

ART104

general health series

The Heart of Health: The Importance of Maintaining a Strong Cardiovascular System

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ACCORDING TO HARVARD MEDICAL SCHOOL, IN AMERICA, HEART DISEASE REMAINS THE NUMBER ONE KILLER SINCE 1921 WITH TWO CORONARY EVENTS AND ONE DEATH FROM HEART ATTACK OCCURRING EVERY MINUTE.

Yet, heart disease is one of the most preventable of all diseases. Having a strong cardiovascular system is not only critical to health and longevity but is also a major factor in the quality of life lived.

RISK FACTORS FOR CARDIOVASCULAR DISEASE as defined by the American Heart Association are inherited tendencies or daily habits that may lead to the development of heart disease. They are divided into two categories: those that can be changed and those that cannot be changed.

THE MAJOR RISK FACTORS THAT CAN NOT BE CHANGED

- increasing age (over 65)
- gender (Men are at greater risk than women until menopause)
- heredity/race (African, Mexican, Asian, Hawaiian, Native Americans are higher risk)

THE MAJOR RISK FACTORS THAT CAN BE CHANGED

- smoking
- high blood cholesterol
- high blood pressure
- physical inactivity
- obesity/overweight
- diabetes mellitus (high levels of sugar blood can erode and damage blood vessels).
- Other factors that contribute to heart disease are stress and excessive use of alcohol.

A NUMBER OF DISEASES AFFECT THE CARDIOVASCULAR SYSTEM called cardiovascular diseases (CVD). The most common CVD are preventable with lifestyle modifications including diet and exercise and some with medication. It is important to follow the recommendations of a qualified medical professional with regard to exercise if a person suffers from any cardiovascular disease.

COMMON CARDIOVASCULAR DISEASES

ANGINA PECTORIS - chest pains due to a restricted supply of oxygen through the blood vessels.

ARRHYTHMIA - dangerous irregular heartbeat.

ARTERIOSCLEROSIS - hardening of the blood vessels due to atherosclerosis.

ATHEROSCLEROSIS - fatty plaque buildup on the walls of the blood vessels.

BACTERIAL ENDOCARDITIS - infection in the valves and lining of the heart (endocardium).

CONGESTIVE HEART FAILURE - extensive heart damage causing fluid to build up in the body.

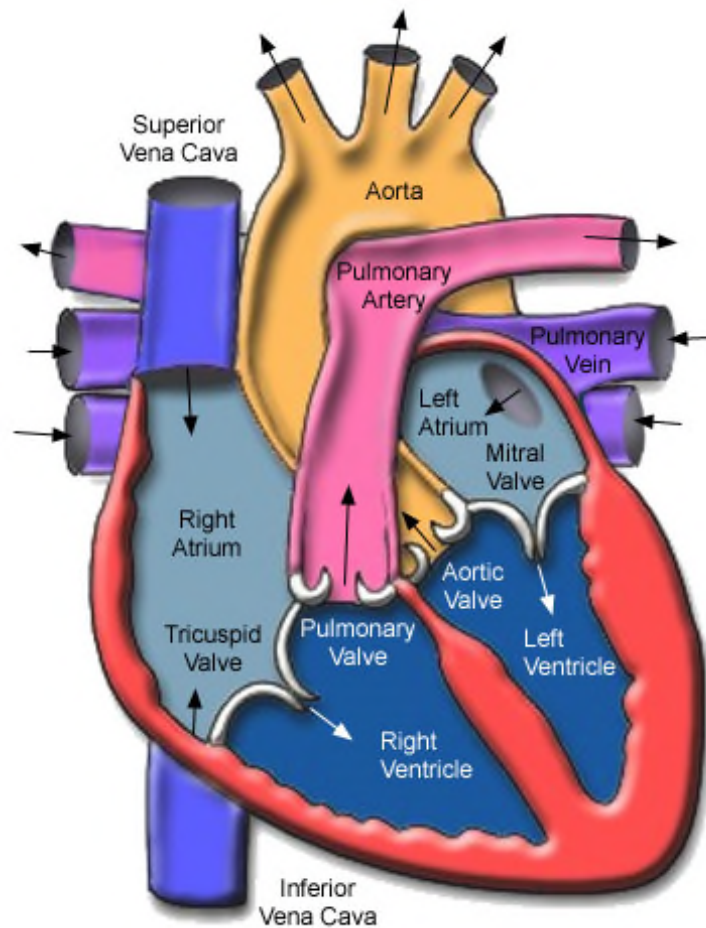
HEART ATTACK (MYOCARDIAL INFARCTION or CORONARY OCCLUSION) - death of heart muscle tissue due to lack of oxygen

PERIPHERAL VASCULAR DISEASE - varicose veins, fatty build-up in leg arteries and blood clots.

RHEUMATIC HEART DISEASE - caused by rheumatic fever, makes heart valves malfunction.

STROKE - lack of oxygen to the brain due to clogged or broken blood vessels.

THE ENTIRE BODY IS NOURISHED BY THE CARDIOVASCULAR SYSTEM, WHICH CONSISTS OF THE HEART AND BLOOD VESSELS. The heart is a fist sized hollow, muscular organ that pumps blood through the body. It is divided into four chambers with a thin septum or wall of muscle separating the right from the left. The upper chambers are called atria (receive blood) and the lower chambers are ventricles (pump blood). Oxygen-poor blood enters the right atrium through veins called the superior and inferior vena cava. The blood is then pumped through a flap which prevents backflow called the tricuspid valve into the right ventricle and then through the pulmonary valve and pulmonary artery to the lungs, where it loses carbon dioxide and picks up oxygen. The oxygenated blood is then carried to the left atrium of the heart through the mitral valve and the pulmonary vein and then on to the left ventricle. The blood is then pumped through the aorta and to the rest of the body. The heart does not use the blood it pumps. Blood flows through the coronary arteries to nourish the heart cells. The heart pumps about 2,000 gallons of blood per day. Arteries carry oxygen rich blood throughout the body. Arteries become smaller (arterioles) and then become capillaries where the oxygen is delivered to the cell. The capillary picks up carbon dioxide from the cell and transports it to venules and the veins and finally to the vena cava where the cycle repeats.



SPECIFIC ACTIVITY KNOWN AS CARDIOVASCULAR EXERCISE commonly called aerobic (oxygen) exercise is the MOST EFFICIENT way to improve cardiovascular function. Although all forms of physical activity will benefit the heart, cardiovascular (aerobic) exercise uses large muscles in a repetitive way for a long time, which makes the heart work at a level above normal by increasing the normal rate of beating for an extended period of time. Cardiovascular exercises include walking, bicycling, dancing, running, jogging, swimming, or skating. The exercise must be performed continuously for at least twelve minutes. The entire focus of aerobic exercise is to improve the pumping action of the heart. The level of conditioning of the individual will determine the intensity and duration. Some exercisers get “sidetracked” from the real purpose of exercise becoming solely concerned about appearances and focusing on muscular conditioning floor exercises or weight training. Exercise time might be more completely spent on activity specific to a healthy heart. It is important to remind your clients that if the health of the heart is the number one priority in their exercise program, improved appearance automatically follows.

IT IS TRUE THAT SEDENTARY INDIVIDUALS will initially experience cardiovascular benefit from any type of exercise; however very quickly the heart will adjust to the exercise, and as the training principle of PROGRESSION states, the intensity of exercise will need to increase for continued benefit. Likewise, because of the training principle of SPECIFICITY, weight training will have only secondary minimal benefits to the cardiovascular system and is not as efficient to train the heart as specific cardiovascular exercises because of the specific physiological adaptations to the heart with specific training. Weight training should be added to a complete exercise program to build muscular strength.

THE OBJECTIVE FOR HEALTHY HEART EXERCISE IS TO STRENGTHEN ITS PUMPING ACTION, which increases the ability of the heart and blood vessels to deliver oxygen to the cells. It also increases the peristalsis (pumping action) of the vessels, keeping them flexible while cleaning the walls of the blood vessels. Although weight training develops muscles, it tends to thicken the walls of the heart while cardiovascular exercise tends to strengthen the pumping action of the left ventricle.

OTHER EXERCISE CONSIDERATIONS CAN ENHANCE CARDIOVASCULAR EXERCISE. For exercise to be most effective, it needs to be performed regularly (three to five days per week) for life. So, it is important to select an aerobic exercise that is enjoyable and fits into the budget and lifestyle. Selecting several activities is an ideal way to avoid overuse injuries. Moderate activity reduces the risk of a musculo-skeletal injury. Any injury will interrupt the exercise regularity. Relaxation and meditation, reduce stress to constricted blood vessels and chest muscles. The heart works easier. Visualizations and affirmations create a positive sense of self, enhance the exercise, and creates the body/mind connection needed for long term success. Breathing exercises support the activity of the heart, increase oxygen availability and waste removal and assists relaxation. Of course appropriate attire and proper rest are vital.

SOME ADDITIONAL SAFETY NOTES TO CONSIDER

- Screen individuals prior to beginning an exercise program.
- Individuals with a high risk (3 or more risk factors) require medical clearance to exercise.
- Avoid hot showers, saunas, and hot tubs immediately after aerobic exercise.
- Keep the head elevated (higher than the heart) during and immediately after aerobic exercise.
- Exercise in an area with adequate ventilation.
- When it is hot & humid, keep the exercise intensity low
- Avoid using ankle weights during aerobics.
- Monitor the intensity level by taking pulse rates regularly during the aerobic exercise.
- Exercise at appropriate levels to keep the heart rate in an appropriate training (target) zone for the age and conditioning level of the exercisers.
- Do not sit or lie down during the aerobic portion of the workout (when heart rate is elevated).
- Warm up by moving the entire body in a rhythmic way with continuous gentle movements for five to eight minutes before the aerobic portion of exercise.
- Mild static stretching to prepare the muscles for exercise can be performed after warming up and before the aerobic exercise.
- Slowly elevate the heart rate into the training level during the aerobic portion.
- Cool down after the aerobic exercise by continuing to move the arms and legs (walk around) until the heart is at pre-training level.
- Allow the heart rate to return to normal before sitting or lying down after the cool down.
- Static developmental stretching is best accomplished after cooling down when the heart rate has returned to normal but while the body temperature is still elevated.
- Have fun, laugh, and enjoy the exercise.

CREATE A HEART ENHANCING CARDIOVASCULAR WORKOUT

CREATE CONTINUOUS RHYTHMIC EXERCISES THAT USE LARGE MUSCLES

Select exercises that use the whole body like: walking, dancing, jogging, running, hopping, skipping, jumping, cycling, sliding, stepping. Move the whole-body using arms in a natural relaxed manner, and at a steady moderate intensity for at least 20 minutes.

DEVELOP A VARIETY CIRCUIT

Create stations consisting of a different aerobic exercise at each one. Perform the exercises at each station for two minutes. Move quickly to the next station. Example: station #1- march in place, #2 - jump rope, #3 - ride a stationary cycle, #4 - step up and down on a step, #5 - perform an aerobic movement combination, etc.

BREATH

Focus on breathing fully and deeply during the workout.

USE VISUALIZATION, GUIDED IMAGERY, AND POSITIVE AFFIRMATIONS

See your heart as king of the organs. See it being strong, healthy and smiling at the other organs. See the circulation flowing smoothly and regularly. Visualize blood vessels with smooth clean walls and strong flow. See the oxygen filling each cell. See waste being efficiently carried away. Know that you are healthy. Say, "My heart is strong and working for me to strengthen every part of my body".

ADD RELAXATION AFTER COOL DOWN & STRETCHING

Practice a heart chakra exercise: Assume a relaxed position. Close your eyes. Relax your body. Become aware of your breathing. Visualize the heart. Relax the area and chest muscles around the heart. Feel the heartbeat slowing down. Visualize a glowing cloud of white light above your head which represents all the love and good-will in the universe. On your next in-breath, breathe the white light in through the top of your head and fill the area of the heart with white light. Breathe out. Repeat three times in all. Relax and "JUST BE" for a few moments. Before you open your eyes, breathe in one more time, filling your body with light. On the out-breath, send love and good-will out to the entire world around you. Open your eyes knowing that you will carry good will with you throughout the day and spread it to everybody you meet.

PERFORM YOGA POSTURES AS PART OF THE POST EXERCISE STRETCHING

Fish, Bow, and the Supine Bridge positions will help to open the chest and stimulate the heart and thymus.

PERFORM SELF MASSAGE REFLEXOLOGY TO POINTS ON HANDS & FEET

During relaxation at the end of the workout, take your shoes off and stimulate reflexology points for improved heart function. Gently rub the following points in a circular motion for 10 to 30 seconds. HAND - rub the area just below the first and second knuckles on the top of the right hand (palm facing down), with the left thumb. FOOT - rub the area in the center foot just below the ball of the foot.

ADD MEDITATION AFTER POST EXERCISE STRETCHING

Relax in a comfortable position. Close your eyes. Listen for your heartbeat. Count each beat. Continue.

USE AROMATHERAPY

Essential oils of sandalwood or rose will blend the masculine and feminine elements of self.

TRACK HEART RATE

Keep a record over several months of heart rate before warm up and resting heart rates (after resting for at least 30 minutes or upon awakening in the morning). Low resting heart rates indicate a strong heart.

HEART HEALTHY DIET TIPS

Discuss the importance of eating a diet low in animal fats; increase foods containing omega fatty acids (vegetable oils, nuts and fish); keep weight and body fat within recommended ranges.

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See the instructions below to earn .1 CEC for completing this article

ART104 QUIZ

In the body of an email to askesa@aol.com, place your first and last name on the first line and number the page from 1 to 10. DO NOT SEND AS AN ATTACHMENT. Answer TRUE or FALSE to the accuracy of each of the 10 statement below based on the information in this ESA article. You will be emailed a CEC validation certificate of completion, which you must keep for your records. ESA cannot replace lost forms and the article would need to be resubmitted.

- 1 - Heart disease is one of the most preventable of all diseases.
- 2 - Risk factors for cardiovascular disease are defined by the American Heart Association as inherited tendencies or daily habits that may lead to the development of heart disease.
- 3 - Risk factors are divided into three categories those that can be changed, those that cannot be changed, and those that are inherited.
- 4 - African, Mexican, Asian, Hawaiian, and Native Americans are at a higher risk of heart disease
- 5 - Smoking, high blood cholesterol, high blood pressure, physical inactivity, obesity/overweight, diabetes mellitus are risk factors for heart disease.
- 6 - The most common CVD can not be prevented.
- 7 - Congestive heart failure is hardening of the blood vessels due to atherosclerosis.
- 8 - The heart is divided into four chambers with a thin septum or wall of muscle separating the right from the left.
- 9 - Oxygen-rich blood enters the right atrium through veins called the superior and inferior vena cava.
- 10 - Weight training is the MOST EFFICIENT way to improve cardiovascular function.