling, Cross Country Skiing, In-Line Skating, Fitness Walking, Jumping Rope, Running, Stair Climbing, Swimming.

INTRODUCTION

Aerobics is a form of physical exercise that combines rhythmic aerobic exercise with stretching and strength training routines with the goal of improving all elements of fitness (flexibility, muscular strength, and cardio-vascular fitness). It is usually performed to music and may be practiced in a group setting led by an instructor (fitness professional), although it can be done solo and without musical accompaniment. With the goal of preventing illness and promoting physical fitness, practitioners perform various routines comprising a number of different dance-like exercises. Formal aerobics classes are divided into different levels of intensity and complexity. Aerobics classes may allow participants to select their level of participation according to their fitness level. Many gyms offer a variety of aerobic classes. Each class is designed for a certain level of experience and taught by a certified instructor with a specialty area related to their particular class.

Kenneth H. Cooper (born March 4, 1931, in Oklahoma City) is a doctor of medicine and former Air Force Colonel from Oklahoma, who introduced the concept of aerobics. He is the author of the 1968 book *Aerobics*, which emphasized a point system for improving the cardiovascular system. His points system is also the basis of the 10,000 steps per day method of maintaining adequate fitness by walking. Both the term and the specific exercise method were developed by Dr. Cooper, M.D. He an avowed exercise enthusiast was personally and professionally puzzled about why some people with excellent muscular strength were still prone to poor performance at tasks such as long-distance running, swimming, and bicycling. He began measuring systematic human performance using a bicycle ergometer and began measuring sustained performance in terms of a person's ability to use oxygen. His groundbreaking book, **Aerobics**, was published in 1968, and included scientific exercise programs using running, walking, swimming and bicycling. The book came at a fortuitous historical moment, when increasing weakness and inactivity in the general population was causing a perceived need for increased exercise.^[1]



Figure-1: Kenneth H. Cooper (Aerobics Inventor)

Aerobic gymnastics, also known as sport aerobics and competitive aerobics, is a type of competitive aerobics involving complicated choreography, rhythmic and acrobatic gymnastics with elements of aerobics. Performance is divided into categories by age, sex and groups (individual, mixed pairs and trios) and is judged on the following elements: dynamic and static strength jumps and leaps, kicks, balance and flexibility. Ten exercises are mandatory: four consecutive high leg kicks, patterns. A maximum of ten elements from following families are allowed: push-ups, supports and balances, kicks and splits, jumps and leaps. Elements of tumbling such as handsprings, handstands, back flips, and aerial somersaults are prohibited. Scoring is by judging of artistic quality, creativity, execution, and difficulty of routines.

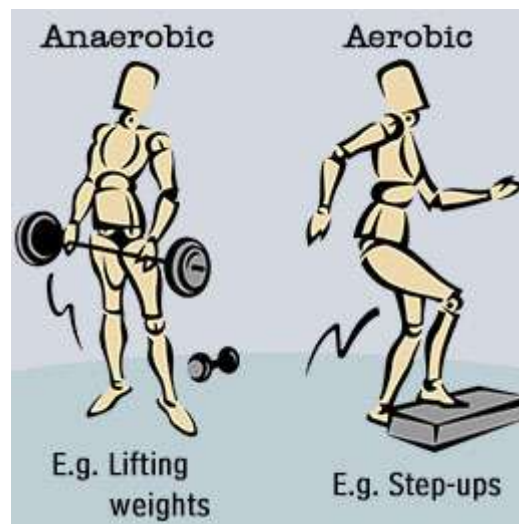


Figure-2: Anaerobic Vs Aerobic style

Aerobic exercise is physical exercise of low to high intensity that depends primarily on the aerobic energy-generating process. Aerobic literally means "relating to, involving, or requiring free oxygen" and refers to the use of oxygen to adequately meet energy demands during exercise via aerobic metabolism. Generally, light-to-moderate intensity activities that are sufficiently supported by aerobic metabolism can be performed for extended periods of time.

Mechanism between Aerobics & Anaerobics: Aerobic exercise and fitness can be contrasted with anaerobic exercise, of which strength training and short-distance running are the most salient examples. The two types of exercise differ by the duration and intensity of muscular contractions involved, as well as by how energy is generated within the muscle. New research on the endocrine functions of contracting muscles has shown that both aerobic and anaerobic

exercise promote the secretion of myokines, with attendant benefits including growth of new tissue, tissue repair, and various anti-inflammatory functions, which in turn reduce the risk of developing various inflammatory diseases. Myokine secretion in turn is dependent on the amount of muscle contracted, and the duration and intensity of contraction. As such, both types of exercise produce endocrine benefits. In almost all conditions, anaerobic exercise is accompanied by aerobic exercises because the less efficient anaerobic metabolism must supplement the aerobic system due to energy demands that exceed the aerobic system's capacity. What is generally called aerobic exercise might be better termed "solely aerobic", because it is designed to be low-intensity enough not to generate lactate via pyruvate fermentation, so that all carbohydrate is aerobically turned into energy.

Initially during increased exertion, muscle glycogen is broken down to produce glucose, which undergoes glycolysis producing pyruvate which then reacts with oxygen (Krebs cycle, Chemiosmosis) to produce carbon dioxide and water and releases energy. If there is a shortage of oxygen (anaerobic exercise, explosive movements), carbohydrate is consumed more rapidly because the pyruvate ferments into lactate. If the intensity of the exercise exceeds the rate with which the cardiovascular system can supply muscles with oxygen, it results in buildup of lactate and quickly makes it impossible to continue the exercise. Unpleasant effects of lactate buildup initially include the burning sensation in the muscles, and may eventually include nausea and even vomiting if the exercise is continued without allowing lactate to clear from the bloodstream. As glycogen levels in the muscle begin to fall, glucose is released into the bloodstream by the liver, and fat metabolism is increased so that it can fuel the aerobic pathways.^[2]

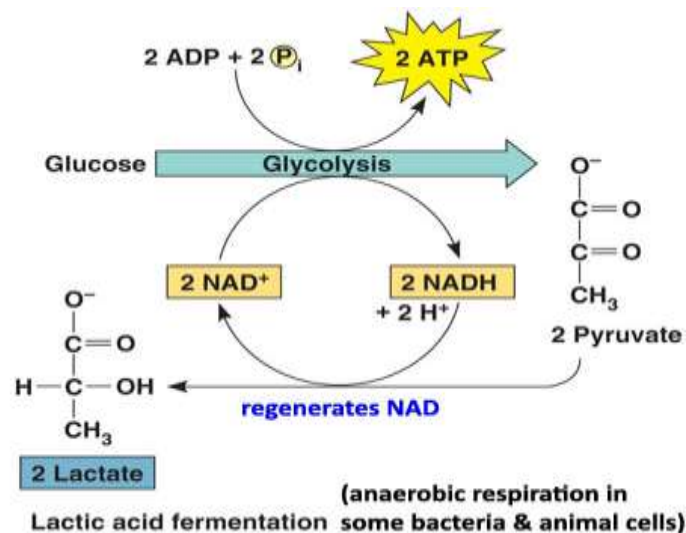


Figure-3: Lactic acid cycle

Aerobic exercise may be fueled by glycogen reserves, fat reserves, or a combination of both, depending on the intensity. Prolonged moderate-level aerobic exercise at 65% VO_2 max (the heart rate of 150 bpm for a 30-year-old human) results in the maximum contribution of fat to the total energy expenditure. At this level, fat may contribute 40% to 60% of total, depending on the duration of the exercise. Vigorous exercise above 75% VO_2 max (160 bpm) primarily burns glycogen. VO_2 max (also maximal oxygen consumption, maximal oxygen uptake, peak oxygen uptake or maximal aerobic capacity) is the maximum rate of oxygen consumption as measured during incremental exercise, most typically on a motorized treadmill. Maximal oxygen consumption reflects the aerobic physical fitness of the individual, and is an important determinant of their endurance capacity during prolonged, sub-maximal exercise. The name is derived from V - volume, O_2 - oxygen, max - maximum. VO_2 max is expressed either as an absolute rate in (for example) litres of oxygen per minute (L/min) or as a relative rate in (for example) millilitres of oxygen per kilogram of body mass per minute (e.g., mL/(kg·min)). The latter expression is often used to compare the performance of endurance sports athletes. However, VO_2 max generally does not vary linearly with body mass, either among individuals within a species or among species, so comparisons of the performance capacities of individuals or species that differ in body size must be done with appropriate statistical procedures, such as analysis of covariance.

Accurately measuring VO_2 max involves a physical effort sufficient in duration and intensity to fully tax the aerobic energy system. In general clinical and athletic testing, this usually involves a graded exercise test (either on a treadmill or on acycle ergometer) in which exercise intensity is progressively increased while measuring ventilation and oxygen and carbon dioxide concentration of the inhaled and exhaled air. VO_2 max is reached when oxygen consumption remains at steady state despite an increase in workload.^[3]

Fick equation

VO_2 max is properly defined by the Fick equation:

$$\text{VO}_2 \text{ max} = Q \times (C_a\text{O}_2 - C_v\text{O}_2)$$

When these values are obtained during an exertion at a maximal effort.

Where Q is the cardiac output of the heart, $C_a\text{O}_2$ is the arterial oxygen content, and $C_v\text{O}_2$ is the venous oxygen content.

$(C_a\text{O}_2 - C_v\text{O}_2)$ is also known as the arterio-venous oxygen difference.

VO₂ max levels**Figure-4: VO₂**

Major muscles in a rested, untrained human typically contain enough energy for about 2 hours of vigorous exercise. Exhaustion of glycogen is a major cause of what marathon runners call "hitting the wall". Training, lower intensity levels, and carbohydrate loading may allow postponement of the onset of exhaustion beyond 4 hours. Maximal oxygen uptake (VO₂ max) is widely accepted as the single best measure of cardiovascular fitness and maximal aerobic power. Absolute values of VO₂ max are typically 40-60% higher in men than in women." The average untrained healthy male will have a VO₂ max of approximately 35–40 mL/(kg·min). The average untrained healthy female will score a VO₂ max of approximately 27–31 mL/(kg·min). These scores can improve with training and decrease with age, though the degree of trainability also varies very widely: conditioning may double VO₂ max in some individuals, and will never improve it in others. In one study, 10% of participants showed no benefit after completing a 20 week conditioning program, although the other 90% of the test subjects all showed substantial improvements in fitness to varying degree. In sports where endurance is an important component in performance, such as cycling, rowing, cross-country skiing, swimming and running, world-class athletes typically have high VO₂ maxima. Elite male runners can consume up to 85 mL/(kg·min), and female elite runners can consume about 77 mL/(kg·min). The factors affecting VO₂ are often divided into supply and demand. Supply is the transport of oxygen from the lungs to the mitochondria (including lung diffusion, stroke volume, blood volume, and capillary density of the skeletal muscle) while demand is the rate at which the mitochondria can reduce oxygen in the process of oxidative phosphorylation. Of these, the supply factor is often considered to be the limiting one. However, it has also been argued that while trained subjects probably are

supply limited, untrained subjects can indeed have a demand limitation. Cardiac output, pulmonary diffusion capacity, oxygen carrying capacity, and other peripheral limitations like muscle diffusion capacity, mitochondrial enzymes, and capillary density are all examples of VO_2 max determinants. The body works as a system. If one of these factor is sub-par, then the whole system loses its normal capacity to function properly. The drug erythropoietin (EPO) can boost VO_2 max by a significant amount in both humans and other mammals. This makes EPO attractive to athletes in endurance sports, such as professional cycling.^[4]

Aerobic exercise comprises innumerable forms. In general, it is performed at a moderate level of intensity over a relatively long period of time. For example, running a long distance at a moderate pace is an aerobic exercise, but sprinting is not. Playing singles tennis, with near-continuous motion, is generally considered aerobic activity, while golf or two person team tennis, with brief bursts of activity punctuated by more frequent breaks, may not be predominantly aerobic. Some sports are thus inherently "aerobic", while other aerobic exercises, such as fartlek training or aerobic dance classes, are designed specifically to improve aerobic capacity and fitness. It is most common for aerobic exercises to involve the leg muscles, primarily or exclusively. There are some exceptions. For example, rowing to distances of 2,000 m or more is an aerobic sport that exercises several major muscle groups, including those of the legs, abdominals, chest, and arms. Common kettlebell exercises combine aerobic and anaerobic aspects.

Among the recognized benefits of doing regular aerobic exercise are:

1. Strengthening the muscles involved in respiration, to facilitate the flow of air in and out of the lungs.
2. Strengthening and enlarging the heart muscle, to improve its pumping efficiency and reduce the resting heart rate, known as aerobic conditioning.
3. Improving circulation efficiency and reducing blood pressure.
4. Increasing the total number of red blood cells in the body, facilitating transport of oxygen.
5. Improved mental health, including reducing stress and lowering the incidence of depression, as well as increased cognitive capacity.



Figure-5: Aerobics

Reducing the risk for diabetes: As a result, aerobic exercise can reduce the risk of death due to cardiovascular problems. In addition, high-impact aerobic activities (such as jogging or using a skipping rope) can stimulate bone growth, as well as reduce the risk of osteoporosis for both men and women. In addition to the health benefits of aerobic exercise, there are numerous performance benefits:

1. Increased storage of energy molecules such as fats and carbohydrates within the muscles, allowing for increased endurance.
2. Neovascularization of the muscle sarcomeres to increase blood flow through the muscles.
3. Increasing speed at which aerobic metabolism is activated within muscles, allowing a greater portion of energy for intense exercise to be generated aerobically.
4. Improving the ability of muscles to use fats during exercise, preserving intramuscular glycogen.
5. Enhancing the speed at which muscles recover from high intensity exercise.

Some downfalls of aerobic exercise include:

1. Overuse injuries because of repetitive, high-impact exercise such as distance running.
2. Is not an effective approach to building muscle?
3. Only effective for fat loss when used consistently.



Figure-6: Aerobics keeps fit

Both the health benefits and the performance benefits, or "training effect", require a minimum duration and frequency of exercise. Most authorities suggest at least twenty minutes performed at least three times per week. Aerobic capacity describes the functional capacity of the cardio-respiratory system, (the heart, lungs and blood vessels). Aerobic capacity refers to the maximum amount of oxygen consumed by the body during intense exercises, in a given time frame. It is a function both of cardio-respiratory performance and the maximum ability to remove and utilize oxygen from circulating blood. To measure maximal aerobic capacity, an exercise physiologist or physician will perform a VO_2 max test, in which a subject will undergo progressively more strenuous exercise on a treadmill, from an easy walk through to exhaustion. The individual is typically connected to a respirometer to measure oxygen consumption, and the speed is increased incrementally over a fixed duration of time. The higher the measured cardio-respiratory endurance level, the more oxygen has been transported to and used by exercising muscles, and the higher the level of intensity at which the individual can exercise. More simply put, the higher the aerobic capacity, the higher the level of aerobic fitness. The Cooper and multi-stage fitness tests can also be used to assess functional aerobic capacity for particular jobs or activities. The degree to which aerobic capacity can be improved by exercise varies vary widely in the human population: while the average response to training is an approximately 17% increase in VO_2 max, in any population there are "high responders" who may as much as double their capacity, and "low responders" who will see little or no benefit from training. Studies indicate that approximately 10% of otherwise healthy individuals cannot improve their aerobic capacity with exercise at all. The

degree of an individual's responsiveness is highly heritable, suggesting that this trait is genetically determined.^[5]

Freestyle aerobics is an aerobics style in which a group instructor choreographs several short dance combinations and teaches them to the class. This is usually achieved by teaching the class 1-2 movements at a time and repeating the movements until the class is able to join the whole choreography together. Aerobic music is used throughout the class. This is sometimes followed by a strength section which uses body weight exercises to strengthen muscles and a stretch routine to cool down and improve flexibility. Classes are usually 30–60 minutes in length and may include the use of equipment such as a barbell, aerobic step, or small weights. In freestyle aerobics, the instructor choreographs the routine and adjusts it to the needs and wants of her/his class. There is often no difference between base movements in freestyle and pre-choreographed programs. It is practiced to improve aerobic fitness, flexibility and strength.

Step aerobics is a form of aerobic power distinguished from other types of aerobic exercise by its use of an elevated platform (the step). The height can be tailored to individual needs by inserting risers under the step. Step aerobics classes are offered at many gyms and fitness centers which have a group exercise program. Step aerobics was innovated by Gin Miller around 1989. After a knee injury, Gin consulted with an orthopedic doctor, who recommended she strengthen the muscles supporting the knee by stepping up and down on a milk crate and from this she developed the step regimen.

Sport aerobics, or aerobic gymnastics, is a competitive sport originating from traditional aerobics in which complex, high-intensity movement patterns and elements of varying difficulty are performed to music. In addition to aerobics, it combines elements of sports acrobatics and rhythmic gymnastics, along with music, dance and choreography.

Water aerobics (waterobics, aquatic fitness, aquafitness, aquafit) is the performance of aerobic exercise in fairly shallow water such as in a swimming pool. Done mostly vertically and without swimming typically in waist deep or deeper water, it is a type of resistance training. Water aerobics is a form of aerobic exercise that requires water-immersed participants. Most water aerobics is in a group fitness class setting with a trained professional teaching for about an hour. The classes focus on aerobic endurance, resistance training, and

creating an enjoyable atmosphere with music. Different forms of water aerobics include: aqua Zumba, water yoga, aqua aerobics and aqua jog.^[6]

Benefits: The mitigation of gravity makes water aerobics safe for individuals able to keep their heads out of water, including the elderly. Exercise in water can also prevent overheating through continuous cooling of the body. Older people are more prone to arthritis, osteoporosis, and weak joints therefore water aerobics is the safest form of exercise for these conditions. Research studies can teach us about the benefits the elderly can receive by participating in water aerobics. The water also provides a stable environment for elderly with less balance control and therefore prevents injury.

Drawbacks: Water aerobics has a few disadvantages from a practicality standpoint. Aqua aerobics requires access to a swimming pool via facilities and in addition to any membership fees to access facilities, classes may cost extra. Although aquatic exercise greatly reduces the risk of injury, it is typically seen that not as many calories are burned as would be in some other activities. However, newer research on actual caloric burn should be conducted based on the style of water class being conducted. Though aquatic activities in general expend more energy than many land-based activities performed at the same pace due to the increased resistance of water, the speed with which movements can be performed is greatly reduced. If a club or hotel wants to incorporate aquatic classes they must prepare for weather conditions, stereo malfunction, and proper safety precautions. Licensed instructors also prefer a facility that can pay well for their high intensity workout (instructors do not get the anti-gravity benefits of the water) and they may need mats or expensive shoe-wear to protect their own bodies.^[7]

CONCLUSION

The benefits of exercise are very well known to all. Scientists and researchers all over the world do not cease to repeat it at every opportunity. One study after other shows the beneficial effects of exercise to our mind and body. Exercise helps us lose weight, eliminate and manage stress, stimulates the immune system and reduces the risk of certain diseases. There are many forms of exercise. These can be classified into two main categories, the aerobics and anaerobic exercises. In particular, the aerobic exercise refers to any low-intensity activity that increases the heartbeat rate while the high-intensity physical activity is called anaerobic exercise (e.g. body building). Aerobic exercises include various sports such as martial arts (which also combines anaerobic exercises), running, walking, cycling,

swimming, skiing and of course indoor exercises. The body needs a certain amount of energy to maintain some basic functions such as breathing, blood circulation and for the normal functioning of the different body organs. The energy needed to maintain these functions is known as BMR or basic metabolic rate. Any activity in addition to those basic functions requires additional energy, which is taken by the glycogen (carbohydrates) and deposits of fat in the blood, liver and muscles.

The 20 benefits of aerobic exercise

The benefits of aerobic exercise to protect the heart are very well known. But exercise is not only beneficial for the heart and muscles. Other benefits of exercise includes:

1. Better cardiac function: The heart gets more blood per beat. That means that the heart rate is reduced in times of relaxation and during the exercise.
2. Weight loss: During exercise the body burns fat and as a result the total body fat is reduced.
3. Improving mental health: Regular exercise releases the endorphins, the natural painkillers of the body, which among other things reduces stress, anxiety and depression.
4. Helps the immune system: Numerous studies have shown that people who exercise regularly are less prone to mild viral infections such as colds or flu.
5. Reducing diseases: The extra weight is an aggravating factor in the emergence of: heart disease, high blood pressure, stroke, diabetes and certain types of cancer. The risk to develop some of these diseases decreases as we lose weight. There is data showing that walking can reduce the risk of osteoporosis and the complications involved. While exercises such as swimming and water aerobics may help people with arthritis.
6. Increases longevity: Research by the University of Harvard, published in the New England Journal of Medicine in 1986, revealed that for the first time there was a scientific link between exercise and longevity. Since then, other research confirms this initial assessment.
7. Increases body resistance: Maybe during or immediately after exercise you feel tired, but in the long-term exercise increases the strength and the sense of well-being keeping fatigue away.
8. Improves muscle health: Exercise encourages the development of microscopic blood vessels that provide sufficient quantities of oxygen in the muscles and keep away from the muscles metabolic wastes such as lactic acid. This process can reduce the discomfort felt by those suffering from chronic muscle pain and back pain.
9. Increases the maximum consumption of oxygen by the body.

10. Improves cardiovascular and cardiovascular function.
11. Increasing the supply of blood to muscles and the ability to make better use of oxygen.
12. Lowers heart rate and blood pressure.
13. Lowers the accumulation of lactic acid which causes pain and muscle burning.
14. Lowest systolic and diastolic blood pressure in patients suffering from hypertension (high pressure).
15. Increasing levels of good HDL cholesterol in the blood.
16. Reduces high blood triglycerides.
17. Improvement of glucose metabolism reduces insulin resistance and therefore lowers the risk of diabetes or regulates better the disease if it has already occurred.
18. Reduces psychological stress, improves mood with more vitality, reduces risk of depression or anxiety.
19. Greater resistance to fatigue.
20. Helps us to sleep better.

What to do before start exercising

- The first and most important step before starting any exercise program is to consult your doctor. This is applicable to all ages but especially those over 40 who smoke, drink, do sedentary work, are overweight or have a chronic problem.

Tips for a good exercise

- Exercise 3 To 5 times a week

Suggested duration is between 20 to 30 minutes and level of intensity from 50 to 80% of the maximum of your ability.

Wear a good pair of trainers. For any activity you choose, you need the first 5 to 10 minutes to warm up and also devote the last 5 to 10 minutes for stretching after intense exercise to prevent possible injury. Do not forget to that when starting an exercise program, start slowly and gradually increase intensity and duration. It can take some weeks to arrive in 20 to 30 minutes of continuous exercise.



Decide. Commit. Succeed.

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