



Unit V – Wellness, Fitness and First Aid

Chapter 1 - Choosing the Right Exercise Program For You

Section 1 – Components of Fitness and Types of Exercise



What You Will Learn to Do

Develop a personal exercise program



Objectives

1. Classify exercises as aerobic, anaerobic, isometric and isotonic
2. Compare the benefits of aerobic, anaerobic, isometric and isotonic exercise
3. Identify the benefits of regular exercise
4. Determine the essential components of a good exercise program



Key Terms

Tone -

A degree of tension or firmness, as of muscle

Aerobic -

Allowing sufficient amounts of oxygen to be delivered to the muscles

Anaerobic -

Working in the absence of adequate amounts of oxygen being delivered to the muscles



Key Terms

- Isotonic -** Exercise in which muscles contract, but very little body movement takes place
- Isometric -** Building muscle strength using resistance without joint movement
- Isokinetic-** Building muscle strength using resistance with joint movement



Introduction

What you eat and how you exercise can directly affect how you look and feel.



When it comes to your appearance, it's a fact that diet and exercise can help you maintain:

- Weight
- Muscle tone
- Healthy hair
- Healthy skin



Introduction

With regard to health, diet and exercise can lower the risk of:

- Heart disease
- High blood pressure
- Depression
- Other health problems



Following a balanced diet and exercising regularly =
Staying healthy and looking good.



Introduction

With the right outlook and attitude, everyone can find an exercise program that they enjoy and can stick with..





Introduction

Exercise has many **benefits**. Being fit is good for you on many levels:

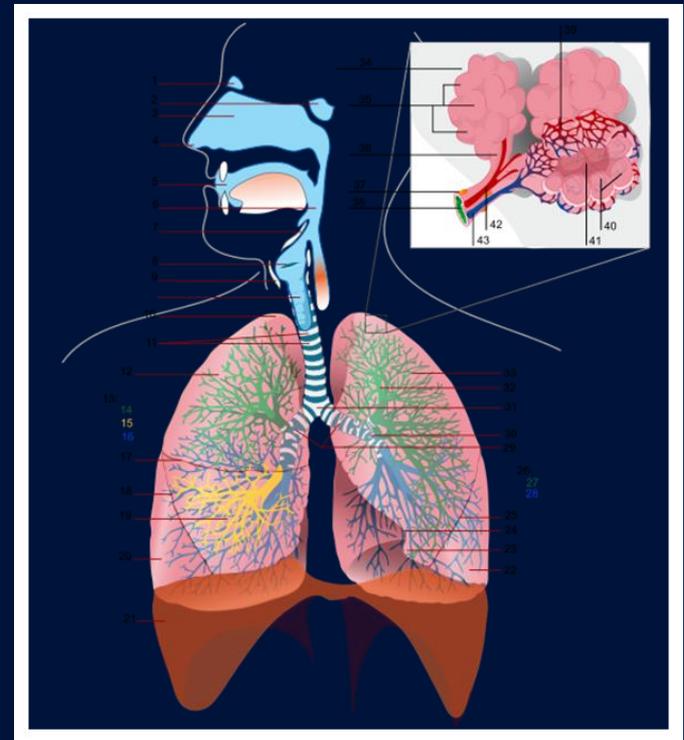
- It can be fun
- It can help form friendships
- It may help you feel better about yourself
- It can improve your resistance to disease
- It can relieve stress
- It generally improves your mental and physical health





Introduction

Are you physically fit?
When you are physically fit, your heart, blood vessels, lungs and muscles work together as a team allowing you to breathe easily and contract muscles in **coordinated** movement.





Introduction

Your body is made for activity!
Regular exercise helps you gain
or maintain **physical fitness**.



Rest, sleep and good nutrition are
just as important as a program of
vigorous exercise in developing
fitness and a healthy lifestyle.



Components of Fitness

Each individual has their own potential for fitness but you can reach your own **personal best**.

The health-related components of fitness are:



1. Cardiorespiratory endurance
2. Muscular strength and endurance
3. Flexibility
4. Body composition

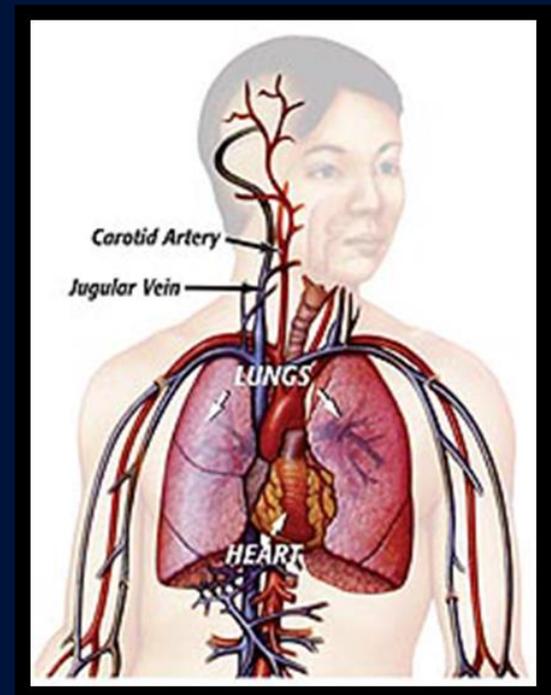


Cardiorespiratory Endurance

Cardiorespiratory endurance is the ability of your heart, blood vessels and lungs to distribute nutrients and oxygen and to remove wastes.

At rest, your heart pumps 5-6 quarts per minute (5.5 – 6.5 liters).

When exercising, it pumps 20-25 quarts per minute (22 - 27 liters).





Cardiorespiratory Endurance

If your cardiorespiratory endurance is good, your heart and lungs function easily and recover quickly after heavy exercise.



If it is not good, you might experience shortness of breath and a very high heart rate after only light exercise.



Muscular Strength and Endurance

Strength is the capacity of a muscle or a group of muscles to exert or resist a force.

Endurance is the ability of muscles to keep working over an extended period of time.



Both are important to sports and everyday activities.

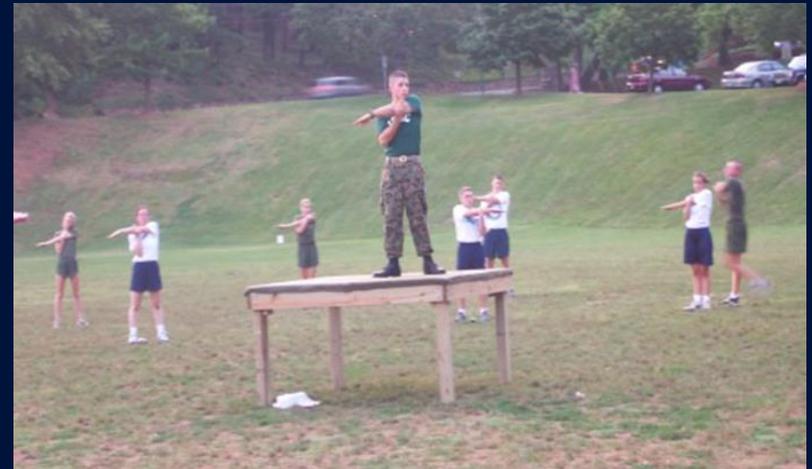


Flexibility

Flexibility is the ability to use a muscle throughout its entire range of motion.

The sit-and-reach test assesses your flexibility.

Stretching exercises can increase flexibility and reduce risk of injury during exercise.





Body Composition

The amount of body fat compared to lean muscle tissue makes up one's **body composition**.

Excessive body fat has been linked to dangerous health conditions.





History Connection

The word “gymnasium” comes from the Greek word “gymnasion,” meaning school.

Ancient Greeks emphasized physical fitness.



Greek students received instruction on exercise and sports.



Benefits of Exercise

What happens inside you when you do some form of exercise?

- Muscles contract and relax
- Muscles use oxygen-enriched nutrients
- Heart beats faster
- Breathing becomes rapid and deep
- Blood flow increases
- Blood pressure and body temperature rise
- Sweating begins



Benefits of Exercise – Physical

Reduces blood pressure

Increases muscle strength and endurance

Increases efficiency of heart and lungs

Aids digestion and helps prevent constipation

Increases bone strength

Increases flexibility

Improves posture and appearance

Reduces risk of cardiovascular disease

Increases resistance to disease

Helps reduce body fat and control appetite

Increases physical stamina

Increases resistance to muscle and bone injury



Benefits of Exercise – Psychological and Social

Improves mental alertness

Improves self-image

Improves self-confidence

Improves quality of sleep

Increases ability to concentrate

Resistance to mental fatigue

Increases social involvement

Relieves stress and improves relaxation

Helps control anxiety and depression

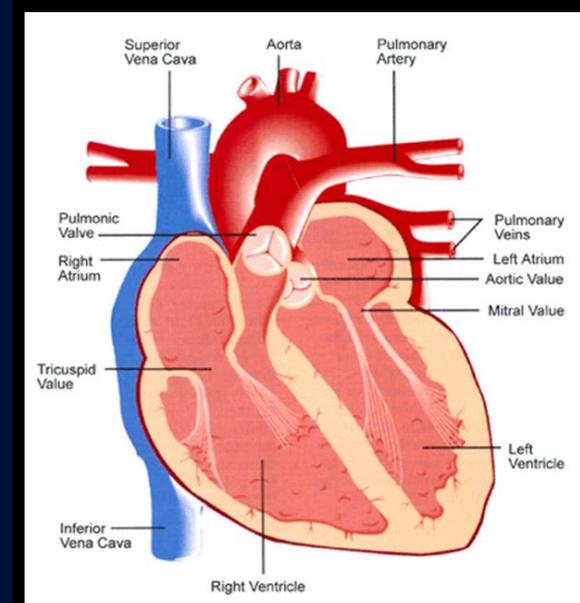


Physical Benefits

Blood **circulates** through your body faster during exercise. Blood pressure is typically **lowered** as the result of regular exercise.

Increased circulation is why you feel refreshed and energized.

Regular exercise may increase the number of capillaries you have in your body, giving your muscles better blood supply.





Physical Benefits

As you stretch your muscles, you can improve your flexibility.



When you do endurance exercises regularly your muscles become stronger and can work longer.

Regular exercise strengthens bones which, along with strong muscles, are less likely to be become injured.



Physical Benefits



Exercise can improve or maintain body composition.

A regular workout is important in keeping body fat within standards.

Committing to consistent exercise is an important factor in successful long-term weight loss or maintenance.



Psychological Benefits

People who exercise are likely to :

- Sleep better
- Feel more confident
- Focus more productively
- Increase their creativity



Exercise reduces **emotional stress** and can help with feelings of sadness. Many health professionals prescribe exercise as an important part of treatment for **depression**.

Even **simple stretching** can help relax tense muscles and allow better relaxation and sleep.



Psychological Benefits

Ever experience exhilaration following a hard workout? This is due to **endorphins**; chemicals in your brain.



Endorphins help give a sense of satisfaction and pleasure.

Vigorous exercise causes brain cells to produce **more** endorphins.



Types of Exercise

No single exercise alone can maintain all **four components** of physical fitness, but each have their own value.

You should participate in whichever recreational activities you enjoy to get the benefits of regular exercise.





Types of Exercise

Exercise can be classified into different types depending on what the performance involves.

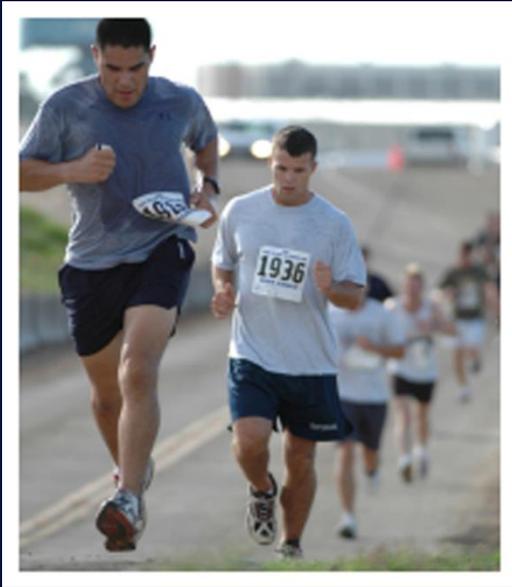
Among these types are:

- **Aerobic**
- **Anaerobic**
- **Isotonic**
- **Isometric**
- **Isokinetic**





Aerobic Exercise



Nonstop, repetitive, strenuous physical exercise that raises the breathing and heart rate is considered **aerobic**.

Aerobic exercise improves blood and **oxygen** flow to vital organs, and improves lung capacity.



Aerobic Exercise

Frequent, regular, ongoing aerobic exercises lasting at least **20 minutes**, improve cardiovascular endurance.

Aerobic exercises:

- Are especially important for circulatory and respiratory health
- Do not always improve muscular strength
- Generally improve muscular endurance





Anaerobic Exercise

Anaerobic exercise:

- Works the muscles intensely in **fast accelerations** of movement and does not require as much oxygen
- Requires bursts of power, energy and the ability to maneuver quickly





Anaerobic Exercise

In a 20-minute weightlifting session, a person would only achieve anaerobic levels when he/she actually lifts the weight.

Anaerobic exercises:

- Are intense physical activities that last from a few seconds to minutes
- Usually improve flexibility, strength, and sometimes speed
- Are designed to develop specific skills





Isotonic, Isometric, Isokinetic Exercise



- Firm and tone muscles and builds muscle strength
- Work against resistance to build muscle strength
- Can increase strength and endurance of specific muscles



Isotonic, Isometric, Isokinetic Exercise

Isometric exercise builds muscle strength by using resistance *without* joint movement. Example = hand pulls

Isotonic exercise builds muscle strength by using resistance *with* joint movement. Example = bicep curls

Isokinetic exercise builds muscle strength by using resistance *through a range of motion against weight*. Example = special machinery designed for this use



Isotonic, Isometric, Isokinetic Exercise



Isokinetic exercise is employed frequently by physical therapists to help people recover from injury or surgery.



Questions?

