Fitness Career Opportunity

Personal Trainer

Personal trainers design well-organized fitness and health programs for individual clients and help them meet their short- and long-term fitness goals. Here are some common reasons why clients hire personal trainers:

weight management
cardiovascular/aerobic fitness
muscular strengthening and development
body shaping
psychological health
self-esteem
lifestyle
athletic performance
exercise adherence and motivation
nutrition and diet
physical health
social needs
rehabilitation

A qualified trainer usually has an academic degree in physical education or exercise physiology and/or is certified by a national organization. For more information on personal trainers, contact:

American College of Sports Medicine (ACSM)
401 W. Michigan St.
Indianapolis, MN 46202-3233
(317) 637-9200
www.acsm.org

American Council on Exercise (ACE)
4851 Paramont Dr.
San Diego, CA 92123
(800) 825-3636
www.acefitness.org

Aerobics & Fitness Association of America (AFAA)
15250 Ventura Blvd., Suite 200
Sherman Oaks, CA 91403-3297
(800) 365-5326
www.aerobics.com

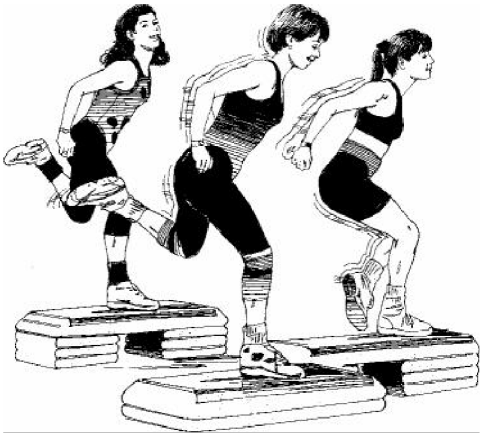
National Strength and Conditioning Association (NSCA)
1955 N. Union Blvd.
Colorado Springs, CO 80909
(800) 815-6826
www.nsca.com

Unit 1: Introduction to Personal Fitness (Physical Fitness)

Introduction

Nearly all of us want to look better and feel better. We want to learn to manage our stress and emotions rather than letting them overwhelm us and limit our activities and well-being. In short, we want to function at the highest level we can in our daily living.

One of the most important and necessary ways to achieve these goals is to become physically fit. **Physical fitness** is the ability of the whole body to perform at maximum capability. To perform at a high level, the body's systems must be healthy. The physically fit body can breathe in adequate oxygen and deliver it throughout the body. The physically fit body has muscles that work without easily tiring. Joints and muscles in a physically fit body are flexible rather than tight and stiff. And the physically fit body does not carry too much fat.



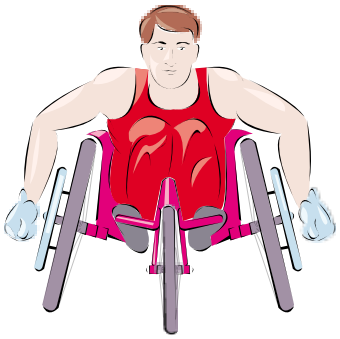
The physically fit body works efficiently.

The physically fit body works efficiently, and so it is able to provide something many of us feel we lack: *energy*. Physically fit people have enough energy to complete their daily work. They have enough energy to enjoy leisure time and respond to any emergency situation. When we look at someone with energy, we often see someone who looks healthy and productive—someone who is living a happy and full life. Achieving physical fitness improves every part of our lives.

Benefits from Achieving Physical Fitness

What are the benefits of achieving physical fitness? Achieving physical fitness

- improves your physical appearance. A fit body has strong, toned muscles.
- improves your overall health and wellness. Your heart will be stronger, and your cholesterol level will drop. Your body weight will be easier to control. Your risk of illness will decrease. Your bones will be stronger, and you may live longer!
- makes you happier. Your self-esteem and confidence rise; you have less mental fatigue, and your relationships improve.
- improves quality of life. Tension is released; you have increased energy and a better attitude.
- reduces **stress**, anxiety, and depression.
- improves quality of sleep.
- improves mental sharpness, which means greater success in your schoolwork or job.
- reduces your risk of cardiovascular disease and other chronic diseases. The lifestyle you lead in your early years is reflected later on. Stay healthy and fit!

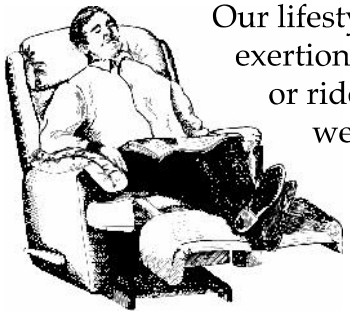


This book will help you develop a fitness program that is suited to your own fitness level and personal needs.

This book is designed to help you understand the different components, or parts, of physical fitness. It will help you evaluate your present level of physical fitness. And this book will help you develop a fitness program that is suited to your own fitness level and personal needs.

Fitness Evaluation of Americans: A Failing Grade

Our ancestors did not have to think much about fitness. Physical activity was built into their lifestyles. They worked in their gardens, plowed fields, and took care of livestock. They hand-washed their clothes and dishes, gathered firewood, and made their own clothes. And they walked to get from one place to another. They even spent their leisure or free time in some kind of physical activity. In some less developed countries, this is still the way of life. For instance, in many countries, cycling is still the means of everyday transportation.



Most people live a sedentary lifestyle—we spend our time sitting rather than being active.

Our lifestyles do not always include daily physical exertion and exercise. Rather than walk, we drive cars or ride buses. Rather than farm or do manual labor, we sit at desks and work at our computers. Rather than hand-wash clothes, we use automatic washing machines. Rather than exercise or physically exert ourselves, we watch television or movies, or we sit and play video games. Most people live a **sedentary** lifestyle—we spend our time sitting rather than being active.

Today, only one in five Americans is physically fit. Four out of five Americans score poorly on fitness tests for muscular strength, **flexibility**, and cardiovascular endurance. Statistics show that 60 percent of today's healthcare costs is due to unhealthy lifestyles. That means that it is less expensive to maintain a healthy body than it is to pay for a sick one. Obesity is on the rise and is at an all-time high in teenagers. Research has shown that a lifetime of healthy living may increase your life expectancy by about 2.5 years.

The typical high school student's lifestyle does not include enough exercise. In addition, three out of four teenagers eat too much fat. Today's teenagers have a significantly higher percentage of body fat compared to teenagers 20 years ago. The blood pressure of teens is higher than the blood pressure of teens in the past. Today's teens are not as healthy overall as were teens in the past.

A person's physical ability to function independently in life, without assistance, is called *functional health*. Functioning independently in life without assistance is one of the purposes of physical fitness. Daily living skills such as walking, driving a car, or even feeding yourself can become problems if fitness levels drop below a normal functional health level. However, a person may have functional health but still have other health concerns, such as symptoms of cardiovascular disease. When considering health and fitness, all factors must be examined.

A *sedentary*, or inactive, lifestyle and a diet high in fat are considered major risk factors for heart disease. Cardiovascular disease is the leading cause of death in the United States. This disease causes over half of all deaths in our country.

Exercise and a healthy lifestyle should begin in your early years and be lifetime habits. Being physically active will greatly reduce your risk of heart disease. The following chart shows the major risk factors for heart disease that you *can* and *cannot* control through healthy behavior.

Major Risk Factors for Heart Disease

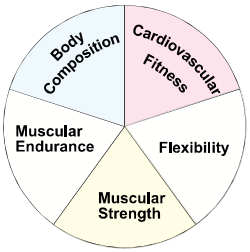
Factors We *Can* Control	Factors We *Cannot* Control
• physical inactivity • overweight or obesity • high blood pressure • high stress • high cholesterol • diet high in saturated fat, excess sugar, and salt • smoking, drugs, and alcohol	• age (the older you are, the higher your risk) • gender (males have a higher risk) • heredity (conditions and diseases that might run in your family)

Health-Related Fitness Components

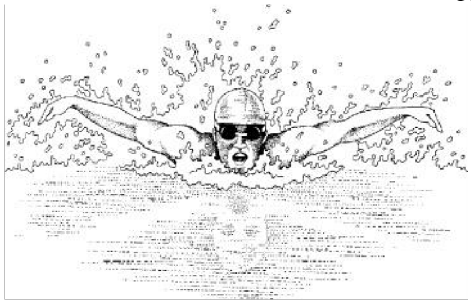
Improving and developing the body's **health-related fitness components** will help in achieving good health. These health-related components include cardiovascular or aerobic fitness; **muscular strength**; **muscular endurance**; flexibility; and **body composition**. Taken together, these components are a measure of overall health and physical fitness.

Cardiovascular Exercise: Strengthening the Heart

The *cardiovascular system* includes the heart and blood vessels. This system must continuously pump oxygen-rich blood through the blood vessels to all of your muscles, including your most important muscle—your heart. **Cardiovascular exercise**, or *aerobic exercise*, increases the amount of oxygen the body needs to meet its energy output. The more oxygen-rich blood your heart pumps throughout your body, the stronger your cardiovascular system becomes. *Cardiovascular exercises* are continuous activities that use the large muscle groups of the body. An example would be a swimmer performing uninterrupted laps in a pool for 30 minutes.



Health-Related Fitness


A swimmer performing uninterrupted laps in a pool for 30 minutes would be doing cardiovascular or aerobic exercise.

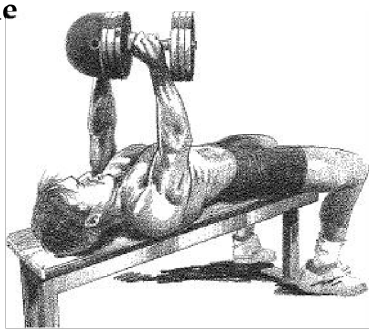
Cardiovascular endurance is the most important physical fitness component for health. Your life depends upon the fitness of your heart, blood vessels, and lungs. They must be strong enough to deliver nutrients and oxygen throughout the body.

Activities to Increase Cardiovascular Fitness: brisk walking, jogging, biking, swimming, aerobic or step classes, jumping rope

Muscular Strength: Pushing a Weight One Time

The capacity of a muscle to exert the greatest possible force against a resistance is referred to as *muscular strength*. Strength is important for proper posture, for successful sports performance, and in resisting injuries.

For example, a weight lifter using his legs to push the most weight he can one time would be using muscular strength.

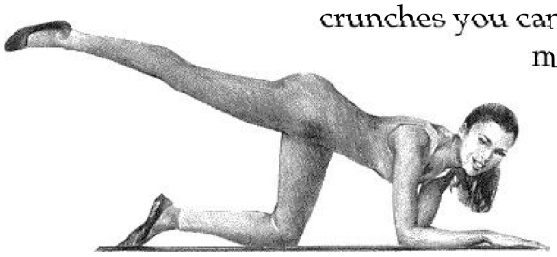


Weight lifting with challenging resistance is a good activity to increase muscular strength.

> **Activities to Increase Muscular Strength:** weight lifting with challenging resistance, sprinting or other explosive-type movements, strength conditioning classes

Muscular Endurance: Continuous Use of a Muscle

Muscular endurance is the ability to use certain muscles over and over for a long period of time without tiring. The number of push-ups or abdominal crunches you can do is a good measure of your muscular endurance.



When you have muscular endurance, your body has the energy to resist fatigue.

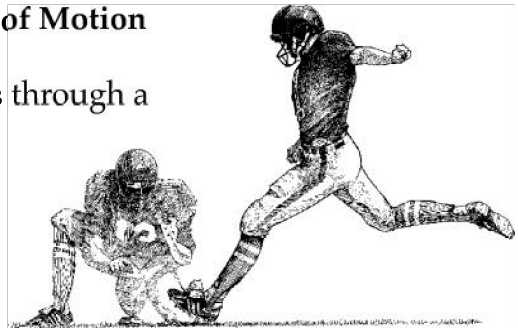
When you have muscular endurance, your body has the energy to resist fatigue. Your posture will be improved, and you will have a reduced risk of back pain.

A person washing and waxing a car for two hours requires a certain degree of muscular endurance. A person shoveling snow or raking leaves also must have an adequate amount of muscular endurance.

> **Activities to Increase Muscular Endurance:** resistance exercises with high repetitions, muscle toning classes, calisthenics

Flexibility: Moving through a Range of Motion

The ability to move joints and muscles through a full **range of motion** without pain or injury is defined as *flexibility*. When you have good flexibility, your muscles move freely and efficiently. Flexibility increases your resistance to muscle soreness, reduces your risk of injury, and helps you maintain good form as your body moves and rests.



A field goal kicker on a football team must have excellent flexibility in his leg muscles.

A punter or field goal kicker on a football team must have excellent flexibility in his leg muscles to be efficient at kicking the football.

A gymnast performing a back walkover must possess a high degree of flexibility, especially in the back muscles.

Activities to Increase Flexibility: progressive stretching exercises, gymnastics, karate, yoga

Body Composition: Fat Mass vs. Lean Body Mass

Your body is *composed*, or made up, of bones, muscles, fat, blood, and other tissues and organs. Each of these components is part of your body's weight. The weight of your body is divided into *lean body mass* and *fat mass*. Lean body mass is the weight of everything except fat. *Body composition* refers to a comparison of these two. Body composition is usually expressed as a ratio or percentage. The percentage of your body weight that is fat tissue compared to the weight of lean body tissue, such as bones, muscles, and other tissues and organs, is your body composition. A low percentage of body fat is more important for health and fitness than a low body weight. Dieting without exercising is not the best way to achieve a healthy body. Nor is becoming excessively lean with too little body fat.

Methods of Determining Body Composition

Body composition can be measured or estimated in many different ways. A few of the methods include skinfold measurements; hydrostatic or underwater weighing; bioelectrical impedance; dual X-ray absorbiometry (DEXA); and various circumference measurements on the body.

Skinfold measures are taken with *skinfold calipers* on a few designated sites of the body. Skinfold calipers are instruments used to measure body fat directly under the skin. Skin and fat are grasped and pulled away from the underlying muscle, and then measured. These measurements are then plugged into a formula for calculating body fat and fat-free percentages. Body composition is commonly assessed this way.

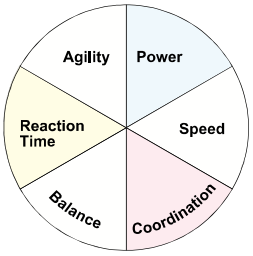
Hydrostatic or *underwater weighing* is a more difficult and inconvenient but more accurate method of testing body composition. A person is weighed when totally under water.

With the *bioelectrical impedance* method, electrodes are attached to the body to measure electrical current as it passes through the body. The faster the flow, the lower the proportion of fat in the body.

Dual X-ray absorbiometry (DEXA) uses low-energy X-rays to scan the whole body. Fat, muscle, and bone have different densities which can be seen on the X-ray film. Body composition is then calculated by the computer.

Skill-Related Fitness Components

Developing **skill-related fitness components** improves a person's ability in any physical activity. These components are especially important in playing sports or in recreational activities. They include **agility**, **balance**, **coordination**, **power**, **reaction time**, and **speed**. As a person increases skill in these components, performance in sports, games, and recreational activities will improve.



Skill-Related Fitness Components

Issac Newton's three laws of motion are listed below. When developing the *skill-related fitness components*, understanding these laws will help to achieve the most benefits. The laws state the relationship between force and motion. This knowledge of physics helps coaches and athletes master their games.

Newton's Three Laws of Motion

The ***first law of motion*** states that every object tends to remain at rest or move in a straight line until an outside force acts on it.

The ***second law of motion*** states that the acceleration of an object is set by the size of the force acting on it.

The ***third law of motion*** states that for every action, there is an equal and opposite reaction.

Agility: Changing Direction

Agility involves the ability of the whole body to change direction quickly and easily. See Newton's laws of motion above. A change of the direction of your body depends upon the force applied.

A basketball player guarding an opponent, moving side to side in a quick and easy manner, would be demonstrating agility.

A basketball player would be demonstrating agility.

Activities to Increase Agility: tennis, wrestling, basketball, soccer, dancing, or cheerleading

Balance: Maintaining Control of the Body

A gymnast must have good balance.

Balance allows you to control your body while you are standing or moving.

A gymnast doing a routine on the balance beam must have good balance in order to perform stunts without falling. For an inline skater to be successful at skating, he or she must develop balance first.

Activities to Increase Balance: inline skating, surfing, diving, gymnastics, dancing, yoga

Coordination: Matching the Senses and the Muscles

Coordination is the ability to use the senses in harmony with the muscles in the body to produce smooth and accurate movements.

In order to be successful at jumping rope, you must be able to use your vision along with your legs and feet.

Racket sports increase coordination.

Activities to Increase Coordination: racket sports, dancing and cheerleading, kicking games, jumping rope

Power: Combining Strength and Speed

The ability to combine maximum strength and speed in a movement is called *power*. Remember that power equals force. See Newton's laws of motion on the previous page. The amount of acceleration of an object depends on the strength of the applied force.

A baseball player must exert a tremendous amount of force, or power, when throwing the ball from the outfield to home plate.

Activities to Increase Power: leaping and jumping activities, throwing, speed races, kickboxing

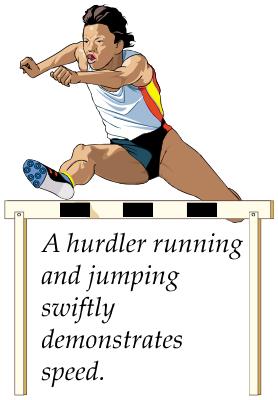
Reaction Time: Responding to Signals

Quick reaction time is necessary in karate.

Reaction time is the time required to start a movement after being alerted to the need to move.

For instance, when sparring in karate, quick reaction time is necessary to avoid being punched or kicked by your opponent.

Activities to Increase Reaction Time: volleyball, fencing, karate, track, tennis



A hurdler running and jumping swiftly demonstrates speed.

Speed: Moving Quickly

The ability to move your body rapidly from one point to another is known as *speed*.

A softball player running swiftly from first to second base to beat the throw demonstrates speed.

Activities to Increase Speed: track, softball or baseball, football, basketball, various other sports

Basic Training Principles: Overload, Progression, and Specificity

To develop your physical fitness, you should participate in a regular program of exercise. An effective exercise program should include three basic training principles. They are **overload**, **progression**, and **specificity**.

All health-related fitness components can be improved by using these three basic fitness training principles.

Overload: Increasing the Demand on the Body

The only way to progress in your fitness program is to *overload*. When you overload, you *increase the demand on* the body slightly beyond its normal level. You work your body harder than it normally works.

There are four general ways to overload the body during exercise: Frequency, Intensity, Type or Time **(F.I.T.T.)**. *F.I.T.T.* is a formula describing how often, how hard, what type, and how long you need to exercise.

F (Frequency): To improve your fitness level, include more workouts than you usually do per week. If you participate in aerobic activity two times per week, add another day of aerobics and perhaps a day of weight training to your current routine.

I (Intensity): To become more fit, you need to increase the difficulty of your workouts. By lifting heavier weights than before, you will increase the intensity of your workout.

T (Type): To increase fitness, you need to increase the type of movement in the exercise from normal to advanced techniques. Instead of walking on a flat course, you run on a hilly course.

T (Time): Increasing the time you participate in an activity is another way to overload your fitness. Instead of increasing your effort on the treadmill, you might try exercising a longer period of time.

Each of the overload factors should be a part of our exercise program for muscular strength and endurance, cardiovascular fitness, and flexibility.

Progression: Increasing the Amount of Work Performed

To progress in your exercise, the *amount of work* performed by the body needs to gradually *increase* using the F.I.T.T. formula. You do a gradual increase in overload necessary to achieve higher levels of fitness. You gradually increase the following:

- the number of times you do an exercise
- how hard you do an exercise
- length of time you perform that exercise
- type of movement in the exercise

To develop your physical fitness, participate in a regular program of exercise that is right for you.

The body is quick to adapt to the workload placed upon it. *Progression* is important in order for you to continually improve your level of fitness. However, try to avoid overloading the body with too much increase too soon.

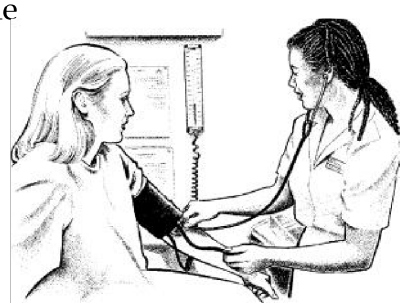
Specificity: Training to Reach Certain Goals

Specificity in training means you must work the specific part of the body you want to improve. You train your body in a specific way to reach a specific fitness goal. For example, if you want to increase your strength, you would increase weight resistance. If your goal is flexibility, you would perform stretching exercises. However, if your goal is overall fitness, it is best to **cross-train**. *Cross-training* is participating in different activities instead of the same ones to achieve fitness. An example of cross-training would be as follows.

- Day 1 - running or jogging
- Day 2 - swimming
- Day 3 - weight training

Exercising Safely: Guidelines

Exercise should be enjoyable, not painful. The old adage, "no pain, no gain," now reads "train, don't strain." Exercise can be done safely by following a few basic guidelines and prevention measures.



A physical examination is recommended before beginning an exercise program.

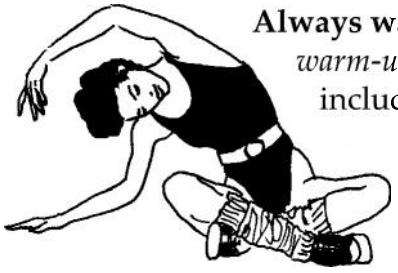
Get a medical checkup. A physical examination is recommended before beginning an exercise program. A doctor can check for any conditions that would make it unsafe for you to exercise.

Dress appropriately for exercise.
Clothing should be comfortable and loose-fitting. Wear lightweight fabrics that help absorb sweat and allow the sweat to evaporate. Clothing that is loose and light in color helps to promote heat loss as you sweat. Light-colored clothing reflects the sun's rays. Dark clothing absorbs the sun's

rays. Avoid wearing dark clothing on hot, sunny days. For safety considerations, wear light-colored and reflective clothing at dusk, night, and dawn. Wear quality footwear with good support, cushioning, and comfort. Wear safety equipment when necessary: bike helmets, pads, gloves, etc.

Listen to your body. If you feel pain while exercising, slow down or stop immediately. If you have been ill, exercise at a slower pace when you start back.

Exercise at the correct level. For exercise to be beneficial for you, it is important that you exercise with the correct frequency, intensity, type, and time. Start slowly and gradually increase the F.I.T.T. formula as you become more accustomed to exercise.



Always warm up and stretch.

Always warm up and stretch. A five- to 10-minute *warm-up* and gentle stretch period should be included before you jump into your activity. Hold stretches. Never bounce into a stretch. A warm-up helps prevent muscle strains, slowly increases the heart rate, and prepares your body for more intense exercise.

Always cool down, stretch, and relax. A five- to 10-minute *cool-down* should follow your workout. The cool-down helps to bring the heart rate back to normal, increases flexibility, and relaxes the body. A gradual decrease in heart rate helps prevent blood from pooling in the muscles that were used. To gradually decrease your heart rate, move about slowly and continuously. You may walk or do some other light activity for about three to five minutes. It's important to then stretch for another three to five minutes. Stretching helps loosen tightened muscles and helps prevent muscle soreness. You may repeat some of the same stretching exercises you did during your warm-up.

Pre-Exercise Health History Form

name: _____ date: _____

address: _____ phone: _____

_____ birth date: _____

family physician: _____ phone: _____

_____

Health History (Check all that apply.)

_____ diabetes
_____ rheumatic fever
_____ heart murmur
_____ any heart trouble
_____ high blood pressure
_____ lung disease
_____ breathing problem
_____ anemia
_____ overweight problem
_____ eating disorder
_____ injuries (to back, knees, ankles, etc.)
_____ surgery
_____ allergies
_____ seizure disorders

Family History (Check if grandparents, parents, or siblings have ever had any of the following illnesses.)

_____ high blood pressure
_____ high cholesterol levels
_____ diabetes
_____ congenital heart disease
_____ heart surgery
_____ stroke
_____ cancer
_____ heart attack

Explain all checked: _____

_____

_____

turn over to complete form

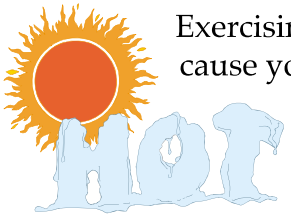
yes	no	
_____	_____	Do you use any tobacco products? If yes, how much? _____
		_____
_____	_____	Do you drink alcohol? If yes, how much? _____
		_____
_____	_____	Is your body weight and percent body fat within healthy standards?
_____	_____	Are you taking any prescribed medications? If yes, list. _____
		_____
_____	_____	Have you had a physical examination recently? When? _____
_____	_____	Do you have any injuries or conditions that would give you problems when you exercise? If so, explain.
		_____
_____	_____	Do you have a method for handling stress? Explain. _____
		_____
_____	_____	Do you get sufficient sleep and rest?
_____	_____	Do you have a healthy diet? Describe. _____
		_____
_____	_____	Do you have an eating disorder?
_____	_____	Do you exercise regularly? Describe your activities. _____
		_____

I acknowledge, to the best of my ability, that I am in good health and have no known medical problems that would restrict my ability to participate in this exercise program.

_____ _____
signature *date*

_____ _____
parent/guardian signature *date*

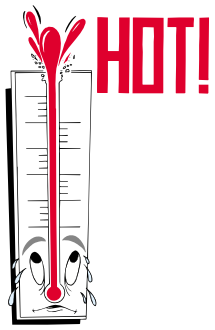
Heat-Related Problems: Southeastern United States Weather



Exercising in a warm environment with high humidity can cause your body temperature to soar. This can increase the risk of a heat-related problem or a heat illness. Taking precautions to reduce the risk of a heat illness is very important.

Heat Illness Prevention Tips

- Don't rely on thirst as an indicator of fluid loss.
- Drink one-half to one cup of water every 15 minutes during physical activity.



- Drink water before, during, and after physical exertion to keep your body properly hydrated. Maintaining hydration means having adequate fluids for your body to function properly.
- Avoid drinks with caffeine or alcohol, which cause the body to excrete fluids rapidly.
- Decrease frequency, intensity, type, and time (F.I.T.T. formula) when exercising in extreme heat and humid climates.
- Avoid working out in rubberized suits or other heavy clothing that cause heavy perspiration. Choose clothing that is light-colored, loose fitting, and absorbs moisture. These prevent evaporation of sweat and cause further dehydration, or extreme loss of body fluids.
- Gradually get used to exercising in the heat for approximately seven to 10 days.

- Exercise early in the day or later in the day when the heat is less intense.
- Try exercising indoors at a recreation center or a fitness club.
- Always wear sunscreen, a hat, and sunglasses for protection from the sun.

Heat Cramps, Heat Exhaustion, and Heat Stroke

A first aid measure for **heat cramps** and **heat exhaustion** is to move the affected person out of the sun to a shady, well-ventilated place. Have the person stretch. Massage the cramp and apply ice to the affected muscles. Let the person rest. Encourage the person to drink fluids to rehydrate. Remove extra clothing and refer the person to a physician, if necessary.

Symptoms of Heat-Related Illnesses

Heat Cramps	Heat Exhaustion	Heat Stroke
• muscle cramping • thirst • chills • rapid pulse • nausea	• cold, clammy skin • weak, faint, dizzy • profuse sweating • rapid pulse • headache • pale skin • extreme fatigue	• lack of sweat • high body temperature • dry, hot skin • confusion • sudden collapse • possible unconsciousness

Heat stroke is an extreme medical emergency and is life threatening. Call immediately for emergency medical help. In the meantime, cool the victim with cold water, ice bags, and a fan. Remove all extra clothing.

Stress Management: Learning to Cope

Stress is the response of the body to any situation that makes a demand on it. Stress is natural. We experience different types and degrees of stress nearly all of the time. However, too much stress of any kind can affect our physical and mental well-being. The key to successful stress management is to learn healthful ways to cope.

Negative stress, called distress, *can be caused by an upsetting event such as failing a test.*

Types of Stress: Eustress and Distress

Positive stress, called *eustress*, can be caused by something such as winning an award. Eustress can serve to motivate us and to keep us from becoming bored. Eustress can help us to do our best and to become more creative. Eustress can even provide us with energy to accomplish a task or to achieve daily goals.

Negative stress, called *distress*, can be caused by an upsetting event such as failing a test. The body responds to both positive and negative stress in the same manner.

Too much of any stress can lead to health problems. Minor symptoms of stress include tension headaches, tight neck and shoulder muscles, sleeplessness, constipation, irritability, and fatigue. Prolonged stress can lead to illnesses, dizziness, severe headaches, and diarrhea. Serious stress can even lead to major health problems such as high blood pressure, chronic depression, ulcers, heart disease, and diabetes.

Types of Stressors: The Source of Stress

A *stressor* is the source or cause of the stress. Anything can cause stress depending upon how an individual responds to various situations. The cause of stress can be psychological, environmental, social, or physiological.

- psychological—anger, love, anxiety, fear
- environmental—excessive heat, cold, noise, overcrowding
- social—relationships, family problems, loneliness
- physiological—illness, caffeine, sugar, alcohol, drugs

Sources of Teen Stress

Many situations can create stress among high school students. For example, pressure to make good grades, rules from parents, various life changes, and challenges associated with performance are common sources of teen stress. Other common stressors include the following:

- school issues (moving to a new school, tests, grades, giving reports, being made fun of in class)
- social relationships (peer pressures, friendships, dating, acceptance in a group)

Relationships can be a cause of stress.

- self-image (personal worth, acceptance of own strengths and limitations)
- meeting expectations (satisfying teachers, supervisors, parents, other authoritative figures)
- family relationships (rules, disciplinary measures, quarrels, divorce, siblings).

The Body's Reaction to Stress: The Three Stages

The body responds to stress by going through these three stages: 1) alarm, 2) resistance, and 3) exhaustion.

Alarm Stage. The body recognizes the stress and releases hormones such as adrenaline as it prepares for "fight or flight." The individual will either stay and face the situation or escape the situation.

Resistance. In this stage, your body repairs any damage caused from the stress. For example, an argument with a friend can trigger symptoms such as an increase in heart and breathing rates, tensed muscles, increased irritability, and fatigue. If the stress is eliminated or managed, those symptoms usually disappear. If, however, the problem persists and a solution is not found, symptoms may continue.

Exhaustion. Long-term stress that is not properly handled can eventually cause physical and mental exhaustion. Exhaustion occurs when a person completely wears out and feels entirely drained of energy.

Long-term stress can cause migraine headaches, ulcers, chronic illnesses, high blood pressure, heart problems, backaches, digestive disorders, severe depression, and insomnia.

Coping with Stress: Strategies

While it is impossible to live completely free of eustress or distress, learning to cope with stress can help reduce negative effects. Nutrition, exercise, rest and relaxation, personal attitudes, and relationships all contribute to our ability to manage the stresses of life.

People cope with stress in many ways. Positive coping strategies can actually help decrease stress. Negative coping strategies can worsen or increase stress. Unfortunately, many people often choose methods of coping that are not healthy.

Negative Coping Strategies

Here are some common behaviors that can work *against* reducing stress:

- using drugs or alcohol
- procrastination (putting things off)
- irritable, hostile, temperamental, or aggressive behavior
- denying or ignoring your true feelings
- blaming others
- inflexible attitudes
- self-destructive talk.

Using drugs or alcohol work against reducing stress.

Positive Coping Strategies

Using positive coping strategies can lessen stress and help your mind and body function normally. Here are a few of the healthiest ways to cope with stress.

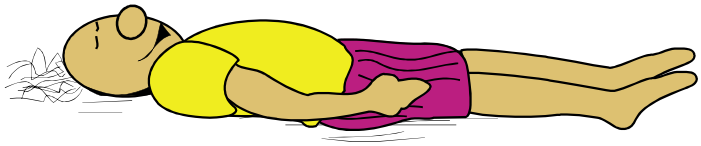
Exercise regularly. Physical activity helps to relieve stress and tension in a number of ways. It relaxes the muscles and increases blood flow. It improves digestion. Physical activity even increases your self-esteem. Endorphins, or pain-relieving substances, are released during exercise. They produce a *natural high* and help the body cope with daily stress. A good workout clears the mind and energizes the body.

Emphasize good nutrition. It is important to eat a variety of foods to assure that you are getting proper nutrients. Eating a balanced diet helps your energy level and makes you feel better. A healthy diet should be low in fat. Sugar, caffeine, and nicotine can make you jittery and nervous, and put negative stress on the heart.

Practice relaxation techniques. Relaxation methods such as meditation, progressive muscular relaxation, and massage therapy can help in reducing stress. A massage helps in reducing muscle tension, relieving stress, and promoting relaxation. Meditation techniques such as deep breathing can help calm your body and help improve your energy and concentration.

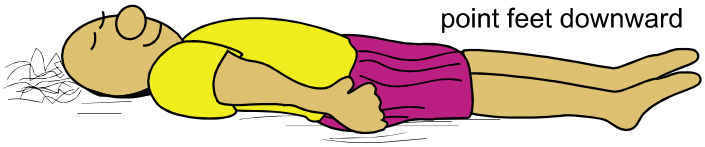
Progressive Relaxation Activities

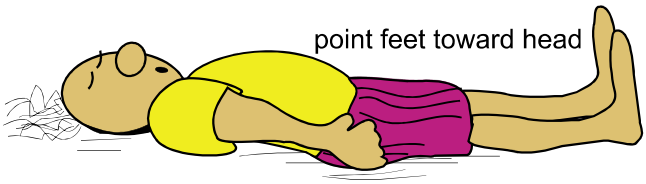
Find a **quiet place** *where you will* not *be distracted for at least* **20 to 30 minutes**. *Lie flat on your back on a firm surface with your eyes closed. Take off your shoes and get comfortable. Let your arms fall loosely by your sides.*



1. Be aware of what parts of your body are tense. Contract each group of muscles, then relax. Make sure to breathe slowly and deeply. Do each muscle group two or three times until tension is released. Then, move to the next area.

2. Curl your toes away from your head and point your feet downward. Relax. Flex your feet, pulling your toes towards your head. Relax.





3. Fully extend the legs, tightening the muscles on top of your thighs. Relax.

4. Press your heels down into the floor, creating tension in the back of your thighs. Relax.

5. Squeeze buttocks together tightly. Relax.

6. Press your lower back to the floor and at the same time pull your abdominal muscles inward. Relax.

7. Press elbows into the floor, creating tension in the upper back. Relax.

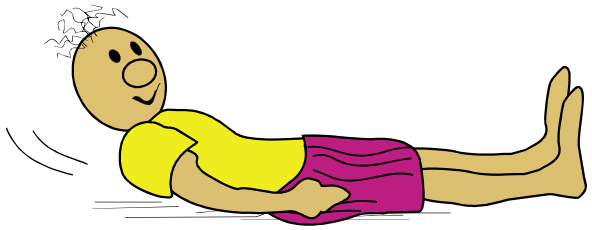
8. Roll shoulders inward, tensing neck and upper back. Relax.

9. Shrug shoulders as if trying to touch them to your ears. Relax.

10. Spread fingers as far apart as possible, then clench them into a tight fist. Relax.

11. Make a tight fist and rotate the wrist. Slowly open the hand.

12. Bend your head forward, touching your chin to your chest. Relax.



13. Raise the eyebrows, wrinkling the forehead. Relax. Close your eyes tightly and wrinkle your nose. Slowly, relax your face.

14. Open your mouth widely. Relax.

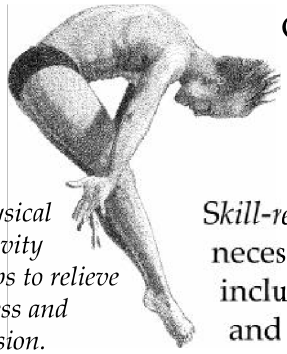
As you continue to lie in a relaxed state, focus on areas of your body that are still feeling tense. Repeat the exercises for those particular muscle groups.

Other Positive Tips for Managing Stress

- Get sufficient rest and sleep.
- Set realistic goals and expectations for yourself.
- Set priorities and get organized. If an unpleasant task faces you, do it early and get it over with. Procrastination is stressful.
- Learn to recognize and act on early symptoms of stress.
- Share your problems with a friend, family member, or counselor.
- Be aware and recognize the parts of your life that you can control and let the others go. Know your limits and learn to accept what is.
- Be your best friend. Encourage, pamper, and take care of yourself.
- Respect your body.
- Make decisions and avoid letting problems drift.
- Slow down and take pleasure in every moment. Take on tasks one at a time, focusing on what is in front of you.
- Communicate positively and clearly with others.
- Balance your life, work, and leisure. Avoid too much of anything.
- Eat a well-balanced diet and do *not* skip meals. Food fuels our bodies. Without proper food intake, your body will not respond correctly.

Summary

Physical fitness helps you look and feel better, and it helps you function at a high level in your daily living. There are numerous physical and mental benefits from being physically fit. However, Americans today are generally unfit and overweight, increasing their risk for many diseases.



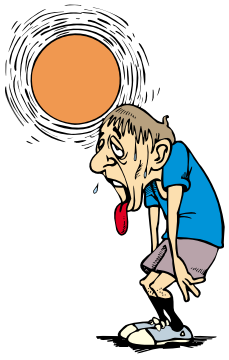
Physical activity helps to relieve stress and tension.

Cardiovascular fitness, *muscular endurance* and strength, *flexibility*, and *body composition* are all *health-related fitness components*. Cardiovascular fitness is the most essential component for life!

Skill-related fitness components of physical fitness are necessary in sports and recreational activities. They include *agility*, *balance*, *coordination*, *power*, *reaction time*, and *speed*.

To improve your fitness, you must periodically alter your exercise routine. The training principles used to reach fitness goals are *overload*, *progression*, and *specificity*. To overload, or improve your physical fitness level, you must apply the *F.I.T.T.* formula and increase the amount of activity or exercise. F.I.T.T. stands for *F*requency (how often to exercise), *I*ntensity, (how hard to exercise), *T*ype (what kind of exercise), and *T*ime (how long to exercise). The progression principle refers to doing a series of overloads by controlling the rate at which you change the F.I.T.T. formula. Specificity is the overloading of specific muscles.

Heat-related illnesses can occur when a person becomes extremely overheated and dehydrated, or loses a great amount of bodily fluids. *Heat cramps*, *heat exhaustion*, and *heat stroke* are serious heat-related illnesses that can occur when the body becomes too dehydrated. If life-threatening heat stroke occurs, emergency medical help should be called immediately.



Stress is the response of the body to any demands made upon it. Stress is a natural part of life. Our bodies respond the same to both good (eustress) and bad (distress) stress. Learning to recognize our individual sources of stress and using positive coping strategies will reduce our overall stress.

Safety measures should be taken upon starting an exercise program. Among these are a medical checkup, appropriate attire, exercising at your own fitness level, and warming up and cooling down.

Additional precautions must be taken when exercising in high heat and humidity. To prevent heat-related illnesses, it is important to drink plenty of water, avoid wearing rubberized suits, avoid alcohol and caffeine, and get used to the climate gradually.