

PHYSICAL EDUCATION

Student's Text Book



Grade 11

PHYSICAL EDUCATION

Student Text
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Revised Edition

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UNIT ONE

UNDERSTANDING PHYSICAL EDUCATION AND PHYSICAL FITNESS

Unit Overview

This unit contains two chapter. The first chapter deals with basic concepts of physical education and the second chapter deals with basic concepts of physical fitness.

Sport and physical education play a large role in many people's lives school physical education allows you to study the interrelationship between the mind and the body and the interrelationships of sport and culture.

Beginning in 776 B.C the Olympic Games were held in the valley of Olympia in Greece. The ancient Greeks first had the idea of getting men together every four years to hold and witness events. In those days women did not participate. The idea was to have the best athletes from all over Greece gather in one place and compete. Starting 1896 modern Olympic Games on wards number of participating countries increased from time to time. Because the Olympics are held only once every four years, the public and athletes often consider them as more important and valuable. Many athletes have become heroes in their own country. This led many young people to come to the sport arena and participate in sports. Eventually participation in sports brings fitness. Fitness improves the health condition.

When you consider the impact of regular activity on health. It is easy to see that exercise is where prevention and rehabilitation cross over. It means that regular physical exercise maintains health conditions. The following list shows factors that affect health are also affected by exercise.

- Lower blood pressure
- Complete body conditioning
- Control of body weight
- Stress management etc.

Unit Objectives

At the end of this unit, students will be able to:

- understand the History of Olympic games. effect of exercise on the body function;
- develop attitude to participate in regular fitness program;
- know the level of their physical fitness;
- value the contribution of physical exercise to health.

CHAPTER 1

BASIC CONCEPT OF PHYSICAL EDUCATION

Introduction

Sports are a cultural phenomenon whose highest expression is to be found in Olympism in today's modern world. The Greeks in ancient time had the idea of getting men together every four years to hold and witness sporting events. The idea was to have the best athletes from all over Greece gather in one field and compete every four years.

Today the games have brought a tremendous change in quality and also in quantity.

The chapter will introduce you the development of Olympic Games from ancient days up to now. It will also insights our participation in the Olympic Games.

Chapter Objectives

At the end of this chapter, students should be able to:

- describe the History of Olympic games;
- Identify and compare Ethiopian position in the Olympic with other;
- Develop interest to participate in the Olympic.

As there is no stars in the sky warmer than the sun likewise there is no competition greater than the Olympic Games.

Do you agree in the above statement?

1.1 Olympic Games

The Olympic Games have become the world biggest sporting events of our time. They are largest of all sporting events in terms of the number of sports on the program. The number of athletes present, and the number of different countries reunited in a single geographical area. The games take place every four years.

The prospect of being selected for Olympic games is the ultimate goal for the majority of athletes. Enormous reserves of will power and many years of dedicated training are required to achieve this goal. Those athletes that qualify for the games can consider themselves as being among the world's best. They will become Olympians, whether or not they win a medal. Because, the most important thing in the Olympic Games is taking part. Out of the thousands of people who enter the Olympic competitions, only a small proportion of athletes and teams reach the finals.

Participation in the games is what counts the most for the majority of competitors; to have the honour of representing their country to rub shoulders with elite athletes and to have the opportunity to give their best. This is all part of the spirit of the Olympic Games.

1.2 History of Olympic Games

1.2.1 Ancient Olympics

There are many different stories about the beginning of the Olympics. One myth says that the guardians of the infant god Zeus held the first footrace, or Zeus himself started the games to celebrate his victory over his father Cronus for control of the world. Another tradition states that after the Greek hero Pelops won a chariot race against king Oenomaus to Mary Oenomaus's daughter Hippodamia, he established the games.

The Olympic Games were held at Olympia. Olympia was one of the oldest religious centers in ancient Greek world. Since athletic contests were one way that the ancient Greeks honored their gods, it was logical to hold athletic competition at the seat of a major temple. Also Olympia was convenient geographically to reach by ship which was a major concern for the Greeks.



Fig.1.1 Ancient Olympic facility

The first recorded Olympic games took place in 776 BC. Although this was certainly not the first time they were held.

The Olympics were of fundamental religious importance with sacrifices and ceremonies which were celebrated in honour of Zeus chief god of Greeks whose big statues stood at Olympia and Pelops the divine hero and mythical king of Olympia, famous for his legendary chariot race, in whose honor the games were held.

The games were held every four years. The period between two celebrations became known as Olympiad, meaning a four-year period. The Greeks used Olympiads as one of their methods to count years.

Each fourth year a month-long peace was declared around the time of the games. Any fighting ceased to allow all athletes. Passage ways through

war Zones. Nowadays, Olympic Games have become a symbol of peace and solidarity.

The Olympics of that period were considered to be the greatest cultural exchange among the various Greeks. Large number of people who, came to watch the games mingled during the weeks of competitions.

The games originally were held on a field beside a statue of Zeus, and the footrace started at its base. Later, over a period of years, a stadium was constructed. Other events in the Olympics Games included the discus throw, the javeline throw, the long jump, wrestling boxing, chariot and horse racing, and the pentathlon. The pentathlon consisted of five events: a short run, the long jump, discus and javeline throw and wrestling.

The prize for an Olympic victory was simply a crown of olive leaves. However, the victorious athletes usually were honoured when they returned home. Triumphal parades were held, and many privileges were given to them, including gifts of money. Often statues of the Olympic Champions were erected.

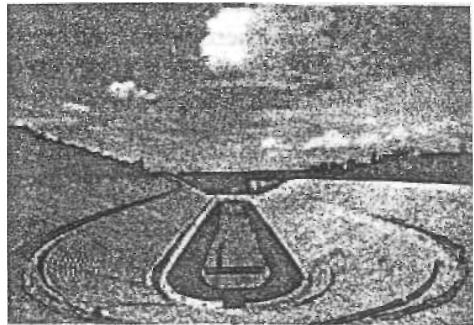


Fig.1.2. Olympia

The games gradually lost its importance as the Roman conquered the Greeks. When Christianity became the official religion of the Roma Empire, in 394 A.D, the Emperor Theodosius I outlawed the Olympic Games considering them to be "pagan events" and they were finally abolished.

1.2.2 Modern Olympic Games

The modern Olympic Games were revived- by the initiative of the French nobleman, Baron, de Coubertin. He was motivated by a desire to enhance the physical fitness of French youth and to promote international good will and peaceful coexistence by bringing together the youth of all countries.



Fig1.3. Pierre de Coubertin

In 1892, he called for a revival of the Olympic Game, but he discovered that no one was really interested. He spent the next three years trying to make people conscious of what he called "Olympism". Olympism, as coubertin called it, was characterized by religion, peace and beauty. The love of beauty, especially as expressed in the beauty of movement, is also still notable.

In 1896, coubertin formed the International Olympic Committee. He succeeded in reviving the Olympic Games. The first modern Olympic Games were held in Athens, in 1896 as a reminder that Olympic Games originated in Greece. The ancient Olympic Games were the preserve of Greek citizens, whereas the modern Games are open to all.

World War I and World War II forced cancellation of the Olympic in 1916, 1940, and 1944, but they resumed in 1948 and are held every four years.

Almost every nation sends teams of selected athletes to take part. The number of participants was 245 from 14 nations in 1896. Currently these number grow to 200 countries and more than 10,500 competitors which is higher number than the number of countries recognized by united nations, which is 192. The purpose of the Olympic Games is to foster the ideal of a "sound mind in a sound body" and promote friendship among nations.

In the wider context of the Olympic movement, the purpose is to:

- link sport with culture and education,
- promote the practice of sport and the joy found in exertion,
- help to build world through sport practised in a spirit of fair play and friendship.

1.3 Olympic Symbols

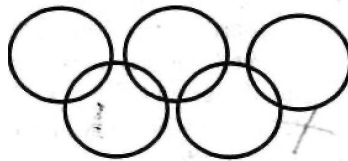


Fig.1.4 The five Olympic rings

The Olympic Movement uses many symbols. Most of them represent Coubertin's idea of international solidarity. The best known symbol is that of the Olympic rings. These five interwoven rings represent the unity of five continents of Africa, Asia, the Americas, Australia and Europe. They appear in five colours on a white field on the Olympic Flag. These colours,

are red, blue, green, yellow, and black. It is thought that each nation has at least one of these colours in its national flag. The flag was adopted in 1914. It is hoisted at each celebration of the games.

1.4 Ethiopia in the Olympic

When 14 nations took part in the first modern Olympic Games in 1896 in Athens, the time and place was too distant for us, Ethiopians.

Sixty years after the first modern Olympics, held in Athens, we made our participation for the first time in 1956 Melbourne Olympiad. Though, we took part in Athletics and cycling. The team returned home without a medal but with a lot of international experience. This experience was a breakthrough to the Ethiopian sports.

In the second participation in the 1960 Rome Olympics, the Ethiopians achieved remarkable result. It was in this Olympiad that Abebe Bikila, who ran barefooted, won the first gold medal in the Marathon race for Ethiopia and indeed for the whole of Africa.



Fig.1.5 Ethiopians in the Olympic

The same history was also repeated in the 18th Olympiad held in Tokyo in 1964. Once again Abebe Bikila won gold in Marathon. Abebe has become the first and the only Athlete to win the Olympic Marathon race twice in successive. Until this time, Ethiopia took participation in athletics and cycling. But in the fourth for Ethiopia participation in Olympiads, that was held in Mexico in 1968, the number of sports which our athletes took participation grew into three: athletics, cycling and boxing. For the first time the country collected two medals, one in Marathon and the other in 10,000m, through Mamo Wolde.

Since then, Ethiopia has kept up to participate with stunning performance in all Olympic Games except in those which she boycotted due to political interference.

Our country was forced to boycott the Montreal (1976), the Los Angeles (1984), and the Seul (1988) Olympics.

Participation and rewards

Our first participation in the Olympics was in 1956 Melbourne, obviously, results were disappointing. However, we live by the Olympic motto, "in life what counts is not necessarily winning, but participation. The following table indicates our participation and rewards we obtain in the Olympic Games.

No	Olympics	Sport	Athletes	Gold	Silver	Br.
1	1956 Melbourne	Athletics	-	-	-	-
2	1960 Rome	"	Abebe Bikila	1	-	-
3	1964 Tokyo	"	Abebe Bikila	1	-	-
4	1968 Mexico	"	Mamo Wolde	1	1	-
5	1972 Munich	"	Mamo Wolde	-	-	1
		"	Miruse Yifter	-	-	1
6	1976 Montreal	"	Boycott			
7	1980 Moscow	"	Miruse Yifter	2	-	-
		"	Mohammed Kadir	-	-	1
		"	Eshutu Tura	-	-	1
8	1984 Los Angeles	"	Boy Cott			
9	1988 Seoul	"	Boy Cott			
10	1992 Barcelona	"	Derartu Tulu	1	-	-
		"	Addis Abebe	-	-	1
		"	Fitta Bayissa	-	-	1
11	1996 Atlanta	"	Haile G/Selassie	1	-	-
		"	Fatuma Roba	1	-	-
		"	Gete Wami	-	-	1
12	2000 Sydney	"	Haile G/Slassie	1	-	-
		"	Gezahegn Abera	1	-	-
		"	Million Wolde	1	-	-
		"	Gete Wami	-	1	1
		"	Tesfaye Tolla	-	-	1
13	2004 Athens	"	Kenenisa Bekele	1	1	-
		"	Sileshi Sihni	-	1	-
		"	Messert Defar	1	-	-
		"	Tirunesh Dibaba	-	-	1
		"	Egziyeheru Dibaba		1	-

Think about it

1. *Where did the Olympic Games come from?*
2. *What are the reasons for the Olympic Games to be largest of all sporting events?*
3. *Why was Olympia selected to hold at the ancient Olympic Games.*
4. *What prize did Olympic Victors get in ancient period?*
5. *When did Ethiopia participate in the Olympic Games for the first time and in which events?*
6. *What is the main purpose of the Olympic Games?*
7. *Describe one of the Olympic symbols?*

Activity

1. Ethiopia has participated in Olympic Games since the 1956 Melbourne Olympics, however boycotted the games held in Montreal, Los Angeles and Seoul.
Ask those people who are you think conversant to the history of Olympic Games and consult related books on:
 - What the lessons were that enforced our country to boycott the three Olympic Games?
 - How politics interfere in Olympic Games? write one page report and read it in the class.
2. These days Olympic competitions have take place in around 300 events. But, our country's participation and success have been limited to a few events such as long distance running and Marathon.
 - What do you think should be done to increase number of events that we participate in?
 - What should be done to collect more medals even in the events we have been participating?

CHAPTER 2

BASIC CONCEPT OF PHYSICAL FITNESS

Introduction

Exercising regularly must become one of those things that you do without question like eating and sleeping. Unless you are convinced of the benefits of fitness and the risks of being unfit, you will not succeed. There are different categories of exercises that you need to become familiar with. And these exercises have different effects on your body and level of health and fitness. The following chapter discusses the contribution of exercise for improving work efficiency and reducing mental stress and muscular fitness. In the chapter you will also find basic information you need to develop your personal physical fitness. It tells you what your goals should be and how often, how long and how hard you must exercise to achieve them.

Chapter Objectives

At the end of this chapter, you should be able to:

- understand the benefits of regular exercise;
- know methods of increasing muscular strength and endurance;
- value how exercise improves the immunity of HIV/AIDS patients.

2.1 Contribution of Regular Exercise

Nowadays, it is not unusual to see people from all age categories and walks of life doing physical exercises regularly in early morning or evening. Why should you think they take their time to do exercises? What to gain do people sweat being engaged in strenuous exercises?

All who exercise regularly, observing the principles of training benefit what they have intended. Could you list the effects brought about as a result of regular exercise? Regular exercise has miraculous effects in improving physical and organic efficiency and motor fitness. Improving work efficiency and reducing mental stress are also the contributions of regular physical exercises that this topic will present identically.

Children love to run, climb, swim and chase one another. That is until adults introduce them some materials to study. Exercise comes naturally. The human body was created for physical labor. This means to move, run and stretch. Nature has instilled a natural desire to exercise in each of us. It is our secular lifestyle that draws us away from exercise. But if you engage yourself with basic exercise you will see the following effects.

- Increase energy levels
- Strength the heart and system circulation
- Increases the uses of oxygen in the body
- Strengthens and build bones
- Lowers blood pressure
- Improves muscle tone and strength
- Helps reduce body fat
- Helps reduce stress, tension, anxiety and depression
- Improves flexibility
- Improves sleep
- Enhance the immune system and reduces the risk of developing diseases such as heart disease, cancer, diabetes, high blood pressure, etc.

Try to imagine all types of occupation you daily observe in your area. Have you ever taken a note that what physical quality each of the occupations demands to be carried out efficiently? Do you believe that if the workers improve their physical fitness, their work efficiency can be enhanced? If your answer is "yes" you will be correct. All occupations no matter what body parts. They involve



Fig 2.1 Fit worker

as how strenuous they are require from the workers specific physical fitness. Office works that are characterized by sedentary activity such as typing cause muscle strain as they involve certain major body muscles. For a typist to perform efficiently her tasks sitting in one place for a long time, she needs to have strong and endured back muscles.

Fit workers are more productive than unfit workers. As you know, certain jobs require an optimum level of fitness. Workers in big industry,

construction, agriculture, in the military public safety etc, are required to engage in strenuous effort. So with out properly developing their fitness level it could be difficult for most workers to meet the job demands. Some studies show that unfit workers can become a safety hazard to themselves as well as to their colleagues.

Fit workers are more productive than their colleagues because they will not be absent from work for few days and are fearless likely to incur job related disabilities or retire early due to degenerative diseases. To up grade their efficiency and accomplishes production goals, with out becoming easily fatigued and above all with out becoming hazardous to themselves and their colleagues, they have to participate in fitness programs. Of course exercise only will not ensure

2.1.1 Contribution of Regular Exercise for Reducing Mental Stress

Have you ever experienced any worridness before? How did you feel when you were worried? How can you explain the feeling you experienced while you were being worried? worridness in other word is stress. Try to remember the causes that were worried you. What did you do to manage the stress you faced?

Stress in a non-specific response of the body to any demand made upon it. If can come from a variety of sources such as environmental stressors include heat, noise, and climate. Physical stressors such as drugs, caffeine, tobacco, injury, disease and the most frequent stressors are emotional stressors.



Fig 2.2 People with stressful situation

As a student there are many things that make you to be under - stress. These may include how you spends time on the library for doing your class works, homework, preparation for tests, exams etc. All these will contribute to make you under-stress. Stress affects many things.

It affects your health and also your immune system this results in lowered resistance to disease. Disease such as cold and flu are more likely to occur. One of the healthiest ways to cope when you are faced with

mental stress involves engaging in a regular program of exercise. Person who regularly exercise for at least 30 minutes three times a week consistently are thought to release beta-endorphins (natural pain killing chemicals) for 90 minutes after exercise. Beta-endorphins are substances produced in the brain that relieve pain and create a feeling of well being. A regular exercise program will help you have a positive attitude while you face stressful situations.

Think about it

- 1. What would be some of the advantages to you of participating in exercise program?*
- 2. How do you explain stress?*
- 3. How would exercise be beneficial to manage stress and upgrade work efficiency?*

Activity

1. Write a two-page essay on how you benefited from participating in exercise in previous years of your study. Compare your experience with what you have learned in this topic?

2.2. Muscular Fitness

Muscular fitness is the capability of skeletal muscles to function efficiently in activities where generating force and continuous muscle contraction are needed you need muscular fitness to increase work capacity, to decrease the chance of injury, to prevent low back pain, and to improve athletic performance.

Increased muscular fitness can also improve your appearance. Because, good posture makes anyone look better. Since muscle is denser than body fat, one kilogram of muscle takes up less space than one kilogram of fat. Thus, two persons of the same height and weight but with different amount of muscle will look quite different. This means the student with less muscle will have poor posture. Where as the student with more muscle will have better appearance because muscle is less bulky than fat, and fit muscles keep areas of the body such as the abdomen from protruding.

There are two components of muscular fitness: Muscular strength and muscular endurance. Both of them are presented below.

2.2.1 Muscular Strength

Muscular strength is the maximum amount of force that can be applied by a muscle during a single maximal contraction. Throughout your life you need some strength to avoid injury, to meet emergencies, and to engage fully and independently in daily activities. It takes strength to wash your clothes, to lift and carry a basket, which is full of tomato, to lift and carry kids, to change a flat tire; and to run quickly.

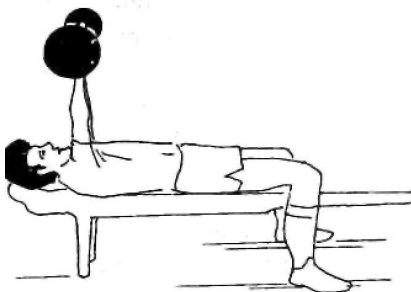


Fig.2.3. Muscular strength

Strength allows you to do more work and to move more smoothly and efficiently. Students who perform regular appropriate exercise possess sufficient strength for participation in activities such as: jumping, lifting, running, pushing etc. Strength helps you to have good posture and prevent back pain and muscular injuries. Lack of strength in the back and abdominal muscles is associated with poor posture and lower back problems.

2.2.1.1 Types of Strength

There are three types of strength. These are:

- a) Dynamic strength
- b) Static strength, and
- c) Isokinetic strength.

a) Dynamic strength

Dynamic strength is also called **isotonic strength**. (**Iso** means "same", and **Tonic** mean "tone"; so **isotonic** means "same tone."). It is defined as the maximal weight that can be lifted at one time. Dynamic strength required shortening or lengthening the muscle, causing a certain body part to move through a full range of motion. Weight lifting is the common form of isotonic training. Exercises such as sit-ups, pushups, chin-ups are isotonic exercises. Because they require isotonic muscle contraction that involve part of body to bend then gradually relaxes and lengthen.

The major values of performing isotonic contraction in exercise are the increase of joint range of motion. In addition, isotonic movements tend to facilitate blood circulation and thereby helping to facilitate muscular endurance. In isotonic exercise a body part is moved and the muscles change in length, either, shortening or lengthening.



Fig.2.4 Dynamic strength

b) Static strength

Static strength is a muscle's ability to exert a force without changing length. It is also called **isometric strength**. **Metric** means "length"; **isometric** means "same length".

Static strength demands forcefully contracting the muscles in a fixed position. That is, with no change in the length of the muscle or in the angle of the joint at which the contraction takes place. The measure of static strength is achieved when you exert maximal force against an immovable object. Attempting to lift or push an object that cannot be moved places the muscles in a state of static contraction.

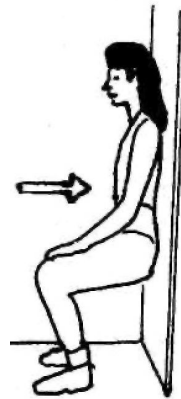


Fig 2.5. Static strength

In isometric exercise, you contract, your muscles but do not change their length. Even no movement of the body part occurs. Pushing your rigid arms against a wall while tightening your arm muscles in an example of an isometric exercise.

Static strength is specific to the angle at which it was trained. Any gain in static strength is limited to the specific joint angle at which the contraction is taking place. Static contractions are used in treatment (rehabilitation), and to gain strength at a 'fixed point' of a lift.

c) Isokinetic strength

Isokinetic strength is strength that allows you to exercise with a constant resistance through the full range of motion. **Kinetic** means "**movement**"; **Isokinetic** refers to **movement at a fixed speed**. It requires changes in the length of muscle while the contraction is performed at a constant speed. Isokinetic strength is measured with an expensive electronic or hydraulic apparatus.

Isokinetic devices are designed so that regardless of the amount of force applied against a resistance it can only be moved at a certain speed. That speed will be the same whether maximum force or only half the maximum force is applied. Consequently, when training isokinetically, it is absolutely necessary to exert as much force against the resistance as possible for maximum strength gains to occur.

Several isokinetic devices are available commercially. A major disadvantage of these devices is their cost. Many of them came with a computer added printing device and are used primarily as diagnostic and rehabilitative tools in the treatment of various injuries.



Fig. 2.6 Isokinetic strength

2.2.2 Muscular Endurance

2.2.2.1 Meaning and Benefits of Muscular Endurance

Muscular endurance is the ability of skeletal muscles to perform repetitive muscular contractions against some resistance. It allows you to keep on working. Students who have sufficient endurance can participate in activities without fatigue. Muscular endurance is essential for success in many work and athletic activities.

Muscular endurance is closely associated with muscular-strength. As strength increases, there tends to be a corresponding increase in endurance. Persons who possess great levels of strength tend to exhibit greater endurance when asked to perform repeated contractions. Once you have the strength to perform a repetitive task additional improvement in performance will depend on muscular endurance..

Before going into the discussion of the methods of developing muscular strength and endurance, first it is important to understand the fact that different muscle tissues are involved in each of these two components.

Second, it is also important to understand the relationship that exists among muscular fitness, age and sex.

Types of muscle tissues

Muscles are classified into three basic types:

1. Cardiac muscle (the heart muscle).
2. Smooth muscles (those inside internal organs of the body).
3. Skeletal muscles (those which are attached to the bones).

Skeletal muscles have two types of muscle fibers:

Muscular endurance is the capacity of skeletal muscles to continue contracting over a long period of time

2.2.2.2 Methods of Developing Muscular Strength and Endurance

Before going into the discussion of developing muscular strength and endurance, first it is important to understand types of muscle tissues and fibers. And second, the factors such as gender and age, that affect muscle fitness performance.

Types of skeletal muscle fibers

Skeletal muscles are made up of two types of fibers: fast twitch and slow twitch fibers.

- a) Fast -twitch fibers
- b) Slow — twitch fibers

All skeletal muscles are made up of these two fibers. And each skeletal muscle consists of both the fast-twitch and the slow - twitch fibers.

a) Fast - twitch fibers

fast - twitch fibers are also called **white fibers**. They are basically anaerobic; thus, they do not depend on oxygen for their energy supply. Fast-twitch fibers allow you to do strength activities such as weight lifting. They contract quickly so they provide explosive muscular contractions, but they are easily fatigued. Fast twitch fibers are responsible for speed and strength activities like sprinting, jumping, lifting etc.

b) Slow - twitch fibers

Slow - twitch fibers are also called **red fibers**. They are aerobic: thus, require oxygen for continued contraction. Slow twitch fibers allow you to do muscular endurance activities such as: long distance running or

repeating a muscular task many times. Slow -twitch fibers contract slowly and are fatigue resistant. All works of low intensity may develop the slow-twitch fibers.

Heredity greatly determines the number of fast -twitch and slow-twitch fibers anyone possesses. Therefore, it determines to some extent who the fastest and strongest people will be, and who will have the greatest muscular endurance. Individuals with large percentage of fast-twitch fibers will generally increase muscle size and strength more readily than individuals endowed with a large percentage of slow-twitch fibers. People with a larger percentage of slow-twitch fibers have greater potential for muscular endurance performance.

Regular exercise improves the capabilities of both types but doesn't seem to change one type into another.

The increase in muscle size is caused by a development of the fast-twitch fibers when strength exercises are used. On the contrary, the increase in muscle efficiency is caused by the increase in the total number of capillaries when endurance exercises are used.

For males, strength training is usually associated with marked increase in muscle size. Whereas, for females strength training tend to develop sizable increase in muscle size but usually females acquire limited increase. The higher levels of testosterone found in the male are responsible for higher muscle size in combination with an overload resistance program.

Females with higher testosterone levels tend to have more masculine characteristics, such as increased facial and body hair, deeper voice, and the potential to develop a little more muscle size.

Perhaps the most critical difference between male and female regarding physical performance is the ratio of strength to weight (relative strength). The reduced strength/body weight ratio in female is the result of their higher percentage of body fat. The strength/body weight ratio may be significantly improved through weight training by decreasing the body fat percentage while increasing lean weight. In general, female has less strength than male, but as previously pointed out, females can perform very capably strength activities.

Muscular fitness, gender and age

Boys and girls consistently improve in strength and endurance with age. The most dramatic gains in strength and endurance is being made during adolescence.

After about age 25, when the human body matures (that is, when growth stops) muscular strength and muscular endurance begin a gradual decline in both male and female until age 60 or above. The best evidence indicates that much of this decline in muscular fitness with age is the result of inactivity rather than natural aging. Thus, particularly, well beyond the middle-age years, it is desirable to exercise for health and efficient daily function of the body.

Methods of training to develop muscular fitness

The type of training most commonly used to promote muscle fitness is progressive resistance training. It is a method of training to build muscle fitness that provide health and performance benefits.

This name is used because the frequency, intensity, and length of time of muscle overload are progressively increases as muscles fitness increases.

There are three types of resistance progressive exercises. These are:

- a) Isometric exercise**
- b) Isokinetic exercise**
- c) Isotonic exercise**

a. Isometric exercise

In isometric exercise, you contract your muscle but do not change their length. Performance of an isometric exercise generates heat and energy by forcefully contracting the muscle in a fixed position. In isometric exercise, there is no change in the length of the muscle or in the joint at which the contraction takes place. Pushing an object that cannot be moved while contracting your arm muscles can be taken as an example of an isometric exercise. In general strength gained through an isometric exercise program is specific to the joint angle at which the contraction takes place.

Some examples of isometric exercise

1. Wall press

This' exercise is important to develop muscular fitness of the hand and shoulders.

Fundamental techniques of wall press

1. Stand in either the corner of a room or a doorway.
2. Open your feet at a shoulder width apart.
3. Place your hands against the walls.
4. The elbow should be bent to approximately the halfway point in the normal range.
5. Exert maximum force against the opposing.
6. Hold the position at least 6 to 10 seconds.
7. Then relax your hands 2 to 5 seconds.
8. Repeat the exercise as many times as required.

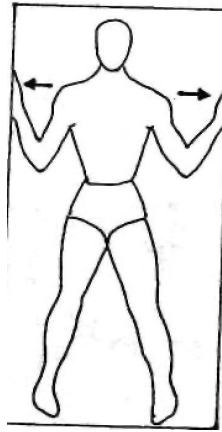


Fig.2.7 Wall press

2. Shoulder-arm tensor

This exercise is important to develop muscular fitness of the hands, **shoulder**, neck and abdominal muscle.

Fundamental techniques of shoulder-arm tensor

1. Open your feet at a shoulder width apart.
2. Hook the finger of the hands together.
3. Elbows bent so that the hands are above waist height.
4. Push the hands together forcefully, at the same time tensing the arm, shoulder, neck, and abdominal muscles.
5. Hold for 6 to 10 seconds.
6. Then relax for a few minutes (2 to 5
7. Repeat the tensing action but reverse the hand action by pulling against the fingers with as much force as possible.
8. Do as many times as required.

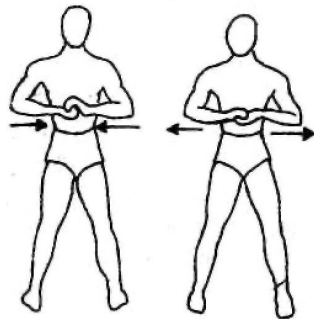


Fig.2.8 Shoulder arm tensor

b) Isokinetic exercise

Isokinetic exercise is usually done with special machines that are not readily available for most people. This type of exercise allows you to exercise with a constant resistance through the full range of motion. Since the cost of isokinetic exercise machines is expensive, they are not used for home or schools but they are still available in many health clubs (Gymnasiums).

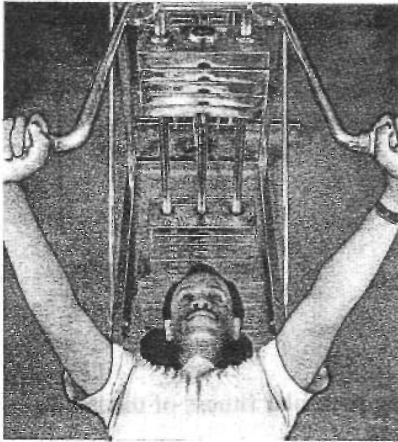


Fig 2.9 Isokinetic exercise

c) Isotonic exercise

In isotonic exercise a body part is moved and the muscles change in length, either shortening or lengthening. For example, lifting a glass of water to take a drink required isotonic muscle contractions. The muscle in the front of the arm (biceps) contracts and shortens causing the elbow to bend. Then it gradually relaxes and lengthens to allow lowering of the glass. Exercises such as sit-ups, pushups, and chin-ups can be taken as an example of isotonic exercises.

Isotonic exercises can be done with little or no equipment and they are good for muscular fitness. Since effective and efficient movement is an important goal for most students, isotonic exercise is preferred over isometric exercise. Therefore, as far as developing muscular fitness is concerned don't forget to select isotonic exercise.

Wrist roll

This exercise is important to develop the muscular fitness of the hand muscles.

Fundamental techniques of wrist roll

1. Open your feet at a shoulder width apart.
2. Slowly wind up a cord to which a two-kilogram weight has been attached.
3. Reverse that action slowly unwinding the full length of the cord.
4. Then relax for 5 to 10 seconds in between each sets
5. Do it as many times as required.

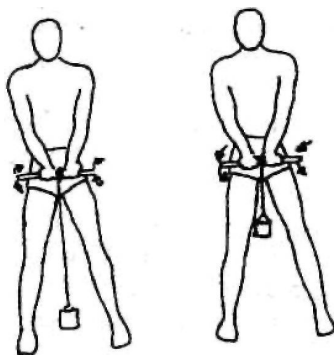


Fig. 2.10 Wrist roll

Note: A wrist roller can be easily constructed by securing one end of a 50cm length of sash cord to the center of a 20cm length of stick of a somewhat thicker diameter and the other end to a 2 or 3-kilogram weight.

Some examples of isotonic exercises

1. Knee to nose touch

This exercise is important to develop muscular fitness of the legs and hips (buttocks).

Fundamental techniques of knee to nose touch:

1. Kneel on your hands and knees.
2. Lower your hands and knees.
3. Lift one leg and try to touch your knee to your nose.
4. Then extend your leg out behind you until it is straight and parallel to the floor.
5. Do not lift your leg higher than parallel to the floor and do not arch (bend down) your back. Here after should come returning to start position.



Fig 2.11 Knee to nose

6. Repeat with the other leg
7. Do it as many times as required.

2. Half knee bends (knee dips)

The exercise is good for leg strength and endurance.

Fundamental techniques of half knee bends:

1. Put your hands on hips, and open your feet at a shoulder width apart.
2. Bend your knee until your thighs are parallel to the ground.
3. Return to the starting position by straightening your leg.
4. Do it as many times as you can.
5. Try to use a 30cm block under the feet to aid balance.

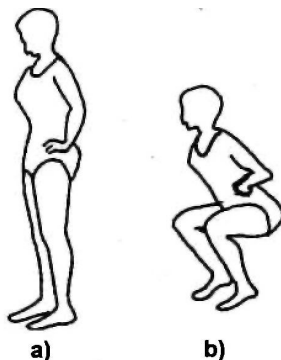


Fig. 2.12 Half knee bends

3. Side leg lift (Abduction)

It is important to develop muscular fitness of the thighs (upper leg).

Fundamental techniques of side leg lift (abduction)

1. Lie on your side.
2. Raise your leg as high as possible.
3. Lift the leg to the side of your body (not in front).
4. Return your leg to the starting position slow.
5. Don as many repetitions as you can.
6. And then, repeat with the other leg.

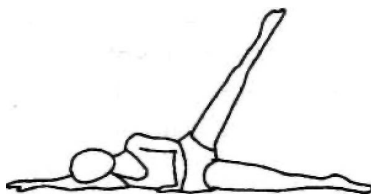


Fig.2.13 Side leg lift

E. Exercise factors that affect muscular fitness

To build muscular fitness you must exercise each of the major skeletal muscle groups of the body. Muscular strength imbalance may be resulted when some muscle groups or body areas are stronger than others. Therefore, equal emphasis should be given for each of them. For good result you must do muscular fitness exercises properly through the full rang of joint movement. It is also important to keep the muscles flexible enough with flexibility exercises that are included in chapter two.

F. Factors that determine which component of muscular fitness is developed

You can use the same exercises to build either strength or muscular endurance. But how many **sets** and **repetitions** you do will determine which component you build. To build strength, you must do an exercise against heavy resistance with only a few repetitions. For muscular endurance, you must repeat an exercise many times with light resistance.

Note the terms set and repetitions. **Set** means doing a certain number of exercises one time. **Repetitions** mean the number of exercises done in one set. For example, one set of five repetitions of pushups means that you would do five pushups and then rest. Three set of five repetitions means that you would do five pushups three times, with a rest period in between each sets, for a total of 15 pushups.

Consider the following four points to bring good result in terms of muscular fitness.

1. The exercises must be performed a minimum of three days a week or a maximum of every other day.
2. To develop muscular strength do three sets of each of the exercises and three repetitions of each set.
3. To develop muscular endurance do three sets of each of the exercises and do from 15 to 25 repetitions in each set.
4. You should always take active rest in between each set and avoid holding your breath while exercising.

G. Measuring muscular strength and endurance

How can you test and see the development of muscular endurance and muscular strength?

There are many tests, which we can apply and see how far we have brought up a change in our muscular fitness level.

This may include

- Pushups
- Chin ups
- Sit ups
- Bench press
- Overhead press etc.

But for your practical application the following two kinds of tests will be presented as an example.

1. Pushups test

Equipment

- A standard 46cm chair
- Stopwatch

Purpose: To assess the muscular endurance of the elbow extensors and shoulder flexors.

Starting position

Arm straight hand directly under the shoulder, legs straight feet together with toes supporting the mass of legs. The body is straight from shoulders, through the hips to the heels.

Procedure

1. Lower the nose or chin to the mat. Keeping the straight body position. Return to the starting position/no other part of the body is to touch the floor/ this counts as one repetition.
2. Count the number of repetitions performed in 60 seconds.
3. Check your progress.

2. Bench press test

Equipment

- Bench
- Weight lifting materials

Purpose

To assess the strength of the elbow extensors and the pectoral muscles.

Procedure

Universal bench press station procedure:

1. Assume lying position on the bench with knee flexed, and feet on the bench, shoulders should be approximately under the hands as they grasp the bar.
2. The initial resistance will depend up on your strength, but as a guide select 50% body mass for males and 33% of body mass for females.
3. If you can successfully complete one repetition, repeat, the procedure after one minute, adding and additional weight to the previous resistance. Continue with this procedure, allowing one-minute recovery between attempts until the 1 RM (repetition maximum) has been determined.
4. Check your progress.

Unit Summary

- Beginning 776 b.c the Olympic Games were held in the valley of Olympia in Greece.
- Starting 1986 modern Olympic Games onwards number of participating countries increased from time to time.
- Eventually participation in sports brings fitness, fitness improves the health condition.
- In now days, the Olympic Games became a symbol for peace and solidarity.
- When 14 nations took part in the first modern Olympic Games in 1896 in Athens, the time and place was distant for us, Ethiopians.
- Muscular strength is the maximum force that can be applied by a muscle during a single maximum contraction.
- Dynamic strength is also called isotonic strength.
- Static strength demands forcefully contracting the muscle in fixed position.
- Static strength is also called isometric strength:
- Isokinetic strength is that allows you to exercise with a constant resistance through the full range of motion.
- Muscular endurance is the ability to perform repetitive muscular contraction against some resistance.
- Fast twitch fibers are responsible for speed and strength activities like sprinting, lifting, etc,
- Slow twitch fibers allow doing muscular endurance activities such as long distance running or repeating a muscular task many times.
- The reduced strength/body weight ratio in female is the result of their higher percentage of body fat.
- You can improve your muscular fitness/strength and endurance using isometric, isokinetic, and isotonic exercises

Key Terms

Chariot	an open vehicle with two wheels that was pulled by a horse or horses.
Culture	the customs, ideas, and civilizations of a particular society
Health	the condition of a person's body and mind.
Hero	a person who has done brave or good and who is admired and remembered for it
Immunity	the ability to avoid or be UN affected by disease
Legend	an old story that may or may not be true.
Olympism	the social responsibility of a sport, olympism, international relations olympism. The Olympic games and the Olympic movement
Rehabilitation	to live a normal life after an illness
Statue	the figure of a person or animal that is made of stone or metal
Traditions	customs or belief that had continued from the past to the present.

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UNIT TWO

INDIVIDUAL AND TEAM SPORTS

Unit Overview

A person who is well versed in sports can most likely stay active though out life. Those who acquired basic techniques of individual and team sports are always with the advantage of spending wisely their spare time, to be assimilated easily in social groups and maintain their physical fitness and health.

It is obvious that skillful performance in individual and team sports requires coordination of different parts of the body during movements. Unit 2 intends to teach you fundamental techniques of individual and team sports that contribute in the development of this coordination.

The unit contains four chapters. Such as

Chapter 3. Gymnastics

Chapter 4. Ethics and art of self-defense

Chapter 5. Team games

Chanter 6 Athletics

Unit Objectives

At the end of this unit the students will be able to:

- improve the basic biomechanical principles in executing selected self defence, gymnastics, basket ball and athletics;
- improve skills in performing gymnastics, self defence basket ball and athletics;
- develop courage, self defence, co-operation through participation of activities;
- show improvement in physical fitness.

CHAPTER 3

GYMNASTICS

Introduction

The word gymnastics means "naked art" and comes from the early Greeks. Gymnastics in modern usage generally refers to body movements on apparatus and tumbling on mats.

The chapter focuses on head spring from tumbling and straddle vault from apparatus gymnastics. A brief discussion and illustration of these activities together with common errors, safety rules, and game practices will be the focus of the chapter.

Chapter Objectives

At the end of this chapter you would be able to:

- identify the nature of head spring and straddle vault;
- improve skills in performing head spring and straddle vault;
- show courage and self confidence.

3.1. Tumbling

Tumbling is the art of manipulating the body in feats of skill with out the use of apparatus. Tumbling maneuvers include rolls, somer saults, twists, springs, balances on hands, and manipulation of the body in unusual position.

3.1.1 Head Spring

Before performing the main activity, you need to do the following conditioning exercises. These exercises will also help you to stay injury free throught out the session.

Conditioning Exercise



Sit down: place soles of feet together and drop knees toward floor. Place forearms on inside of knees and push knees to ground. Lean forward, bringing chin to feet. Hold for five seconds. Repeat three to six times.

Fig. 3.1 Seat straddle lotus

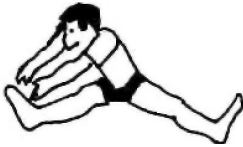


Fig 3.2 Seat side straddle

Sit with legs spread; place both hands on same ankle. Bring chin to knee keeping the leg straight. Hold for five seconds. Repeat three to six time repeat exercise on opposite leg.



Fig 3.3 Seat stretch

Sit with legs together, **feet flexed**, hands on ankles. Bring chin to knee hold for five seconds. Repeat three to six times.



Fig 3.4 Leg, hug

This exercise stretches the lower back. Lie on your back with your knees bent in a hook-lying position. Lift hips. Hold for 3 seconds. Repeat 3-6 times.



Fig 3.5 Knees to chest

Lie on back with **one leg straight**, the other leg with hip turned in at knee bent. Press knee to floor. Hold for five seconds. Repeat three to six times.



Fig 3.6 Forward lunges

Kneel on left leg; place right leg forward at a right angle; Lunge forward, keeping the back straight. Stretch should be felt on the left groin. Hold for five seconds. Repeat three to six times Repeat on opposite leg.



Fig 3.7 Side lunges

Stand with legs apart; bend the left knee while leaning toward the left. Keep the back straight and the right leg straight. Hold for five seconds repeat on opposite leg. Repeat three to six times.



Fig 3.8 Back bend

From supine position bend knees to place heels close to hips and place hands, palms down under shoulders. Push hips upward while extending arms and legs simultaneously, keep head between arms.



Fig 3.9 Standing thigh stretcher

Stand supported. Pull foot to buttocks. Hold for five seconds. Repeat three to six times.

Head spring is executed (performed) from the top of the head. If you follow these fundamental techniques properly, performing a head spring is very simple.

- Place the head on the mat with the hand slightly forward.
- Place toes on the mat with the knees slightly bent.
- Push through toes, extending legs and forcing hips to overhead position.
- As hips continues past head position, push forcefully with hands and straighten the arms.
- The entire body is fully extended with arms overhead as your feet contact mat(Slight bending on the knees)

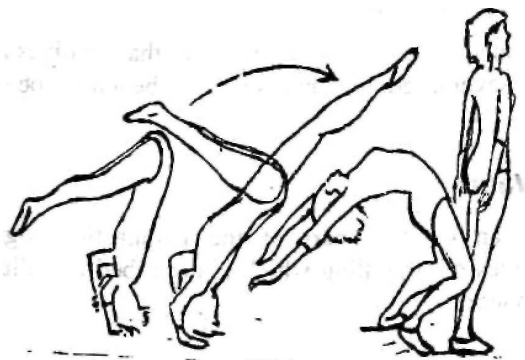


Fig 3.10 Head spring

Common errors

1. Failure to allow hips to pass the overhead position before thrusting legs and pushing with hands.
2. Failure to remain in tight pike as hips pass overhead.
3. Insufficient thrust with legs, insufficient push with hands; or both.
4. Failure to thrust legs and push hands simultaneously.
5. Failure to keep head and back up until standing.
6. Failure to keep arms back overhead until standing.

Safety procedures

- Mats, whatever the surface must be kept clean.
- Don't perform the skill before properly warming-up your body.
- Make sure the place in which you perform the skill is free from injurious objects.
- Do not tumble on mats that are ripped or torn.
- When using more than one mat, be sure no separation or over lapping exists between mats.

Individual practice

1. Perform a head spring from standing position.
2. Take a short walk and then perform head spring.
3. Take a short run and then perform head spring.
4. Do as many head spring as you can. Compare the number of head spring that you performed with your friend.

3.2. Apparatus Gymnastics

Apparatus gymnastics is a part of gymnastics that involves moving in relation to one or several equipments such as benches, beams, bars vaulting boxes.)

3.2.1. Straddle Vault

Vaulting is an exciting part of the gymnastic program. The fundamental techniques of straddling which is described and illustrated in this chapter is fun to leant.

Conditioning exercises

1. Running

- Running is -a good conditioning exercise for vaulting
- Running in place, running long distance are excellent forms of cardio vascular exercise.
- Keep an even pace or rhythm.



Fig 3.11 Running

2. Tuck jumps

As rapidly as possible, spring vertically and bring knees to chest and extend before landing.



Fig 3.12 Tuck jumps

3. Ankle stretch

- Kneel then sit on heels.
- Place hands at side of body beside knees.
- Lift knees up toward chest keeping weight on toes .
- Hold at stress point for five counts, then lower and repeat.



Fig 3.13 Ankle stretch

4. Trunk lift

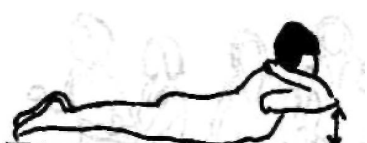


Fig 3.14

This exercise develops the muscles of the upper back. Lie face down with hands clasped behind the neck. Pull the shoulder blades together, raising the elbows off the floor. Slowly raise the head and chest off the floor by arching the upper back. Return to the starting position; repeat.

The fundamental techniques of straddling which is described and illustrated in this chapter is for you to learn. In most cases it requires courage to try the first time.

The key to straddling over the long horse is "Courage". The long horse is approximately 130cm inches in height and straddling is made over the length of the horse.

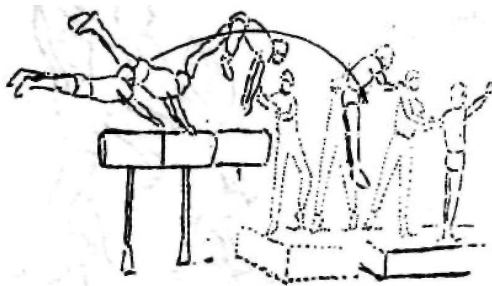


Fig 3.15 Straddle vault

To perform straddling over the long horse, consider the following fundamental techniques:

- approach (run) at faster, but controlled speed.
- Push off the ground (the board) forcefully with both feet.
- Immediately spring vertically, lifting hips backward-upward.
- Reach forward with arms to place hands on far end (neck).
- Straddle your legs with the head raised up.
- Immediately push forcefully off the horse with hands and lift upper body.
- As your legs pass to outside of the horse, extend hips forward.
- Bring your legs together before landing to a stand on mat.
- Land with knees and hips slightly bent.

Common errors in performing straddle vault

- slow run(approach) and poor take off,
- landing on the board flat footed,
- learning forward on board,
- bending knee too much on board,
- insufficient vertical lift,
- poorly coordinated arms,
- placement of hands around the mid length of the horse,
- failure to maintain straight arms and legs throughout vault.

Safety procedures

- Run way should be free of obstructions.
- Step on damp towel before running to prevent slipping.
- Never vault unsupervised.
- Use mats of double thickness or a landing mat on far side of horse where you land.
- Never try to perform the skill before warming up your body.

Individual practice

1. Practise jump to squat stand on vaulting box or horse

Take short (abbreviated) run. After vertical lift, raise hips upward so that back is parallel to floor, tuck knees to chest place hands on box shoulder width apart, arms straight. Then allow feet to come to rest on top of box. Stand up and jump off. Do this activity as much as many times.

2. Practise jump to straddle stand

Take abbreviated run, and vertical lift, lift hips, then move legs to wide straddle position. As hands contact box or horse, lift head and chest and place feet on box in wide straddle position as shown in figure 3.16 practice this activity many times.

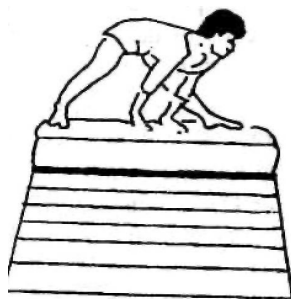


Fig 3.16 Ankle stretch

3. Practise straddle vault as indicated in fundamental techniques above.

Think about it

- 1. What components of physical fitness are most required to effectively perform headspring and straddle vault?*
- 2. List four conditioning exercises that can prepare you for head spring.*
- 3. Where does the force that pushes the body off the ground come from in head spring?*
- 4. What if hand are placed wider than shoulder with in handspring?*
- 5. How many phases are there is the performance of straddle vault?*
- 6. Where does the force that pushes you off (he ground after approach run of straddle vault come from?*
- 7. List performance techniques of straddle vault in their correct sequence.*

Activity

1. Carefully observe your friend while he/she is performing a head spring and analyze the fundamental techniques involved in the activity. Then respond the following:
 - a) is the head placed on the mat with the hands slightly forward?
 - h) are the toes placed on the mat with the knees slightly bent?
 - c) are the toes pushing the ground with extending legs and forcing hips to overhead position?
 - d) Are the hands push forcefully and straighten the arm?
 - e) is the entire body extended with arms overhead as the feet contact with the mat(slight bending on the knees)

After analyzing the performance against the check points, write a half page report about the fundamental techniques of head spring, what force pushes off the body from the floor and what fitness component one need to develop to effectively perform hand spring. and discuss your report in the class.

2. While one of you is performing straddling over the long horse, the other one should observe and record your strength and weaknesses of the following points.
 - a) Did he push-off the ground at the steps of running?
 - b) To which part of the horse did his hands reach for support on the horse?
 - c) Were his hands reaching below the mid length of the horse?
 - d) Were his legs straddled throughout the task?
 - e) What weakness have you observed of him?
 - f) Discuss about the strength and weaknesses of his work.

CHAPTER 4

ETHICS AND ART OF SELF-DEFENSE

Introduction

For the one to be a good and valuable citizen for the society in which he/she lives and for the country as well, first he/she needs to have good personality. Having a good personality, implies living in harmony in the society respecting all acceptable social norms and values in actions and words. It is about behaving in acceptable way and live in cooperation.

Good personality is mostly manifested in one's behaviour. This mostly deals with helping and respecting others, the ability to manage negative emotions, resolving conflicts non-violently— etc. Such behaviour can be learned through strenuous effort. This chapter has also been designed to help you acquire such qualities that signify good personality. The chapter consists of two major topics. Emotional control and skills and techniques in self-defense.

Chapter Objectives

At the end of this chapter the students should be able to:

- understand how to control emotion;
- demonstrate the skills and techniques of self-defense;
- apply techniques of blocking and punching;
- develop skills of block and punching.

4.1 Emotional Control

4.1.1 What is Emotion?

Think for a moment about the excitements that you experienced before. Have you ever made any trouble as a consequence of your inability to control your anger and manage your fear? Were people abused by your actions resulted from your grave excitements? Such excitements are emotions. The best way to think of emotions is simply as states of feelings that range from being extremely pleasant to extremely unpleasant and that can affect the way we behave. Emotions are activated by external and internal stimuli or the thoughts we entertain.

When you encounter an emergency of some kind, something that enrages you, makes you suddenly affraid, creates strong desire, or calls for heavy labour on your part, your sympathetic nervous system swings into action in several ways; such as:

- the pupils in your eyes open up to let in more light;
- your heart pumps more blood to your brain;
- your breath harder and faster;
- your blood sugar level is elevated;
- your digestion is slowed down to a crawl and so on.

When negative emotions like fear and anger operate, the voluntary movements of the body become involuntary if we may consciously try to control them. In tense emotional activity disturbs the homeostasis, blurs cognition and interferes with our judgment. That is, you do and say things under the influence of emotions declares to be stupid and unwise, as a result you may abuse others.

4.1.2 Controlling Emotions

Healthy emotional management is the behaviour that one needs to have good personality. For emotional management, above all our needs to be percieving events in a rational and realistic manner. Furthermore, the healthy management of your emotions in value the following four steps.

1. Accurately identifying the emotion you are experiencing
2. Accurately identifying the need or want that is generating the emotion
3. Evaluating the beliefs that are contributing to your emotional response
4. Developing a plan that meets the need or want in an appropriate and realistic way.

There are also other methods to manage emotions. These are:

- Some methods of coping with emotions in value changing, controlling, avoiding or even denying certain agents that could generate emotional situation.

This simply deals with protecting yourself by getting away from threatening agents. This either mental or physical escape from the traumatic situation. You either free from the problem and in the future avoid going near the stress-inducing situation or you block-out the threatening agents.

- Others involve the way in which you think about the problem related to the agents

- Still other methods of coping involve changing the ways in which you respond or behave when the problem occurs.

In addition, to handle your emotions the following points may help you.

1. Recognize and understand your own emotions as well as your opponents.
2. Determine the source of the feelings.
3. Talk about dealings.
4. Express your feelings in a non- confrontational way.
5. Acknowledge your opponents feeling as legitimate.
6. Do not react emotional out bursts.
7. Use symbolic gestures such as apologies.

4.2 Skills and Techniques of Self-defense

There are numerous defender and attacking physical skills in self-defense. Some of these skills are thought appropriate for this grade are presented here in this topic. Under the subtopics of blocking, punching and kicking. These skills are exciting and challenging in their nature. Learning self-defense skills not only helps you to protect yourself against assault, but also are effective means to improve your physical conditioning. Acquiring the skills require strenuous effort to practise regularly. As it is known, practise makes one perfect.

4.2.1 Blocking

one-hand block

Blocking is the cornerstone of self-defense. The purpose of any block is to divert or deflect any strikes, punches and kicks that an attacker may be aiming at you. Here, the topic focuses on two types of one hand block, upward or rising block and downward block.

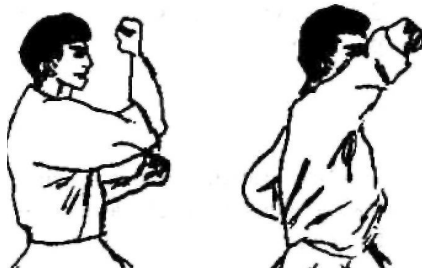


Fig 4.1. Upward block to deflect rising punch

A. Upward or rising block

As shown in the figure above, stand first in a front stance with the left foot forward. The trunk is set in a half-facing position to the right. The trunk should not be leaning either to the front or the back. Before raising

the arm for block, you should cross arms in front of your chest holding the blocking arm over the non blocking. Raise quickly the blocking forearm upward bending 90° from the elbow. The second hand with clenched first is drawn back to the waist palm facing upward.

Common errors

1. Raising shoulder of the blocking hand
2. Elevating the elbow above the hand of blocking arm
3. Holding the blocking hand far away from the trunk
4. Raising the arm for block before or after the attacking hand reaches the target
5. Fail to raise the arm 8cm above the forehead.

Individual practise

1. Standing with feet shoulder width apart. Practise raising your blocking hand and fix it over the head.
2. Practise the same activity drawing back the non-blocking hand with clenched fist to the waist level. Do this with both hands alternately.
3. Stand in the front stance as shown in the figure. Practise the 2nd activity many times as possible



Fig.4.2 Raising the blocking hand upward

4. Practise raising block while taking steps to backward from front stance



Fig.4.3 Upward block in front stance

5. Practise with partner (in pair). Your partner tries to attack your face using raising punch. Block the attack using raising block. Do the exercise slowly and without using much force.



Fig.4.4 Practising upward block with partner

B. Downward (lower level) block

This type of block is used to protect punches and leg-kicks aiming at your groin.

Stand first in a front stance with the left foot forward and the left arm extended so that the fist is about 15cm above the knee. The body condition is similar to that for upward block. Raise diagonally the tightly fistled hand bending it from the elbow joint towards the other side of the neck (see figure above). Send it explosively down to protect the lower part of the body.



Fig 4.5 Downward block

The non-blocking hand is drawn swiftly to the waist level to be cocked for the next action.

Common errors

1. Pulling down shoulder of the blocking arm
2. Clenching fists not as tightly as required
3. Fail to bring back the other hand towards the waist
4. Sending down the blocking hand slowly

Individual practice

Stand with feet parallel shoulder width apart

1. Practice sending down your tightly fisted blocking hand from the other side of your neck. Hold your non- blocking hand at waist level.
2. Practice sending down your blocking hand while bringing the other back to the waist level. Do this with both hands alternately.
3. Practice down ward block while you are in front stand as shown in the figure -. Do it while moving forward and backward with each block.
4. Practice downward block against leg kicks executed by your partner. Practice should be done in slow motion without applying force.



Fig 4.6 Downward block against leg- kick

4.2.2 Punching

Nose, chest and groin

Punching is a commonly used attacking technique. It is easily applicable and effective type of attack in self defense. To punch, first you need to know how to make a proper clenched and identify the contact surface of your punching had.



Fig 4.7 Proper clenching first for punch

In the first step, the middle joints of the fingers are folded, in the second the hand is folded at the basal joints of the fingers and in the third, the thumb is placed so that its inner edge tightly grips the first two fingers. The front surface of the first, the part of the index and middle fingers forming the surface of contact in punching.

To execute punching, the downward or rising block stance is used.

During attack, the punching hand goes springing towards the target from its position, waist level. The fist is rotated so that it extends to the center in front with the fingers downward. The attack is executed with the hips twists to a full frontal position from its half facing position. The other hand is simultaneously drawn back to be cocked at the waist with the fingers upward (see figure).

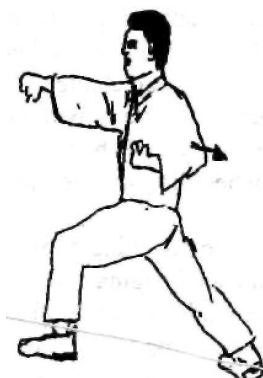


Fig 4.8 Punching in front stance

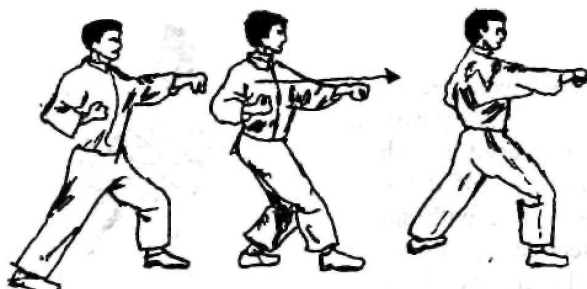


Fig 4.9 Attacking with the hips twist to frontal position

Common errors

1. Tilting the upper body forward while stretching the punching hand toward the target. This upset your body balance.
2. Taking step before or after the contact. The attack will not have adequate strength.
3. Raising the leg upward while taking step forward for attack. It makes the attack slow.

Individual practice

Stand with legs parallel shoulder width apart.

1. Hold your both hands stretched forward at the chest level palms facing upward. Take the punching hand back to the waist to be cocked and rotate the other hand the palm facing downward (see the figure).

- Practice punching movement only with right hand while keeping the other stretched change your hands.
2. Practice punching with both hands alternately. When our hand punches the other is drawn to the waist.
 3. Practice punching aiming at chest, groin an imaginary opponent and nose while you are in front stance.
 4. Practice the same as No 3, taking step forward while punching.



Fig 4.10 Movement of non-kicking hand backward

4.2,3 Knee Rick

This is a type of attack executed using the top of your knee. Our knee is a powerful weapon in self defense. It is used in a close combat and ideally suited to self defense. Because, if properly performed with speed and pioneer it is effective to Stop the assailing action of an abuser. knee kick is unexpected powerful attack if used by against hoodlums who grapples girls for an assault.



Fig 4.11 Knee kick with the top of knee

To execute knee kick, raise the kicking knee upward aiming at the target. While slightly bending the other leg from the knee. In grappling with the abuser it is possible to attack the groin. The chest bones and the face pulling the head down depending on the abusers position

Individual practice

1. Stand with feet parallel and shoulder width apart. Practise raising knee to the chest. Keep your both hands with clenched fist infront of the chest.
2. Practise knee kick aiming at the chest and groin of an imaginary opponent. Do the activity repeatedly alternating the legs.

3. Stand in front stance as used in the above techniques. Practice knee kick from stationary position alternating legs, then after taking step forward.
4. Practice knee kick- , slowly and with out using power while grappling with your partner. Don't kick your target, but imitate to kick instead.



Fig 4.12 Practicing knee kick with partner

Think about it

- 1. Describe what emotion is?*
- 2. State three points how to handle emotions?*
- 3. What is the objective of blocking?*
- 4. Discuss the importance of learning self defense techniques?*

Activity

1. State how you respond against an assault in your way to school.

CHAPTER 5

BASKETBALL

Introduction

Basketball is one of the most popular games in the world. One of the reasons for basketball's popularity is its simplicity. With a few basic rules and techniques you can easily understand it and play the game. Basketball can be played almost everywhere, indoors or outdoors. Even you can play the game by fixing only one ring (basket) on the back wall of your house. It is such an enjoyable game that you can play it alone or with only one partner using simple ring. This makes it simple and interesting for most people to play the game.

Perhaps you may know how to shoot or dribble basketball. But basketball will be more enjoyable and attractive as you improve your shooting and dribbling ability. Therefore, to play and enjoy the game successfully, give much emphasis to the fundamental (basic) techniques that are included in this chapter.

This chapter tries to cover almost all aspects of the game such as Historical background of basketball; Nature, equipment and facilities for the game; Basic rules of the game; fundamental skills and techniques of the game and team formation in the game situation.

Chapter Objectives

At the end of this chapter, students should be able to:

- refine motor skill necessary for the performance of basketball;
- develop positive social relationship to work cooperatively with others;
- understand some of the rules and fundamental techniques of basketball;
- develop interest to participate in basketball.

5.1 Historical Background of Basketball



Fig 5.1 James Naismith

Basketball was invented in December, 1891 by Dr. James Naismith who was a physical education director at the YMCA college in Springfield, Massachusetts. Dr. Naismith invented basketball with the intention to provide an indoor winter game for his students who would improve fitness and add variety to the physical education course of that time. At first a soccer ball was used and players were rolling the ball down the floor (see figure 5.2). But later on, a special ball and the dribble were introduced. The name basketball was mentioned by one of the students of Dr. Naismith.



Fig 5.2 A peach basket and the ball

The first boys game was played in January 1892. After that, Dr Naismith taught basketball for a group of girls at a request of some women teachers in Springfield, Massachusetts. And the first girls game was played in March 1892.

The rules indicated that the size of the team could vary depending upon the size of the gymnasium. From 3 to 40 players on each side was thought to be acceptable and the positions were similar in many ways to football in that players were called goalkeeper, guards, centers wings, and home man. The goalkeeper and guards were the defensive specialists, and the wings with home man were responsible for gutting the ball into the goal. The centers were the feeders into the home man and wings.

A peach basket as shown in the figure 5.2 was used for goals. So, after each score (basket) the ball had to be taken out of the basket before play could be restarted. The basket had to be 37.5cm to 90 cm in diameter with 37.5 cm depth. The basket was to be hung 3m off the floor at the ends of the gymnasium. In order to get the ball out of the basket, a ladder was used. From about 1895 to 1913 when wire baskets were often used, a stick was available to poke the ball out of the basket. In 1895, backboards were introduced.

Oyer the years, as the interest of boys and girls, grew in the game, the rules of the game were altered. The rules concerned primarily the number of players in a team, out- of- bounds, penalties, scoring etc.

In 1895, the rules were amended that five players should be on each team in smaller as well as and large gymnasiums (Boy's rules). In 1897, the rule was standardized to five players in a team for boys.

Led by Senda Barenson, Director of physical education at Smith College, group of women involved in basketball convinced to modify the rules for the women. Thus in 1899 the women formulated their own rules, and in 1901, the first women's Basketball Guide was published. The basic difference of the women's rules was that the court was first divided into three areas with players not allowed to leave these areas.

The first international Men's Basketball competition was held in November 1917 in Paris. In that competition, more than 600 teams of service men from the United States and European countries took part. In 1932, International Amateur Basketball Federation was organized, and in 1936, men's basketball became an Olympic sport.

Thus in a single century, Dr. Naismith's basketball game traveled to the farthest corner of the world, and millions of males and females have got a similar enjoyment from playing basketball as did by Naismith's students years ago (century)

Basketball in Ethiopia

Basketball was first introduced in Ethiopia in the year 1946-47 (1939 E.C) It was first played in the Teferi Mekonnen. (Entoto Comprehensive) and Haileseglase (kokebe Tsebah) secondary Schools. It was introduced by physical education teachers who came from Canada.

Beginning from 1950-51 (1943 E.C), basketball became popular in most primary and secondary schools of Addis Ababa. Then the Addis Ababa Inter- school association included basketball in the inter - school competition which was held every year during that time. Later on, physical education instructors of Addis Ababs—University College and Other Colleges, coupled with members of Juventus club organized competition programs of basketball in Addis Ababa.

These programs were conducted in ancient cinema hall which was found in the present day science faculty of Addis Ababa University. This greatly contributed for an increased popularity of the game as well as participant teams.

While the competition programs were expanded, the above mentioned cinema hall was changed for, some other purposes. Hence the competition place was transferred to Etege Hotel Compound.(now Awraris Hotel) where the present day National Lottery building exists.

The Addis Ababa Basketball Federation was established in the year 1950-51 (1943 E.C). Starting from this year, the federation has been organizing the annual basketball competitions in Addis Ababa. Following

this, the Art Killo YMCA and Olympiacos club (which was found at the Bole road) prepared a basketball court for each of them. As a result, the competition place was transferred from Etge Hotel to these two places, and all the competition programs were conducted in these two courts interchangeably.

The Ethiopian Basketball Federation was established in the year 1953-54(1946 E.C). Consequently, Ethiopia has become a member of International Olympic committee (FIBA) and participated in the first African Basketball Competition in the year 1962 (1954 E.C). This was the first time for Ethiopia to participate in International Basketball competition. Being a participant in the first African basketball competition, Ethiopia became one of the founding members of African Basketball confederation.

The Ethiopian Basketball team who participated in the first African Basketball competition brought unsatisfactory result. Following this, it is believed that the attitude of Ethiopians towards basketball declines.

In the year 1975-76 (1968 E.C) the Ethiopia sports commission was newly reorganized Along with mis, the Ethiopian Basketball federation was also reorganized in the same year. From that time onwards, the federation has been exerting persistent efforts to make basketball more popular and favorite game for Ethiopians.

5.2 Basic Rules of the Game

5.2.1 Equipment and Facilities for the Game

The playing court is a rectangular surface free from obstractions, having maximum dimension of **28m × 15m** however many courts are smaller. The dimensions of the court are the same for men's, and women's basketball. Figure 5.7 clearly shows the dimensions of the court, the size of the backboard, the ball, and the basket together with the length of the stand.

The backboar (1.80m wide and 1.20m high) is located at the center of each end 6f the court, 1.20m inward from the end line and 2.75m above the floor. The backboard can be made of wood, mental or glass (see figure 5.3)

The **basket** (45 cm in diameter, and a length of 40 cm) is an open net suspended from the backboard on a metal ring. It should be 15cm far from the rigid surface to which it is fastened.

The **ball** is a spherical object whose circumference is 76cm. It consists of a rubber bladder covered with a leather or composite case.

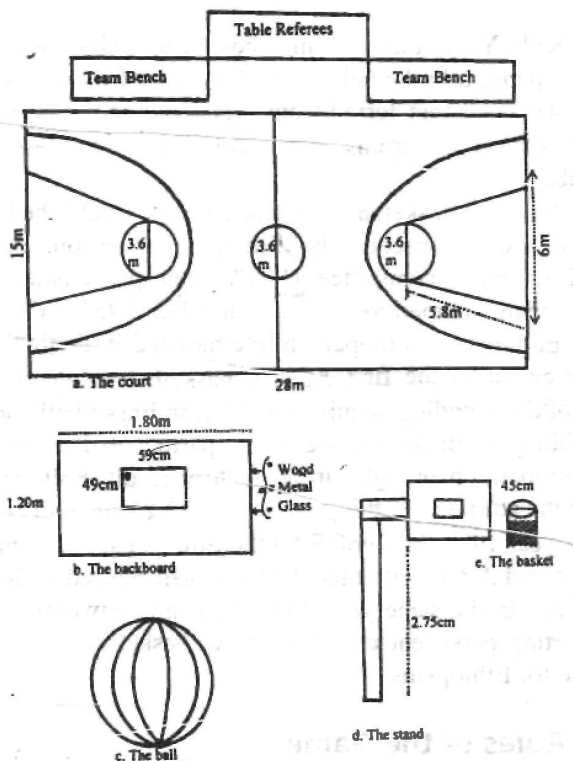


Fig 5.3 Equipment and facilities of basket ball

5.2.2 The Game

The playing area is called the court. The five players are positioned at center right forward, left forward, right guard, and left guard. The diagram of the court as well as the defense position of players is shown in figure 5.4.



Fig 5.4 The court and defense players position

The game starts by the referee tossing up the ball in the center circle between the two center players who jump to hit the ball to a teammate. The players move the ball down the court by dribbling or passing until one is in a position to score the ball through the opponents' basket. The defensive team tries to prevent scoring by the opponent team and to secure possession of the ball, and they move it down the floor and attempt to score.

5.2.3 The Team

A **Basketball team** consists of five players, generally known as a center, two forwards and two guards plus any number of substitutes. A team can not begin a game with less than five players, but if it has no substitutes to replace disqualified players, it must finish the game with less than five players. Under current rules, a player must leave the game after committing five personal fouls, and can not return during that game.

5.2.4 Violations and Fouls

The rules have established legal procedures for the offense and the defense. Any breaking of rules is either **Violation** or **fouls**. Some examples of **violations** are

- a) taking more than one step with the ball without passing, dribbling or shooting
 - b) kicking the ball with foot or lower leg
 - c) stepping out of bounds with the ball
 - d) living the center circle before the ball is tipped in the beginning play.
 - e) double dribbling
 - f) failure to inbound the ball within five seconds.
 - g) failure to observe free throw regulations
- ☐ If you commit a violation the ball will be given to the opponents out of bounds near where the violation occurs.

There are two types of fouls:

- technical fouls
- personal fouls

Some **technical fouls** are:

- a) delaying the game
- b) taking too many time- outs
- c) leaving the court without permission
- d) showing unsportsperson like behavior

- e) touching the backboard or rim illegally
- f) failure to report to the officials when entering the game as a substitute.

Some personal fouls include

- a) Holding
- b) Pushing
- c) Charging
- d) Blocking
- e) Illegal use of hands
- f) Preventing the progress of a player by extended arm or leg.

Therefore if you commit a foul, a free throw will be given to the opponents. If you foul a player when he is in the act of shooting for a basket, he will be given one free throw if the basket is scored (basket and foul), and two free throws if he missed to score his shoot. Two free throws may be given if the referee considers a foul as an intentional one.

In sum, when a foul is committed, the opponents may be given either a free throw or the ball out of bounds.

After a team commits seven fouls in a half play time, an extra free throw is given for the opponent team for each foul committed. In a personal foul, the fouled player is the one who should attempt the free throw if he is physically able whereas any player may shoot a free throw for a technical foul. Only personal fouls discharge a player. A player is allowed four personal fouls; a fifth discharges the player out of a game for the remaining time of the game.

After a goal or a free throw has been scored, the ball is put in play from behind the end line (bounds) by a member of the opponent team which didn't make the score. At the beginning of each half play time, at the extra play time and after a double foul, the ball is put in play by a jump ball in the center circle. When two opposing players have possession of the ball (it is a common ball) the ball is put in play by a jump ball at the nearest circle. (The Jump ball is a method of putting the ball into play . The official tosses the ball upward between the two opposing jumpers)

5.2.5 Officials

Basketball game is officiated by a referee and an umpire. Two scorers and two timers assist them. Players and officials need to study the rules every year since changes are made from time to time.

5.2.6 Scoring

The basic objective of basketball game is to score more baskets than the opponent's team during the play time.

1. One point will be given for each free- throw (See figure 5.5). A free throw is unguarded shot at the basket. It is awarded as a result of certain infractions of the rules by an opponent.
2. Two points are awarded for a field goal, i.e, scored in play when the position of the shooter is inside the arc in the opponent's court (see figure 5.6). A field goal is scored when the ball legally enters the basket during normal play.
3. Three points will be given for each basket scored in play when the position the shooter is outside the arc in the opponent's court (See figure 5.7).

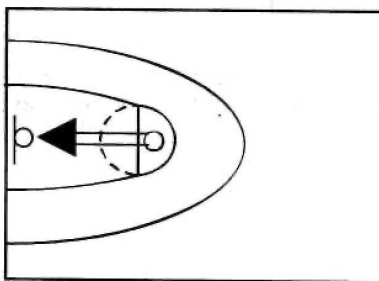


Fig 5.5 One point

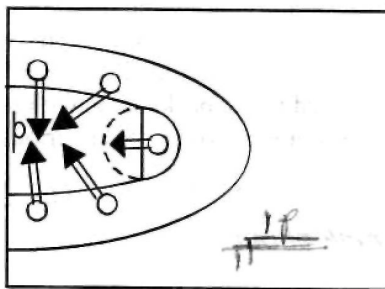


Fig. 5.6 Two points

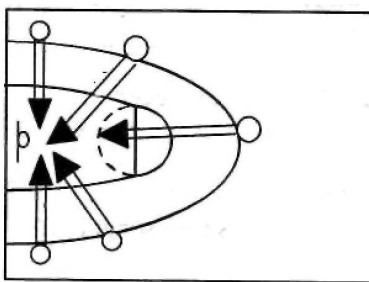


Fig 5.7 Three points

5.2.7 Length of the Game

The game is played for two halves of 20 minutes each, with a 15 minutes rest between halves. If the score is equal at the end of the regular

play time, the game may continue to be played for as many five minutes as needed to differentiate the winning team.

5.3 Safety Rules in Playing Basketball

In basketball game, as in most sports, the best method of self-protection is physical fitness. Since many types of injuries can occur due to lack of warm-up, it is very important to warm-up properly and sufficiently before practices and games. Flexibility and agility exercises are vital due to the violent quick stops and starts as well as the effects of constant jumping and twisting while playing basketball. All sliding to the sides on defense causes severe pain in your groin area (hip joint). Therefore, stretching is very important both before and after practice.

Foot comfort and protection should be a primary concern to avoid unnecessary injuries and discomfort, including blisters, sprained ankles, and bruised heels. Shoes are the most important part of a player's equipment. Moreover, you should check the playing area for dangerous objects such as unpadded posts, backboards with no pads or loose boards, etc. When playing in the outdoors, you should seriously check for objects such as rocks and glass.

Think about it

Part-I

Choose the best answer for the following questions

1. At the beginning a _____ ball was used for playing basketball.
a) tennis b) volley c) soccer d) hand ball
2. In the year _____ the women formulated their own basketball rules.
a) 1892 b) 1894 c) 1899 d) 1901
3. Which one of the following is a personal foul?
a) charging
b) delaying the game
c) showing unsportsmanlike behavior
d) leaving the court without permission
4. Which one of the following is a technical foul in playing basketball?
a) holding c) charging
b) double dribbling d) taking too many time-outs

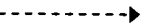
5. While playing basketball, Hanna delayed the game **intentionally**
What kind of foul is it?
 - a) personal foul
 - b) technical foul
 - c) both a and b
 - d) it is not a foul.
6. The game of basketball is played for two halves of minutes
 - a) 10
 - b) 15
 - c) 20
 - d) 30
7. How many points will be given for each basket scored in play when the position of the shooter is outside the arc.
 - a) one point
 - b) two points
 - c) three points
 - d) field goal
 - e) free throw.
8. The backboard of a basket is _____m wide and _____m high.
 - a) 1.20 and 1.80
 - b) 1.80 and 1.20
 - c) 1 and 2
 - d) 1.50 and 1.90

Part II

Give your answers for the following questions and discuss in the class with your class mates.

1. Million and Hiwot scored points in a basketball game. Million scored a field goal and Hiwot scored a free throw. If you were the referee (scorer):
 - a) do you think that both of them will get equal points?
 - b) how many points will you give for Million?
 - c) how many points will you give for Hiwot?
 - d) write a short report about scoring points in basketball?
2. Explain the aim of basketball game.
3. List two violations of playing basketball game.
4. In a basketball game where I was a player, an opponent player holds my hands
 - a) do you think that this is a violation or foul?
 - b) If you say foul, what kind of foul is it (personal or technical)?
5. Discuss the difference between violations and fouls.

Key to the diagrams and figures used in this chapter

	-----	Defensive player
	-----	Dribbling
	-----	Offensive player
	-----	Passing
	-----	Path of movement of a student (player)
	-----	Pivoting
	-----	Shooting
	-----	Student (player) with a ball
	-----	Student (player) without a ball.
	-----	Spot for shooting
	-----	Stop

5.4 Fundamental Skills and Techniques of Basketball

Good basketball is based on the ability to perform the various fundamental skills properly. To play the game, one needs to have the essential skills of performing at least most commonly used fundamental techniques. Because, ball control, speed, accuracy, timing and footwork all depend on them. To improve your skill of fundamental techniques (basic skills) you have to spend much time in practice.

** A better way for improving skill is to study the pictures, and then practice the skill on the court regularly.*

Almost all the skills you need to learn are illustrated in this topic. In each picture, you have to study the following things

1. starting position of all parts of the body and the ball
2. movement or action, and
3. follow- through after the action is completed

** It is important to give emphasis when the body weight is transferred from one foot to the other.*

Generally, fundamental skills are basic skills which are classified into two groups: movement with the ball and movement with out the hall.

Under movement without the ball, we have techniques such as basic stance (crouch position), sliding, running, jumping and stopping, pivoting, feinting (fake) and screening (guarding). Under "movement with the ball, we have skills such as ball handling, passing, receiving, dribbling, and shooting.

The following fundamental techniques are included in this sub-topic.

- | | |
|--|--------------------------|
| 5.4.1. Basic stance (crouch- position) | 5.4.6. pivoting and fake |
| 5.4.2. Ball Handling | 5.4.7. Shooting |
| 5.4.3. Passing | 5.4.8. Defense |
| 5.4.4. Receiving a pass | 5.4.9. Offense |
| 5.4.5. Dribbling | 5.4.10. Team play |

5.4.1 Basic Stance

Basic-stance is position where you can be in a balanced and proper place to start performing any activity in playing basketball. The basic basketball stance is the stance in which you put your feet shoulder width apart, but one foot slightly ahead of the other. Knees slightly bent (flexed), weight evenly distributed over both feet, and arms flexed and away from the body. Bending the knees lowers the center of gravity and gives stability. You should slightly bend forward at the waist with the back straight but comfortable position, head should be kept up so that you can have proper vision of the court situation.

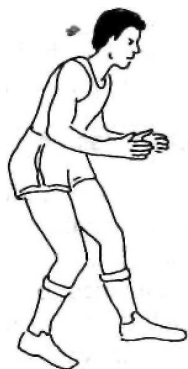


Fig 5.8 Basic stance of basketball

5.4.2 Ball Handling

the first concern of a player with the ball is to hold it properly. Ball **handling** is meant the position of your hands as well as the action of your hands when holding the ball. Actually, it starts with receiving

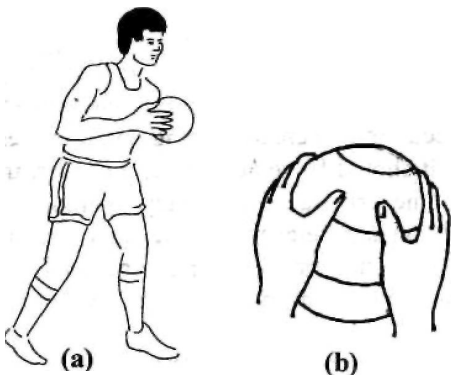


Fig. 5.9 Ball handling

Figure 5.9 shows the most effective position of ball handling. In this figure you can see how the fingers and thumbs spread evenly around the sides of the ball and how both hands are a little behind the center of the ball. To hold the ball properly your palms never touch the ball. This is the most important point in ball handling.

The following fundamental techniques are important for proper ball handling

- whenever possible hold the ball with both hands
- see the ball into the hands (fine centering)
- extend the hands in front of the body before holding the ball, that is, extending toward the sides of the ball with fingers spread comfortably apart.
- hold the ball with fingers and thumbs, but not with palms.
- hold the ball being in a proper basic stance position.

5.4.3 Passing

Passing, although regarded as an individual skill, differs from other fundamentals in that it involves a two-way relationship between the player making the pass and the one who is to receive it. It is during the development of this aspect of the game that players become aware of the need to adjust their level of performance to that of the other players with whom they must co-operate.

Thus, passing is the act of throwing the ball either one handed or two handed to another player. The fundamental requirements of every pass are that they should be **accurate, well timed, quick** and the **proper type** for that situation.

As in any other team ball game, passing in basketball is the quickest method of moving the ball into a scoring position. A successful team should be able to handle, control and move the ball down the court quickly and accurately to create scoring opportunities.

It should be remembered, however, that any pass is a good one that meets the criteria of Accuracy, Timing, Quickness (appropriate speed), Deception and Relevance to the game situation.

For successful passing, you should consider not only your own passing limitations but also the reception limitations of your teammate (partner).

You can use passing:

- to throw the ball over a defender.
- to throw to a pivot person going into the basket.
- to throw an easy-to-handle pass over a defensive person.
- to throw to a teammate coming into a pivot.
- to exploit a distinct height advantage under the offensive basket,
- to get the ball past-tall or high- hand guarding defenders.
- to generate a zone, or to exploit any situation in which case carrying or reverse spin can be used with advantage.

In basketball no one player can expect to score by his own effort alone. Most of the play consists of passes between players. In playing basketball game, passing is a key to create scoring opportunities. Thus, the skill of passing is important to everyone to play the game successfully. The following points should be remembered when you are performing a pass:

- first of all you should learn the proper passing techniques.
- you should display proper judgement while performing each pass in different game situation.
- knowing the correct pass to fit the game situation.
- adjusting the type and speed of pass to the situations.
- locating the receiver and then pass accurately.
- passing quickly and accurately with a minimum of motions, so that passes will not be telegraphed, or correctly guessed.
- aiming the pass at the receiver's chest or chin.
- having control of the ball before passing.
- learn to catch (receive) as well as pass in one motion.
- always moving towards a pass.
- passing to the receiver on the side away from the defensive person.

There are various types of passes that can be used in playing basketball. But let's look at the fundamental techniques of some of the passes that are mostly used. These are:

- | | | |
|--|---|-----------------------------|
| 1. Chest pass | } | These are two handed-passes |
| 2. Bounce pass | | |
| 3. Overhead pass | | |
| | | |
| 4. Baseball pass - One-handed pass | | |
| 5. Bounce pass - One hand and two had pass | | |

5.4.3.1 Chest Pass

The most important thing to remember in all passes is to grip the ball with your finger, not the palm of your hand. Practice to release the ball with strong wrist-snap. **Follow through** by stretching the hands, your palms facing outwardly; the elbows should be stretched.

The most common pass of all and the first that a beginner should master is chest pass. During chest pass, the ball is held at chest level in both hands with the elbows comfortably close to the body. The fingers are spread around the side and the thumbs are behind the ball. To deliver the ball, take one step forward and at the same time extend the arms with a flick of the wrist at the end of the extension, following throw the direction of your pass. This pass is directed toward the chest area of the receiver. For more clarification see figure 5.10. **Chest Pass** is a quick pass because the ball follows a horizontal motion (in a line of flight parallel with the floor). As you have learned in your physics classes, an object thrown horizontally will reach its target with the possible shortest time. So, to make a quick pass, you ought to use a chest pass.

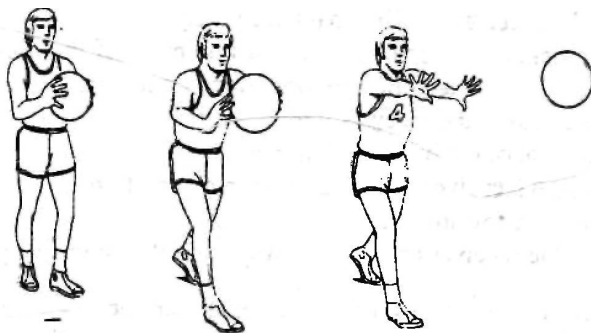


Fig 5.10 Chest pass

Individual Practice

1. Pass a ball to a target area approximately at chest level high to a partner or on the wall.
2. Pass ten times to a chest level high target at a distance of 6 meters, 8 meters, and 10 meters. Repeat these practices and check the time it takes to make those of 10 passes. And then count the total number of times successfully passed to the target.

- Practice chest pass with a partner who stands 3 meters away, increase gradually the distance between you.

5.4.3.2 Bounce Pass

The bounce pass is a method in which a ball passes a defensive player when other passes are difficult (blocked). It can be performed with either one or two hands. The action in performing two hand bounce pass is similar to that of the chest pass, except that the ball is delivered from a position slightly lower than the chest, this pass is often employed when there is an opponent between passer and receiver. Using a chest-passing action, the player should aim to bounce the ball off the floor at a position approximately two-thirds of the distance between himself and the receiver. The ball should be 'snapped' so that it can be received by his team-mate at about hip height. The bounce pass should only be used for short passes (see figure 5.11).

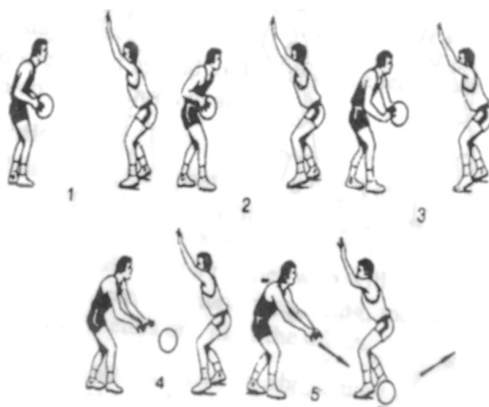


Fig 5.11 Bounce pass

Individual practice

- Being with your partner, pass the ball back and forth while stationary and then moving down the court using bounce pass.

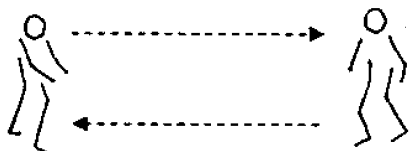


Fig 5.12 Pass and repass with a partner

2. Being with your partner, pass the ball back and forth while stationary and then moving down the court using chest pass and bounce pass one after the other.

5.4.3.3 Overhead Pass

This is a direct pass very much like the chest pass, except that the ball is delivered from a position above the player's head. It may be used effectively when a tall player is faced with a smaller opponent, or when being closely marked, and it is very often used by teams playing against zone defence. With the ball held above the head and arms stretched, the pass is effected by a strong and vigorous snapping action of the wrist and fingers when you perform overhead pass. Arms and hands follow throw in the direction of the pass (See figure 5.13). When using overhead pass, it is necessary to avoid slow, long and lopping passes. Mostly, it is advantageous to use overhead pass when the defensive player is shorter to reach the ball.

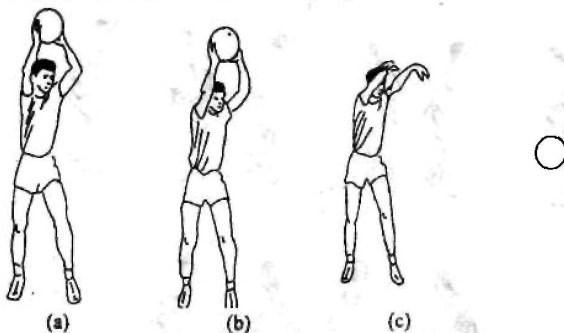


Fig 5.13 Overhead pass

Individual practice

- a) Having a ball in your hands, stand at 5 meters distance in front of the board. Throw the ball using overhead pass to hit the area of the board above the ring. When the ball is rebounded, hold it and try again for ten times. Then, count the number of times the ball hits the area of the board. Practice the same activity on the other board.
- b) Do the above activity being with your partner.

5.4.3.4 Baseball Pass

Baseball pass is the most effective technique for long passes. Essentially, it consists of two basic movements. First you will bring the ball back over your shoulder to a position behind your right ear; then you will

throw it forward with a pushing movement. Throughout the entire movement, the right hand should be kept behind the ball and the final movement has to be a follow through action performed by the throwing hand. (Figure 5.14 clearly shows all the necessary movements of baseball pass).

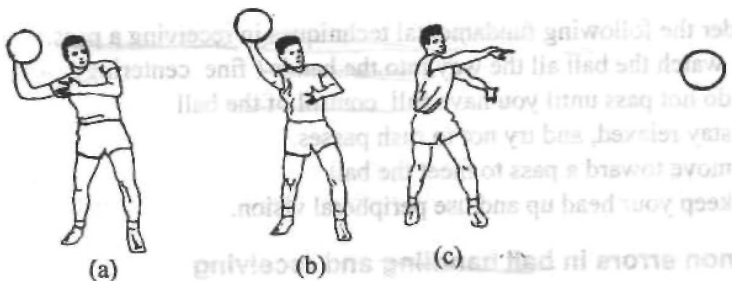


Fig 5.14 Baseball pass

Common errors in passing

- 1) Using blind passes.
- 2) Failure to stay-relaxed.
- 3) Failure to keep head up and look at any free teammate.
- 4) Unable to do follow through action.

Individual practice

1. Pass a ball using baseball pass to hit a target at a distance of 8-meters and 12-meters. Try 3 times with your right hand and 3 times with your left hand.
2. Practise baseball pass with a partner who will stand at first 6 meters distance facing you, and continue practicing, increasing the distance to 8 meters and 12 meters one after the other.

5.4.4 Receiving a Pass

Receiving a ball is closely related to the speed and direction, of passing, the movements of the receiver and opponents, and what the receiver intends to do after reception of the ball. Successful receiving depends on the accuracy and speed of passing.

When the ball is thrown to you, make your hands ready (relaxed) with the fingers spread to receive it.

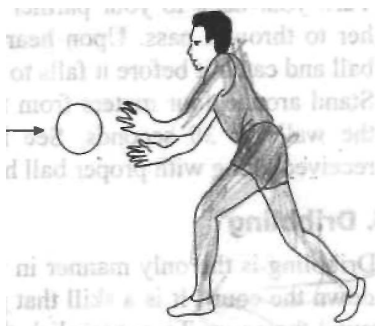


Fig 5.15 Receiving a pass in Basketball

Up on contact with the ball, the hands and arms give in the direction of the approaching ball to absorb the force of the pass. When the ball is under control, the arms should be placed immediately into position for a pass shot or dribble.

Consider the following fundamental techniques in receiving a pass.

- watch the ball all the way into the hands (fine centering)
- do not pass until you have full control of the ball
- stay relaxed, and try not to rush passes.
- move toward a pass to meet the ball
- keep your head up and use peripheral vision.

Common errors in ball handling and receiving

1. Failure to stay relaxed.
2. Keeping arms too stiff while catching the ball.
3. Attempt to pass before having full control over the ball.
4. Failure to watch the ball all the way into hands.

Individual practice

1. Stand around two meters from the wall and bounce the ball against the wall at chest level. Receive the rebounded ball using the appropriate technique. Do the activity increasing gradually the distance to 6 meters.
2. Have a partner throw various passes. Have the speed with different directions of the pass and the areas of the body to which the pass is thrown varied. You should receive and hold the ball using appropriate techniques.
3. Turn your back to your partner around six meters away. Have him/her to throw a pass. Upon hearing the sound, turn back, locate the ball and catch it before it falls to the ground.
4. Stand around four meters from the wall and bounce the ball against the wall for 30 seconds. See how many passes can be correctly received along with proper ball handling.

5.4.5. Dribbling

Dribbling is the only manner in which you may independently move a ball down the court. It is a skill that permits you to control and move the ball around the court. To accomplish this, use a soft touch with the fingers and wrist with a slight forearm movement to push the ball downward.

While dribbling, the ball is controlled by using forearm, wrist and fingers. So, the skill is basically an arm-wrist-finger action. The fingers are comfortably spread. The ball is pushed, not "slapped" or "batted" to the floor. As the ball rebounds from the floor, the fingers meet the ball and move up with it a few inches before pushing it back to the floor. (see figure 5.16)

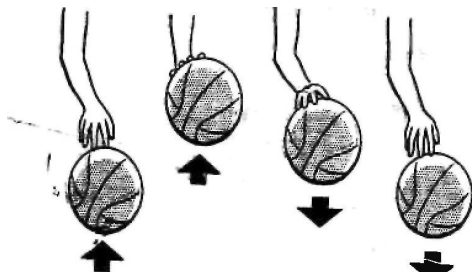


Fig 5.16 Finger action during dribble

Some Of the most common uses of the dribble are:

- to move (progress) the ball into the offensive area of the court,
- to manipulate offensive techniques,
- to advance the ball on offense,
- to drive toward the basket for a lay-up,
- to move into position for a shot,
- to drive the defensive person,
- to get the ball out of a congested area of the court.

There are many other times when the dribble can be used effectively; however, it can be the most abused skill in basketball. So, remember. Do not dribble when a pass would be more effective. Dribble only with a definite purpose in mind. The ball can be moved down the court faster by passing than dribbling, so never dribble when you can pass.

There are two basic forms of dribbling:

- 1) High dribble (speed-dribble) is used to move faster across an open court area.
- 2) Low dribble (control-dribble)- is used for protection of the ball in congested area.

Figure 5.17 illustrates dribbling. It is such an essential skill that requires the knowledge, of fundamental, techniques and plenty of practices.

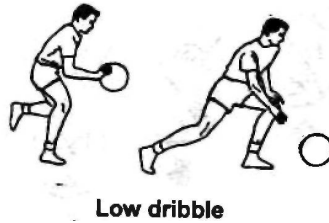
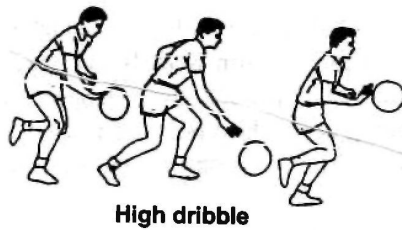


Fig 5.17 Dribbling in basketball

When you dribble, keep the following fundamental techniques in mind:

- Head up with your body slightly bent forward and in addition of this, use peripheral vision (soft centering)
- Knees flexed and your forearm parallel with the ground.
- Ball in front where it is easily controlled (Do not dribble a ball either too near or too far from your body since it will be difficult to control).
- Fingers spread with your arms relaxed as possible.
 - Push down, don't bat the ball.
 - Keep the ball below waist; avoids high bounce dribble.

Points to be remembered when dribbling a ball are:

- use b o t h the right and left hand (learn to dribble equally well with either hand);
- keep the ball slightly out in front;
- use a change of pace;
- dribble sharply to the right or left (change of direction);
- always dribble with the hand away from the defensive player;
- go only as fast as you can maintain full control of the ball;
- always keep the head-up (learn to dribble with out looking at the ball);
- the body should be in a flexed position for better ball control;
- for better protection of the ball, always keep the body between the ball and an opponent player.

Common errors in dribbling

- dribbling by looking at the ball (fine centering rather than soft centering);
- dribbling in a stiff arm-wrist finger action;
- failure to use peripheral vision;
- failure to push the ball and using "Slapped" or "batted" action;
- failure to use both right and left hand for dribbling;
- failure to change direction while dribbling;
- failure to use a change of speed while dribbling;
- making a second dribble.

Individual practice

1. Place the feet shoulder width apart. Dribble the ball as fast and as low as possible without looking at it, practice this continuously so many times until you can perform it properly without difficulty.
2. Dribble the ball twice outside the right foot with the right hand as shown in figure 5.18 a. then push the ball across in front to the outside of the left foot and dribble it twice with the left hand as shown in figure 5.18 b.



Fig 5.18 a. Right hand dribbling (stationary)



Fig 5.18 b. Left hand dribbling (stationary)

3. Stagger the feet and dribble the ball in between the legs repeatedly until you can perform it without difficulty as shown in figure 5.19 a and figure 5.19 b.

Dribble the ball in similar fashion as fast and as low as possible, without looking at the ball.

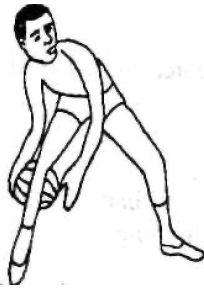


Fig 5.19 a



Fig 5.19 b

4. Dribble in a restricted area while changing speeds and directions. Dribble the ball with your right hand for 3-minutes and with your left hand for 3-minutes.
5. Dribble with speed throughout the length of the court, and return back. Look at the board while dribbling. How much time does it take and how many dribbles are used?
6. Set up five obstacles, e.g, cones, chairs, etc, that are 2-meters apart and dribble in a weave around them. Obstacles may be placed in a straight line or in a random pattern. Then, time how long it takes to weave around and back again.

5.4.6 Pivoting and fake

Pivoting is a skill used to fake (eluded) an opponent when you possess a ball. There are two kinds of pivot, namely forward pivot and reverse pivot. A forward pivot as shown in figure 5.20-a. is performed by keeping one foot in the place on the ground and moving the other forward across the foot in place. A reverse pivot as shown in figure 5.20-b is performed by keeping one foot at the place and moving the other back-ward in a semicircle.



Fig 5.20 a Forward pivoting



Fig 5.20.b Reverse pivoting

While pivoting, keep the following fundamental techniques in mind:

- When you pivot (either forward or reverse), you come to a stop and swing around on one foot; then either shoot, pass, or dribble to get the ball out of danger.
- Protecting the ball by placing the body between the ball and an opponent.
- When you pivot, the movement is much like a pair of dividers; just as dividers pivot on one of the two points and swing through complete circles.

Fake

You can maneuver for a shot when a defense plays close to you. To accomplish this, **fake** is used. Fake can be made with the eyes, head, shoulder, feet, ball, total body-by pivoting, or with any combination of these. The dribble and pivot are also combined with fakes to maneuver the defense. The maneuvers, often called moves, do not come naturally but must be practiced and learned.

Individual practice

- Work in pairs, with one student dribbles to a spot, stopping, pivoting and passing back to the other student as shown in figure 5.21. The other student will repeat the same process. Practice right foot and left foot-pivoting five times each.

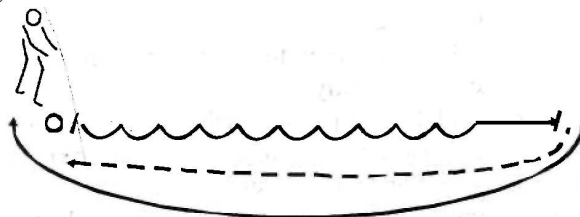


Fig 5.21 Individual practice for pivoting

Think about it

1. Describe at least two considerations in receiving a pass.
2. Name at least three kinds of passes that you used them more in playing basketball.
3. _____ is a hand movement which is easy, relaxed and up & down action
 - a) pivoting
 - b) shooting
 - c) dribbling
 - d) receiving
 - e) all

4. The two kinds of pivoting are and _____.
 - a) forward and upward
 - b) reverse and sideways
 - c) forward and reverse
 - d) a and c
5. A _____ pivot is performed by keeping one foot in place on the ground and moving the other forward across the foot in place (fixed foot).
6. Discuss the difference between chest pass and baseball pass.
7. Explain the difference between dribbling and passing.
8. Explain why it is said that never dribble when you can pass.

Activity

1. Stand face-to-face with your partner having 4-6 meters distance in between. Then pass and repass the ball quickly and accurately to each other. Your passes should be first chest pass, secondly bounce pass, then overhead pass, and finally baseball pass. Perform each kind of pass two times. While doing these, check the following things up on your friend:
 - a. Does he/she take one step backward while receiving your passes?
 - b. Does he/she stretch his/her hands to receive your passes?
 - c. Do you think that his/her fingers are evenly spreaded on the ball while holding?
 - d. Is he/she doing a follow through action after passing with the palms facing outwardly?
 - e. Do you think his/her passes reach your hands comfortably?
 - f. Write a half-page report about the passing skill of your friend (his/her strong and weak sides).
 - g. Discuss your reports with each other and evaluate yourself.
2. Arrange chairs or cones (or any other materials) in a straight line, one meter apart each. Dribble around each material (chair) to the end of the line. Practice it three times. While your friend is dribbling, you should observe and evaluate his/her performance accordingly.
 - a. In each round, how many cones that he/she missed without passing in between?
 - b. Does he/she use his/her hands coordinately?
 - c. Is he/she doing only with one hand?
 - d. Is he/she focusing (looking at) the ball?

- e. Do you think that your friend is good at dribble between obstacles?
 - f. Write a report about the fundamental techniques of dribbling.
 - g. Discuss your answers with your group and class-mates.
3. When one of you are doing the task, the other one should observe and analyze the fundamental techniques.
- Start with dribbling for 5-strides, then stop and do a forward pivot.

Again follow this with dribbling for five strides (steps) then stop and do a reverse pivot.

Check the following while your friend is doing the task:

- a. Is he/she good at forward pivoting?
- b. Is he/she good at reverse pivoting?
- c. What do you conclude about pivoting skill of your partner?
- d. Write a half-paper report about the fundamental techniques of forward and reverse pivot and evaluate your partner's performance, and then discuss it in your group and classmates.

5.4.7 Shooting

The skill of shooting is the backbone of basketball game. Because it is the ability to shoot accurately that determines the winning team. While playing the game, your outstanding passing and dribbling skill will be valueless without accurate shooting. Therefore to win the game, every member of a team should become good shooters.

The aim in any game is to win. In order to win, one must score points. To score points in basketball, the ball must be thrown in to the basket! With this in mind, we make no apology for placing shooting as a backbone of basketball game.

In executing a shot, the ball should be controlled with two hands as much as possible. You begin holding the ball slightly above waist height with both hands. For a shot with the right hand, step sideways with the left foot at an angle toward the baseline. The right hand brings the ball from the right side of the body to an overhead position with motion. The arm, which held the ball, is fully extended. The eyes focus on the target point. The ball is released so that it rolls off the fingers, coupled with a flick of wrist toward the goal. The shot should be a soft, sweeping motion with little or

no spin. Finally, the body rotates and faces the basket on the follow through.

Shooting ability depends up on:

1. Proper technique
2. Co-ordination
3. Concentration
4. Confidence, and
- 5, Relaxation

There are three common and basic types of shots. These are:

1. Set shot
2. Jump shot
3. Lay-up shot

5.4.7.1 Set shot

Set shot is mostly used for long tange shooting and free throw. It is two types:

- a) **two-hand set shot**
- b) **one-hand set shot**

The fundamental techniques are almost the same for both except the position of the shooting hand.

a) Two-hand set shot

To perform two-hand set shot (as shown in figure 5.22) consider the following fundamental techniques:

- hold the ball about chest high with both hands.
- the fingers spread along the sides of and slightly behind the ball.
- the thumbs directed inward behind the ball.
- keep your feet about the width of your shoulder.
- the left or right foot may be slightly forward, but it is recommended that the feet be kept in a straight line.
- bend the knees slightly, and bring the ball up.

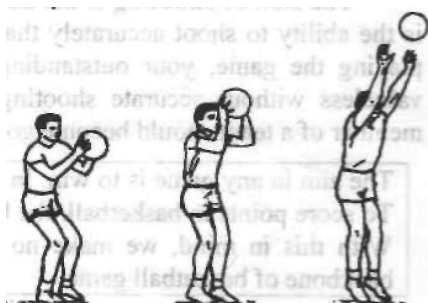


Fig.5.22. Two handed set shot

- extend the knees and arms and release the ball with a strong wrist snap using both hands.
- as your arms and legs straighten, your heels come off the ground slightly.
- follow through with fingers and arms using both hands.
- keep your eyes focused on the front ring of the basket.

b) One-hand set shot

In one hand set shot, you use your one hand to shoot the ball in the basket. This shot is sometimes known as free-throw. To perform one-hand set shot (as shown in figure 5.23), consider the following fundamental techniques:

- hold the ball as in a two-hand; set shot with the hands in front of the face above your forehead.
- turn the ball so that the shooting hand is behind and under the ball.
- the elbow of the shooting hand pointing towards the basket forming 90° if possible and the wrist should be extended.
- bend the knees, and bring the ball up, by removing the left hand if shooting is with the right hand (remove the right hand if shooting is with left hand).
- shoot the ball with a strong wrist action and extension of the shooting arm, letting the feet come off the ground.
- keep your eyes focused on the front ring of the basket.

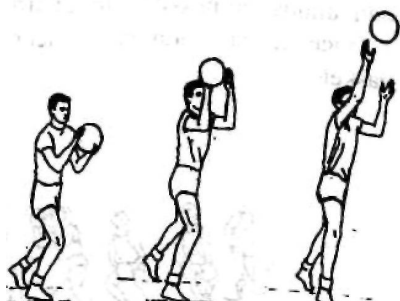


Fig 5.23. One handed set shot

Individual practice

1. Practice set shot with a partner standing 3 meters away for 5-minutes. Move one step back at a time until 10-meters apart, then move one step forward at a time up to 3- meters apart. Practice this for 10-minutes continuously.
2. Shoot 30 free-throws daily, keep a record while striving for a 20-score on average.
3. Start in pairs and within easy range of the basket. Practice shot after receiving a pass from your partner. The pass is received with knees bent and feet close to shooting position.

5.4.7.2 Jump shot

The Jump Shot is the most common one in basketball. It is mostly performed from a dribble, but you should be able to perform it almost in any situation. The jump shot can be performed from either running or standing position. This makes it difficult for your opponent to anticipate it and almost impossible to guard. To make an accurate shot, you need balance, coordination, and a clear view of the target on the front ring of the basket.

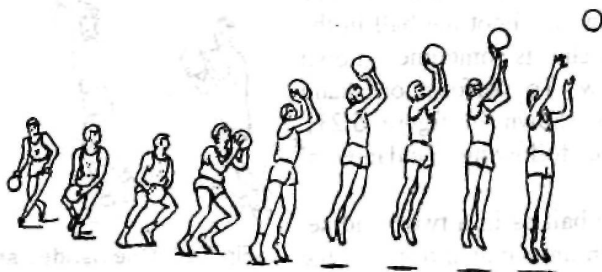


Fig 5.24 Jump shot

To perform the jump shot as shown in figure 5.24, consider the following fundamental techniques:

- come to a stop from the dribble.
- jump high into the air and bring the ball overhead.
- the shooting hand behind the ball and the elbow under the ball.
- the non-shooting hand must be at the side of the ball.
- at the peak of the jump, remove the non-shooting hand and shot the ball with the shooting hand.
- while shooting, there must be extension of the shooting arm and wrist.
- follow through with hands and arms of the shooting hand.
- keep your eyes focused on the front ring of the basket.
- avoid too much lowering the centre of gravity, as it hinders your jumping ability.

Note: In order to jump as high as possible, push the ground with both feet. When you push the ground to the opposite way, it pushes you up with equal force that you have exerted up on it. Hence, to jump high, push the ground forcefully so that you can have enough force to jump

Individual practice

1. Stand 5- meters in front of the board, and place the ball in the correct position for jump shot. Jump as high as possible and shot the ball. After each shot, take one step back until you get out of the big arc, then take one step forward at a time until you reach the 5-meters distance from the board. Practice this three times.
2. Jump and shoot from 5- different spots on the court working from the right baseline to the left baseline. Shoot three times at each spot and record the number of scores at each spot. Figure 5.25 shows the five spots of shooting.
3. Having a ball at hand, stand at the center line of the mid-court. Dribble forward to the board. When you reach the free throw line, jump and shoot. Repeat it ten times. How many shots do you score. Practice the same activity on the opposite board.

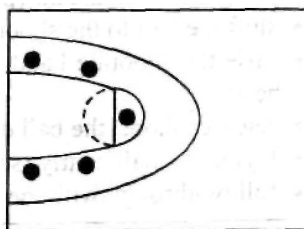


Fig 5.25 Five spots for Jump shooting

5.4.7.3 Lay-up shot

Lay-up shot is the most accurate shot, because you are very near (close) to the board while doing the lay-up shot. The lay-up shot is used when you are running to the basket. It is performed from a jump that carries you beneath the back board. Figure 5.26 shows taking off on the correct foot and releasing the ball at the top of the vertical jump. When you are shooting from the side, lay the ball gently against the backboard so that it will drop through the basket. When shooting from the front of the basket, also lay the ball gently against the backboard.

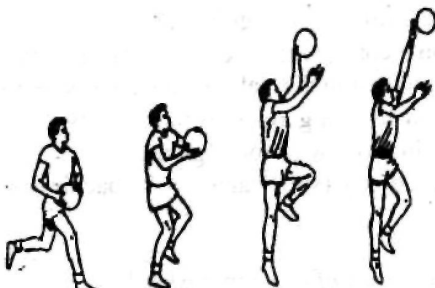


Fig 5.26 Lay-up shot

To perform lay-up shot properly, consider the following fundamental techniques:

- hold the ball at waist level with both hands.
- take - off with the left foot for left hand lay-up, (and right-foot for right hand lay-up).
- jump high into the air (pushing the ground with the bent knee).
- shift the ball to the shooting hand,
- raise the shooting hand as high as possible above and in front of the head.
- release (shoot) the ball off the finger tips.
- laying the ball gently (softly) against the backboard.
- follow-through with the shooting arm and wrist.

Note: Use both hands to bring the ball up for the shot and don't remove the non-shooting hand too soon. Follow through by the shooting hand because it is important to keep the direction of your shot in to the basket.

Individual practice

1. Practice alternate shooting of right and left-hand lay-ups for 2 minutes. Count the number of shots attempted and scored.
2. Make two lines, one formed from the right and one from the left. Dribble and lay-up shoot alternately on both lines. Practice this for 10 minutes.

Common errors in shooting

1. failure to push the ground forcefully.
2. failure in body coordination while shooting.
3. failure to execute a follow-through action,
4. failure to develop a consistent shooting form and concentration.
5. allowing the ball to rest in the palm of the hand when shooting
6. allowing the elbow to swing away from the body
7. shooting the ball in too low or too high arc.
8. laying the ball forcefully (softly against the backboard).

Think about it

1. List at least two types of shots in basket ball
2. Discuss the difference between lay-up shot and jump shot.

3. *Explain why pushing the ground is important in jump-shot.*
4. *Describe at least three of the fundamental techniques of lay-up shot.*
5. *Discuss the importance of shooting in basketball.*

Activity

1. To perform this activity properly:

- Remember all the fundamental techniques of jump shot.
- You should make jump shot at least five meters away from the board.

Perform the next two tasks

- From a stationary position, make jump shots (five times). And record the number of shots that you scored basket.
- After dribbling the ball two or three times, make jump shot (five times). And record the number of shots that you scored basket.

After doing the above two tasks, give answer for the following questions:

- a. with which of the two tasks jumping was easier for you?
- b. do you think you have pushed the ground forcefully in both tasks?
- c. can you relate the concept of pushing the ground with your physics lesson?
- d. how many baskets have you scored with stationary jump shot (task 1)?
- e. how many baskets have you scored with jump shot after dribbling (task 2)?
- f. which one of the two jump shots do you like to use in playing basketball?
- g. do you think both of them are important in playing basketball?

Write a report about the fundamental techniques of jump shot either stationary or after a dribble and then discuss it in your group and with your class-mates.

2. To perform this activity properly:

- Think about the fundamental techniques of lay-up shot:
- Do not forget to approach very close (too near) to the board. Either to the side or in front of the board.
- Take two or three dribbles before lay-ups.

Perform the next two tasks

1. Approaching to the side of the board, make lay-up shot (five times). And record the number of shots that you scored basket.
2. Approaching in front of the board, make lay-up shot (five times). Then, record the number of shots that you scored basket.

After doing the above two tasks, give your answer for the following questions:

- a. which one of the two tasks was easier for you?
- b. which one of the two tasks was difficult for you?
- c. how many baskets have you scored approaching to the side of the board (task 1)?
- d. how many baskets have you scored approaching the front of the board (task 2)?
- e. did you lay the ball softly against the board the both tasks (task 1 and task 2)?
- f. which of the two positions (at the side or in front) do you think more important in playing basket ball?
- g. do you think that it is good to lay the basket softly against the board while doing lay-up shot? Why?
- h. write a report about the fundamental techniques of lay-up shot and evaluate your performance with that.
- i. discuss your answers with in your group and class-mates.

Note: Any kind of shooting is important in playing basketball. So, each of the shots that you made in this activity is useful to play basketball. But lay up shot is better because it is the most accurate shot. Therefore, try to improve your skill of lay up shot by practicing it most of the time.

5.4.8 Defense (Defensive Play)

There are two types of defense that are commonly used in playing basketball. These are:

- 1) One-to one defense
- 2) Zone defense

5.4.8.1 One - to - one Defense

In one-to-one defense, each player in a team is responsible for one opponent. For example, one defense player in team A may be responsible for an opponent player in team B. This means the movement of the defensive player is restricted to defend only the assigned opponent.

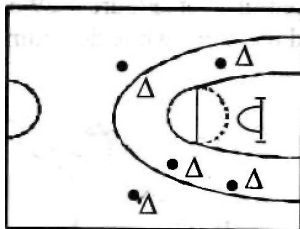


Fig 5.27 One-to-one defense

5.4.8.2 Zone Defense

In zone defense, each student is responsible for a certain area or zone.

In zone defense a player in team A is responsible to defend any player in team B who entered in her/his area or zone. For example, a defensive player in team A may be responsible to defend any offensive player in team B who entered in his/her area or zone. This means, the defensive movement of the player in team A will be restricted to defend an opponent player in team B as long as he/she entered in his/her area or zone.

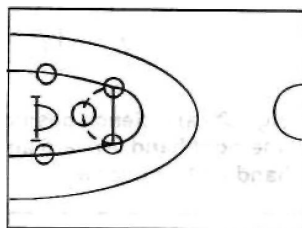


Fig 5.28 Zone defense

One of the main reasons for using a zone defense is to tightly defend (guard) the free-throw area, and to protect the opponent's easy lay-up shots. In zone defense, all the members of team A shift position as the ball moves among the members of the opponent team.

Remember to use zone-defense when

- you are playing on a small court (half-court).
- the opponents have a height advantage.
- the opponents have, weak outside shooting.
- the opponents have one or two best players that your best defender can not resist (overcome) them with one - to - one defense.

* Do you know what is expected of you while defending?

You are expected to place yourself between the opponent player and your own basket. This enables you to be in a good position so that one of your hands is in between the ball and the opponents player. At the same time, the other hand is stretched up overhead to deflect a ball that is being

passed or shot Figure 5.29-a and Figure 5.29-b show the two appropriate hand positions while defending in basket ball.



Fig 5.29 a) Defense position With the right hand forward and the left hand and up overhead.



Fig 5.29 b) Defense position with the left hand forward and the right hand up overhead

Note: The advantage of this defense position is that your upraised hand is ready to block overhead shots or passes while the other is in a position to snatch unprotected ball or block low passes. If you use this defense movement properly, you should practice by alternating hand so that you can guard just as effectively as possible with either hands held up.

In playing basketball, defense is important for the following purposes:

- to disturb your opponent by playing too near (in close) and moving arms in a distracting manner;
- to block the shot made by your opponent. (Don't jump too soon);
- if an opponent holds the ball unprotected, to snatch the ball;
- to steal a ball that is being dribbled;
- to deflect a ball that is being passed by an opponent to a teammate.

To be good at defense

1. Know your Opponent. Find out if he/she is fast or slow.
2. Always stay between the opponent and your own basket.
3. Keep your balance.
4. Do not charge your opponent. (Don't be rough).

5. Talk to your teammate.
6. When playing zone-defense, get to your area as quickly as possible and keep your eyes on the ball at all times.
7. Keep your basic - stance and don't cross your legs when shifting positions.

Defensive drill

- * Two offensive players try to make a basket While two defensive players try to stop them. Defensive players should use, sliding movement and help each other for effective defense. This drill could be practiced in a half court.

5.4.9 Offense (offensive play)

Offensive play will vary with the defensive play used by the opponent team throughout a single game of basketball. One type of offensive tactic is used against one - to - one defense and another type against zone defense.

The most common method of offense against the zone defense is to use **quick sharp passing**. Here, the major aim is to penetrate the zone - defense and facing an opponent player out of the assigned position. The other offensive tactic commonly used is **pressing** (over loading). Here, additional offensive players will be assigned in a weakly defended area of the zone.

Basic activities against one - to - one defense are the **give -and -go** and the **pick - and - roll**. Here, the emphasis is to screen a defensive player and then give the ball to a free team —mate.

Do you like to be good offensive player? If so, study the following important fundamental techniques of offensive play and then apply them while playing a game of basketball.

- Move the ball with passing rather than dribbling. Pass if you **CAN** and dribble if you **MUST!**
- Shoot only when you have a good chance to score.
- Don't throw too hard when you are near (close) to the receiver.
- Be good at lay - up before working on more difficult shot.
- Improve your shooting skill with practice.

Offensive drill

1. Start with three students at the midcourse line. Pass and re-pass the ball sideways to each other as you move forward to the basket. One of you should take the lay-up shot and the other two work on tip-ins if the shot fails to go in to the basket. When shooting with the right hand lay-up, you should take off with the left foot, and vice versa with the left hand.

5.4.10 Team Play

"There is no I in a TEAM"

By this Statement, we mean two things:

1. In the word 'TEAM', the letter 'I' is not included because the word consists of the letters 'T', 'E', 'A' and 'M'.
2. There is no individual play with a team sports because you are a member (part) of a team. Therefore, team work is very important.

Remember! It needs team effort to win a game and good team players develop the ability to help each other, and play at their peak performance.

Figure 5.30 Shows team formation in a game situation.

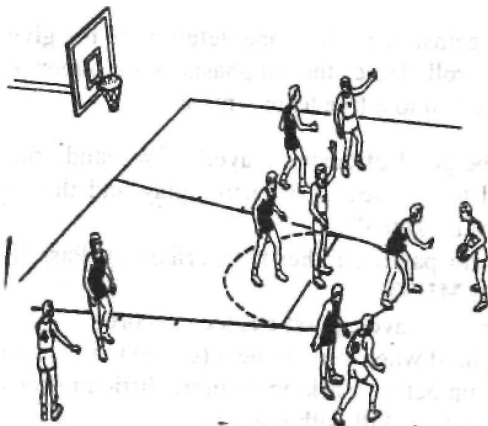


Fig 5.30 Team formation

When we come to basketball, it is a team sport and requires team effort. All the players of a team must help each other up to the end of the game. By its nature, basketball is a series of stops and starts. A team gains possession of the ball, stops its defense, starts its offense, then it loses possession, stops offense, starts defense, and so on. When playing a game, teams should make such transitions quickly and efficiently.

Since basketball is a non-contact game, possession of the ball and retaining possession to enable the team to free a player provides a scoring opportunity. Thus, the key to team play is possession of the ball. It is quite obvious that if one team retains possession of the ball, then the other team will have no opportunity for scoring. As possession of the ball leads to shooting opportunity, the team with the greater amount of possession will have a chance to win the game. Consequently, loss of possession prior to a shot must be regarded as a major crime!

While defending, a team has two choices. Either to use one -to-one or zone defense. On offense, a team's offensive tactics may include variations such as give - and - go, pick - and - roll, or pressing and others. All of these help a team to win the game.

Here, there are a few general points for a team play.

- If the opponents are poor shooters, play with them loosely.
- After catching a ball from rebound, immediately watch for a free teammates.
- Don't take a short, bounced dribble when you first get the ball. When you do so, you are using unnecessarily your chance to dribble the ball.
- Remember that basketball is a team sport which needs a team tactic of both defensive and offensive play.
- The enjoyment of play and pleasant social relationships are the most important characteristics (features) of the game.

Think about it

1. *Explain the difference between offense and defense in basket ball.*
2. *What does the sentence, "There is no I in a team" refer to?*
3. *List at least three importance of defense.*
4. *Describe at least two points that are necessary in a team defense.*
5. *Describe at least three points that are important to be good offensive player.*
6. *Discuss the difference between one-to-one and zone-defenses*

Activity

1. To perform this activity properly:

- Remember to upraise your one hand while the other hand is positioned or stretched to the side.
- Remember to use shifting or sliding movement while defending.
- Do not cross your feet while guarding.

□ Perform this task with your friend without the ball.

While one of you is moving forward, the other one will move backward with defensive footwork. While performing this movement (task), check the following points on your friend who is defending.

- a. Is his/her one hand upraised while the other hand is stretched to the side?
- b. Does he/she cross his/her feet while guarding?
- c. Do you think that your friend is good at defensive movement?
- d. Discuss with him/her about the strong and weak points that you have observed on him/her.

Then, exchange your role. While you are performing, your friend will check on you the above points.

2. Watch basketball games whenever there are matches in your area (locality). While observing the games, take notes against the following questions and discuss in the class with your groups and classmates,

- a. How is the game started?
- b. What do players do when the ball goes out of the court?
- c. What do players do when one of the team members touches (kicks) the ball with his/her foot.
- d. What do they do when one of the team members commits personal foul?

CHAPTER 6

TRACK AND FIELD /ATHLETICS/

Introduction

Track and field events originated almost along with the first human kind on earth. To survive, early humans engaged themselves in running, jumping, and throwing activities, all of which are natural body movements that enabled early humans to overcome the challenges of nature.

Track and field events that are fundamental, low- risk, require the minimum of equipment, and allow a large mixed group to be actively involved (such as sprints, distance running, hurdling, high jump, triple jump, discus, shot put, etc.) In general, it consists of three major activities, that are running, jumping and throwing. The track events include running events which are sprinting, relays, hurdles, distance running race walk and steeplechase. The field events are jumping and throwing. Jumping includes long jump, high jump, triple jump and pole vault. Throwing includes shot put, discus, javelin and hammer throws.

We hope that you have learned about some of these events in your previous physical education classes. This chapter stresses on hurdle, triple jump, high jump and discus throw. Safety rules and common errors of these events will be discussed. Moreover, activities that lead to a better refinement of the fundamental techniques as well as think about it questions for self check purpose are also included in this chapter.

Chapter Objectives

At the end of this chapter, students should be able to:

- Understand the nature and purpose, and basic rules of running hurdle, long jump, high jump and throwing discus;
- Develop positive social relationship to work cooperatively with others;
- Develop interest to participate in competitive activities.

6.1 Running Hurdle

Is hurdling a run or a jump? Have you ever seen hurdling competition? Have you ever tried running over the hurdles?

In fact, hurdling is a run not a jump. It is a running event in which some of the strides are long enough allowing the hurdler to pass over all the hurdles. Hence, good hurdling depends on the ability to generate the sprinting speed and good hurdling technique. Therefore, your action in between the hurdles should be that of a sprinter. Since clearing the hurdle is a run over action, the stride should not be elongated to reach the next hurdle. There are four important points to be considered while doing the hurdling action.

- To raise the center of mass only as high as needed.
- To spend as little time in the air as possible.
- The hips and shoulders must stay "square" to the hurdle.
- To land on a balanced position to continue running as quickly as possible.



Fig 6.1 The whole sequence of hurdling

Actually, hurdling skill is not a simple task, because good hurdling skill is developed through long hours of practice. In most cases, hurdling is an individual matter. Therefore, you can make any modification on the hurdling under the direction of your teacher. However, your modifications could include an exaggerated lift of the forward leg to permit hurdle clearance, an aggressive drive up on the hurdle, a slight forward leaning at the instant of take off and trailing leg that ensure forward moment and a return to sprint form.

Running the hurdles shall be discussed as follows.

1. The start and approach
2. Lead leg action
3. Trail leg action
4. Hurdle clearance
5. Arm action
6. The stride off the hurdle
7. Landing

6.1.1 The Start and Approach

The start for the hurdle is exactly the same as the start for sprinting. Most hurdlers take eight strides to reach the first hurdle, in this case, the back foot in the starting blocks is the lead foot while clearing the hurdle. When eight or seven strides are taken, the forward foot in the starting blocks would be the lead foot while clearing the first hurdle.

The take off point for the hurdler (distance between the take off foot and the hurdle) depends on the hurdle's horizontal velocity at take off. But you should establish the number of strides and take off distance to fit your particular ability. If you establish your take off too close to the hurdle, the result will usually be excessive clearance height over the hurdle rather than fit it sharply in to the hurdle. If you are too far from the hurdle at the instant of take off, you tend to float over the barrier, losing your time while in the air.



Fig 6.2 The start

6.1.2 Lead Leg Action

The first modification of sprinting form is the higher lift of the knee and thigh to permit hurdle clearance. This is accompanied by a slight bucking action of the trunk and a forceful drive against the track by the take off leg. All available forces are expended forward and slightly up ward. The lead leg is kept in perfect alignment as you sprint over the hurdle.

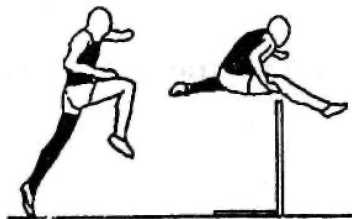


Fig 6.3 Lead leg action

6.1.3 Trail Leg Action

Action of the trail leg is an action in which you assume a more upright position during hurdle clearance. This will be done with the thigh and knee extended slightly downward from the horizontal. Following a horizontal delay as the lead foot reaches for the track, the trailing knee punches upward across the hurdle toward the chest. The quick high knee facilitates the sprint action which is so essential to this event.



Fig 6.4 Trail leg action

6.1.4 Hurdle Clearance

Since you can only gain speed while in contact with the ground, you should constantly strive to shorten the time it takes to clear the hurdle. One way to realize this objective is to avoid too much float during the period of clearance. You can accomplish this by working endlessly on the action sequence over the hurdle.

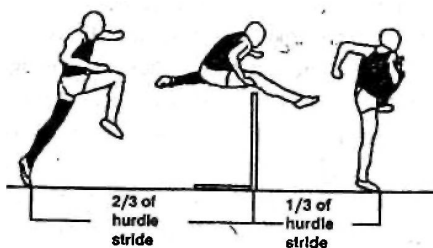


Fig 6.5 Stride of hurdle clearance

6.1.5 Arm Action

The lead arm should "sweep" back in a wide arc. This is necessary to increase the moment of inertia of the arm to balance the greater mass of the trail leg moving in the opposite direction. As soon as the lead arm passes the trail leg, the radius shortens to resume sprinting action. The trail arm stays relaxed with the hand near the hip (on the lead leg side). It should deviate as little as possible from normal sprinting action.

6.1.6 The Stride off the Hurdle

Getting over the first hurdle barrier is the most important problem facing all hurdlers. If you arrive at your take off point in step and is able to come off the hurdle in a balanced sprinting position, you will run in a smoothly coordinated style. But, if you have to stretch or are too close to the first hurdle, you will have trouble to gain either body control or speed. Also, a fast get way stride is the result of high and effective trail leg technique.

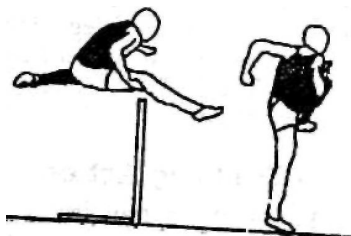


Fig 6.6 Stride off the hurdle

6.1.7 Landing

The hurdler should strive for an "active" landing with the lead leg pawing back at the ground with the foot dorsiflexed. The foot of the lead leg should land directly beneath the hurdler's center of mass.

6.1.8 Safety Rules in Hurdling

- Run through a few conditioning exercises before hurdling (stretching exercises, jogging, etc)
- Make a conscious effort to clear every hurdle.
- Constantly try to improve hurdling form.
- Never practice hurdling on wet ground (grass) and wet sole of the foot.

6.1.9 Common Errors in Hurdling

1. Approach to the first hurdle is irregular, and the stride pattern from the start to the first hurdle varies with each attempt.
2. Leaning forward too quickly at the take-off which tends to stop the lift of the body.
3. Take-off too near or too far from the hurdle.
4. Turning the hips and shoulders side ways results off-balance landing.
5. Failure to move the leading foot quick enough to the ground. This causes loss of speed while hurdling.
6. Landing on heel causes snapping lead leg down; straightening trunk.
7. Using poor arm and leg action, which leads to lose speed between hurdles.

6.1.10 Basic Rules in Hurdling

1. You should keep your own lane through out the run.
2. You will be disqualified if you jump any hurdle without being in your own lane.
3. You will be disqualified if you deliberately knock down and hurdle by hand or foot.
4. You will be disqualified if you trail your foot or leg below the horizontal plane of the top of any hurdle at the instance of clearance.

Individual Practice

1. The hurdler marches forward slowly, lifting the thigh of the leading leg forcefully up to a horizontal position. The arms work forward and backward vigorously, to balance your leg action. The supporting leg should be extended fully up on the toes as the opposing knee is lifted.

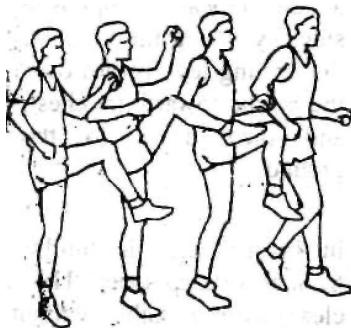


Fig 6.7 High - knee running

2. The left (leading) leg is elevated, and the lower leg is kicked out as close to horizontal as possible. The left leg is then lowered and the foot placed on the ground. The right (trailing) leg is turned out ward, flexed at the knee, and rotated upward and forward at the hip. It is then swung around, forward and placed down on the ground.

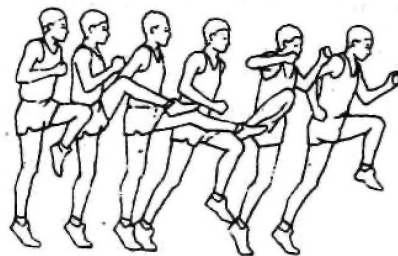


Fig 6.8 Simulated hurdling action

3. Walk along the side of a low hurdle, and only the leading leg crosses the hurdle. If the leading leg is the right, the hurdler walks along the left side of the hurdles and the right leg crosses the hurdle. Opposite sequence occurs if the leading leg is the left. The hurdler lifts the thigh of the leading leg directly forward and upward; don't swing it side-ways and up so that the foot clears the hurdle and place your foot down on the ground.

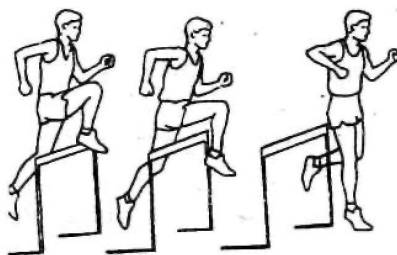


Fig 6.9 Leading-leg action with no lower leg extensions

4. The same to the above action, repeat in opposite side, by lifting the thigh of the trailing leg upward over the hurdle toward the chest, and then down to the ground.



Fig 6.10 Trailing-leg practice

5. In the next drill the hurdler approaches the hurdle directly from the front at walking speed. The hurdle is set low enough so that leading leg clearance is possible without full leading leg elevation and extension.

The leading leg crosses the hurdle and is placed down on the ground. Then bring the trailing leg over the hurdle and walk to the next to repeat the same action.

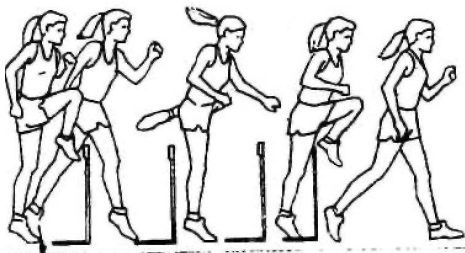


Fig 6.11 Walking hurdle clearance with no leading-leg extension

6.The leading leg is raised and extended to a horizontal position for the hurdle clearance. The leading leg crosses the hurdle and steps down to the ground. The trailing leg is brought quickly over the hurdle. Increase the intensity of this drill by requiring a high-knee lift at jogging speed between the hurdles.

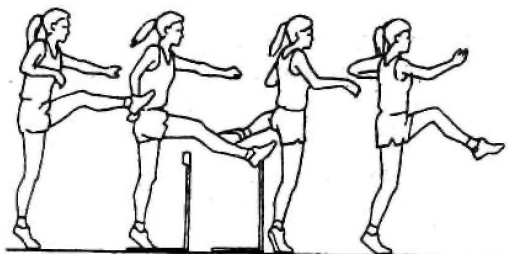


Fig 6.12 Walking hurdle clearance with leading-leg extension

After doing the above drills, be ready to attempt the complete hurdle action.

- 1.Set up three hurdles at the correct racing distance.
- 2.Emphasize three steps between the hurdles and do the whole sequences of running.
- 7.Take three strides after the start and clear a hurdle.
- 8.Take eight strides after the start and clear a hurdle.
- 9.Place check mark at the take off point in front of the first hurdle and practice to get the take off foot to the correct position.

Think about it

1. *How do you describe hurdling?*
2. *Explain the four important points in which you have to bear in mind while running the hurdles.*
3. *How many meters do you think are the distance between hurdles in*
 - A. *100 meters women's hurdle*
 - B. *110 meters men's hurdle*
4. *Discuss the difference between lead leg action and trail leg action in hurdling.*
5. *Why hurdling is not a jump?*
6. *Discuss the similarity and difference between sprinting and hurdling.*
7. *Describe at least two common faults in hurdling.*

Activity

1. Check the points of take off, clearance and landing by asking your friend to mark while running the hurdle. Discuss each other how well you have performed the activity.
2. Do the following tests with your friend while one of you are running the hurdles, the other student stands in the middle of the track. Just being in front of the one who is running the hurdle, check the following:
 - a. Is the leading leg straight? Observe the thigh first, then the knee, then the sole of the shoe.
 - b. Do you think that his/her eyes are fixed on the top of the hurdle just ahead?
 - c. Ask your teacher to check some times whenever you perform hurdling exercise.

6.2 Long Jump (Triple Jump)

The triple jump was included in the Olympic Games of 1986 and until recently was a men's field event. Triple jump competitions in the Olympic Games are now held for men and women.

Like the long jump, the triple jump demands great speed and spring. The two events differ in that the triple jump involves three jumps in sequence (a hop, step and jump), all of which are independent.

When compared this event to long jump (straight jump), the rate of improvement in the triple jump is more dramatic, and this improvement boosts enthusiasm. Most youngsters consider the triple jump a lot more fun than the long jump. The methods of teaching the run-up are similar for both events and also, the third jump in the triple jump is an elementary long jump.

This event is a combination of three movements hopping, stepping and jumping. See figure 6.13. The event requires good speed, strength and coordination. As in the long jump, linear velocity is very important. However, unlike in the long jump, this velocity must be controlled, conserved, and evenly distributed over the three phases, i.e., the hop, the step, and the jump.

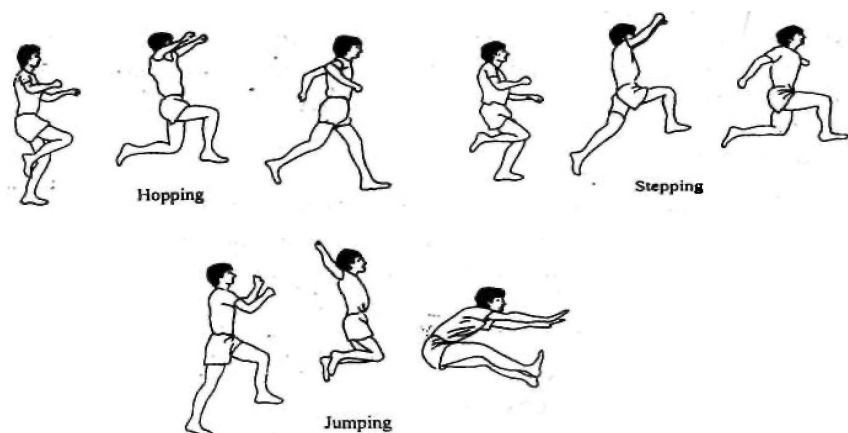


Fig 6.13 The three phases of triple jumping

6.2.1 The Approach Run

The approach run for the triple jump is similar to that of the long jump. You should be fast, and at the same time, you must have good balance and control at the point of take off.

6.2.2 Take Off

Since the movement at the take off is more forward than upward as compared with the long jump, you do not need to settle at the take off. Your take off foot will be planted flat, with the center of gravity directly over your foot, and the strongest leg should be used for the take off.

6.2.3 Flight

The first phase of the flight is the **hop**. The hop or the first jump is performed by bringing your take off leg forward after it has fully extended from the take off point. The thigh of the hopping leg is held parallel with the ground. Your hopping foot lands flat in preparation for the next phase.

The second phase, the **step** or the second jump is performed by bringing your free leg forward and parallel with the thigh split. It is usually slightly shorter than either the hop or the jump. The third phase or the **jump** utilizes the same technique as you have in the long jump. Of the three phases of a jump i.e, the hop, the step, and the jump, the step is the most difficult in terms of gaining distance. Your arms are very important for balance and momentum and must be held waist high and pump vigorously. Both arms should be brought forward and upward to create momentum. Your knee should lead first in the step phase. On the jump phase, attaining maximum distance is most important.

6.2.4 Landing

The landing technique is the same as those used in the long jump. The landing should be on the entire foot with the knee and ankle immediately flexing and the center of weight slightly behind the landing foot.

6.2.5 Safety Rules

- Warm up with a few conditioning exercise.
- The intensity of jumping ought to be increased slowly and carefully.
- Do not jump from a wet surface or with wet soles.
- Check for debris in the jumping pit.

6.2.6 Common Errors in Triple Jumping

1. Very short hop or very long hop.
2. Failure to strike check marks.
3. Too high or too flat trajectory from hop.
4. Failure to strike vigorously in the take off from step.
5. Using too much backward lean at take off.
6. Failure to obtain optimum distance in hop, step, and jump.
7. Having poor and haphazard arm action during each of the three jumps.
8. Landing on the toes at the end of the hop or step.

6.2.7 Basic Rules of Triple Jumping

1. Touching the ground at any point past the foul line (the front edge of the take off board) as your jump is considered a foul and it will not be measured.
2. The jump ought to be measured at right angle to the board and at the point of landing closest to the take off.
3. If you leave the pit to the side and move backward to the point that is closer to the take off board than the mark made in the pit, it is considered as a foul.

Individual practice

1. Select five exercises (lead-up drills) used for the triple jump that involve repetitive bounding, jumping, and hopping. These drills are designed to develop the leg power, muscular endurance, and coordination. Discuss with your friend whether or not the selected exercises are appropriate.
2. From standing position, perform 3 or 4 hops for distance on the right leg then perform the same drill using left leg.
3. Practice a standing long jump from a three stride run-up using a take off from the nonfavored leg. (See figure 6.15) Because the triple jump requires three jumps in succession, the first of these jumps usually occurs from the nonfavored leg.
4. Combinations of Hops, Jumps and Bounding strides. The step is really a long bounding stride. Perform combinations of hops, jumps and bounding strides initiated from a standing start and then from a short, controlled approach of three strides. The practice can be made in the following manner:

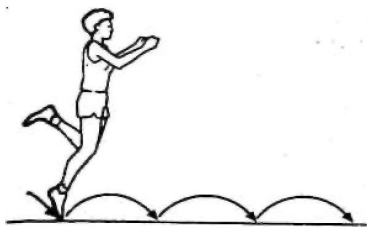


Fig 6.14 Hopping for distance

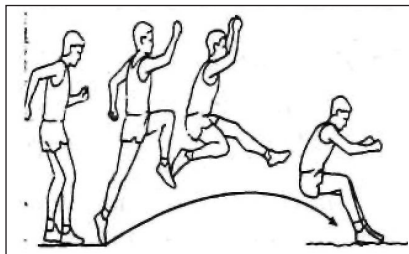


Fig 6.15 Standing long jump

- Hop, Hop, Step.
- Step, Step, Jump.
- Hop, Step, Step, Jump.
- Hop, Hop, Step, Step, Jump.
etc.

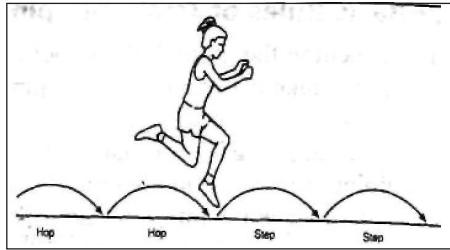


Fig 6.16 Combining hops and steps

5. After running 10 strides perform hop, step and jump.
6. After 20 meter run, link the three movements emphasizing the smooth rhythm of the movements /hop, step and jump/.
7. Practice the whole movements with fast approach run. (See fig. 6.17)

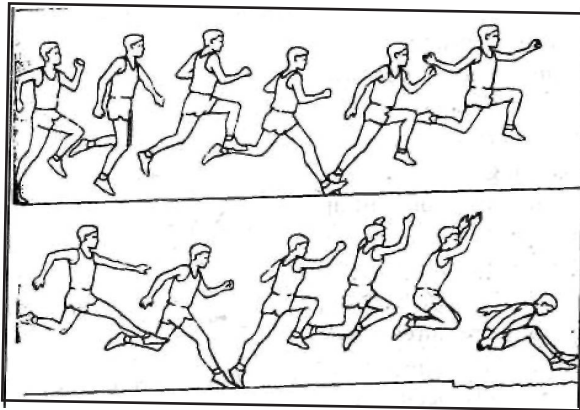


Fig 6.17 Triple-jump technique: the hop, the step, and the jump

Think about it

1. Triple jump is a ___event.
a) track b) throwing c) field d) None
2. Of the three jumps the hop is the most difficult in terms of gaining distance. Is this statement true or false? Why?
3. Which of the following order of jumping movement is correct in triple jump?
a) Jump, step and hop c) Hop, step and jump
b) Step, jump and hop d) Step, hop and jump

4. *Describe the main activity in triple jump.*
5. *State the sequence of movements in triple jump.*
6. *How do you describe flight in triple jump?*
7. *Discuss the similarities and differences between triple jump and long jump.*

Activity

1. While you are performing the whole movement of triple jump, let your friend mark the points of the hop, the step and the jump.
 - A. In which phase, have you attained the maximum distance?
 - B. In most of your trial, which part of the jump is a determining factor on your triple jumping trial?

Discuss the cases with your teacher and class mates.
2. Stand in the opposite of take off board (2-3 meters back) and analyze the performance of your friend while he/she is performing a triple jump. And also ask him/her to analyze your performance while you are performing a triple jump using the following points:
 - A. Does the heel strike first?
 - B. Is the entire foot on the take off board?
 - C. Is he/she looking out beyond the horizon on the final jump?

6.3 High Jump (Straddle Style)

Have you ever seen a high jump competition? What was it like? Have you ever tried jumping over the bar?

The high jump consists of a sequence of movements like, run gather, take off, bar-clearance and landing aimed at clearing a vertical obstacle. In this action, gravity is off-set by a powerful push-off, which sends the jumper "flying" across the obstacle.

The styles /techniques used in this event have shown progress from time to time, from the old fashioned scissors in which the jumper cleared the bar in a sitting position (straight jump) to the forms in which the body layout is employed when crossing the bar. Improvement in the type of footing in which the take-off is made, is another factor contributing to better performance. Such refinements as improved jumping shoes and shock prove landing areas and the efficiency of the jumper.

There are no restrictions on how a jumper must clear the bar so long as he uses only one foot for the take off.

Usually, tall individuals with long legs can be the best high jumpers. Spring is also necessary for success.

6.3.1. The Techniques of High Jump (Straddle)

For analysis the complete movement is subdivided into several phases: the run-up, the take-off, bar clearance and landing. All the phases are closely interrelated, that it is only theoretically possible to define the end of one and the beginning of the next. Thus an effective take-off will chiefly depend on the approach pattern and the rhythm, and speed built up during the approach.

a. The approach run

The approach run must be in a straight line, usually some seven to nine hard running strides after two to three strides of easy walking. It has two parts. In the first part emphasis is on the development of speed, while the second part, i.e., the last two or three strides serve as preparation of take off. Therefore, the speed at the end of the approach must be controllable, permitting the jumper to convert the horizontal plane of motion into an almost vertical one.

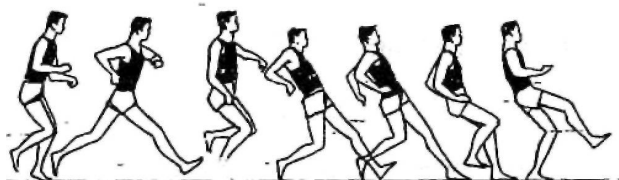


Fig 6.18 The approach-run

b. The take-off

The beginning of the take-off is marked by the foot plant of the jumping leg on the take-off point. (This point can only be fixed theoretically, because practically, it begins with the last strides of running approach).

The swinging leg is pushed more in the forward-upward plane, thus accelerating the pelvis considerably, so that it gets ahead of the shoulder girdle, giving the jumper the extended backward lean before take-off. Then the leg swings upward and forward in the running direction and is drawn up

into draws in the final phase of take-off. This brings the jumper, at the end of the jump and at the beginning of the bar clearance phase.

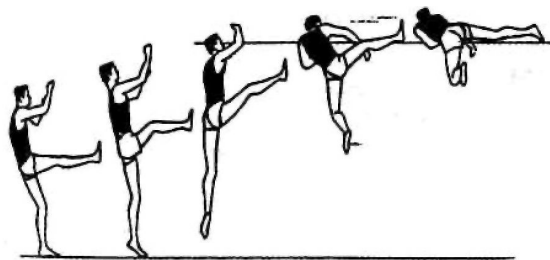


Fig 6.19 The take-off

c. The bar clearance

The highlights of the jump are the techniques used in crossing the bar. The swinging leg, which reaches the bar first, together with the arm of the same side, and is initially almost at right angles to the trunk, is now stretched along the bar. At the same time the jumping leg is drawn up close to the hollow of the knee of the swinging leg and pressed outwards.

As a result, the parts of the body are grouped around the longitudinal axis of the body. The jumper now turns his face and chest completely to the bar and is lying almost parallel to it. The head should be pressed to the chest. The arms, which at first were in front of the body, are now on the side and close to the trunk; frequently the inside arm is curled up on the chest. In this phase, the turning outwards of the jumping leg is started, one of the most important movements in crossing the bar.



Fig 6.20 Bar clearance

d. Landing

The jumper is now moving away from the bar and preparing for landing. Since the rotation of his body about the long axis would force him to land on his back, he must now strive to delay this rotation. This is achieved by allowing the trunk, arms, and swinging leg to move downwards, away from the longitudinal axis, by extending the jumping leg

upwards and backwards. This makes for a soft landing. The free leg and arm usually touch the ground first, thus reducing the impact. The body then rolls over the shoulder or the hips to the back.

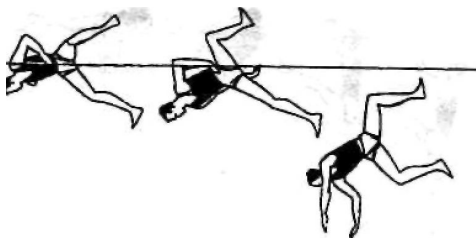


Fig 6. 21 Landing

6.3.2 Common Errors in Straddle Style (High Jump)

1. The approach is too fast, so that the jumper misses the take-off point.
2. In the take-off the jumper leans too much to the side of the take-off leg and does not get up high enough.
3. Performing a long flat flight curve.
4. The jumper exhibits a poor extension at take-off.
5. Loss of momentum before take-off.
6. Knock down the cross bar by the leg during clearance.

6.3.3 Basic Rules of High Jump

1. The jumper must make a jump from one foot.
2. Three trials are allowed at each height.
3. Displacing a bar, passing under it, crossing the ground will be counted as a foul and trial.
4. The jumper goes out of competition when she/he has three consecutive misses at any height. But it is allowed to jump until he/she misses three times.
5. The winning jumper is the one who jumps the highest height in the high jump competition.

Individual practice

1. Jump with take off leg from a forward movement (walking) and clear over the cones (obstacles) in a free jump.
2. Jump from one stride approach-jump with half turn, landing on the leading leg.

3. Practice the same exercise as No. 2, but with three strides approach.
4. Practice the same exercise as No.3, but with $\frac{3}{4}$ (third-fourth) rotation.
5. Perform the same approach and take-off as in exercise No 4. Landing is now on the swinging leg and immediately afterwards on the hand of the same side; it is concluded by a roll-off over the hips or the shoulder. At the beginning, the bar should have a height of some 50 to 70 cm but it should soon be raised.
6. The same as No.5, only with longer approach (5, 7, or 9 strides) and jumping over slightly higher heights.

Think about it

1. Describe a high jump?
 2. Discuss the way you do a straddle style of high jump?
 3. What physical qualities you need to become good high jumper?
 4. What do you think about the main reason why we Ethiopians are usually unable to get good result in high jump?
- Discuss this with your teacher and class mates.*

Activity

1. Determine your take off foot by doing the following exercises.
 - A) Jump a low bar using a right foot take-off 3-5 times.
 - B) Jump the same height using a left foot take-off 3-5 times.

If the action feels "good", you have to take off from the correct and suitable for you.
2. From the competition you have observed before in the continental international level, which types of competitors usually win? Tall or short? Why?

6.4 Throwing (Discus)

Have you observed the event while throwers throwing discus? Do you know the method of throwing a discus? From where the discus is thrown?

The discus throw is a rational event, and the foot work and hand hold make it more complex than shot put or javelin so that it needs care and repeated practice. Also rubber rings and small hula hoops are excellent substitutes for the discus because they eliminate the problems of holding the discus when the foot work is being taught. Conditions which are necessary for good thrower are powerful, long-armed, tall and strong body.

The logical order of progression in learning to throw discus is developing a proper grip, developing the correct stance and release; practicing the spin across the circle; integrating the throwing technique. Throwing the discus is a combination of balanced power, speed control and

6.4.1 The Grip

Place the discus in the non-throwing hand. Place the palm of the throwing hand on the tip of and in the middle of the discus. Hold the discus on the pads of the fingers, the thumb is placed at the edge of the discus, but does not come over the discus rim. The thumb in this position is pressed against the discus. (see fig. 6.22)

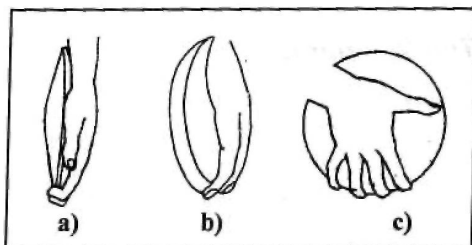


Fig 6.22 Three views of gripping the discus

Back of Ring (see fig 6.23 and 6.24) Both feet are at the back of the circle. The left foot is placed on the center line instead of having to straddle the line. Starting off from this position allows you to use more of the circle and more of a circular motion, creating a greater velocity of the discus.

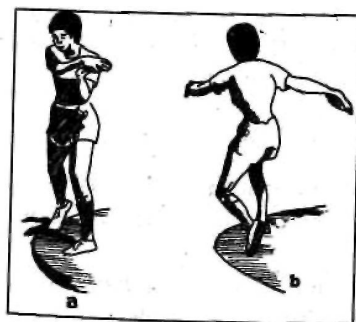


Fig 6.23 Sequential positions of discus throw

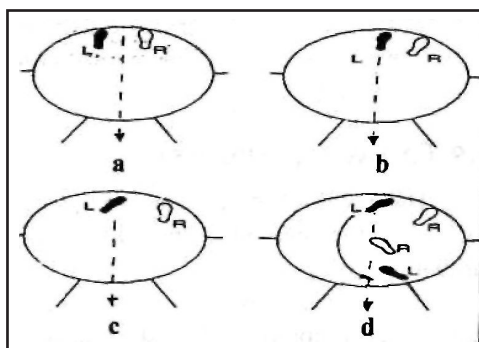


Fig 6.24 Right and left foot placement in discus throw

Power position

Place the right foot on the middle of the circle. Rotate the foot so that the toe is pointing at about 10' O'clock. Weight is balanced on the flexed right leg. The left foot should land in the pocket. The toe of the left foot should be even with the right heel back a little, with the leg slightly flexed and relaxed. The feet are a little more than shoulder width apart (see fig. 6.24a). This is done so that when you rotate the hips, you will be open to the throwing area, the hips constituting the direction of the discus. (see fig 6.24b).

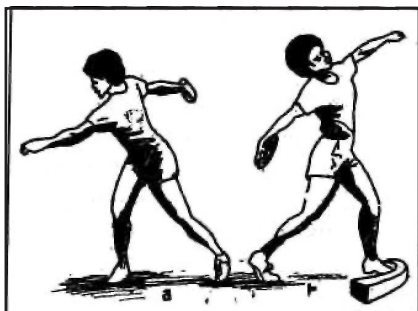


Fig 6.25 The power position for throwing discus

Moving through the circle

As you move through the circle, thrust should be "slow", then fast with increasing speed or "jest" quick.

Spin

It is essential for stability during flight, and a headwind gives lift to the discus and assists in producing the longest throws. Always stay on the toes and rotate; you must be active with the lower body and passive with the upper body.

The following points are what you should do for a spin.

1. Swing your right leg and foot around, keeping the leg ahead of the shoulders.
2. Relax your muscles to get the right leg around, keeping the spread between the right leg and left leg on the first turn, imagine as there is a bar between the two legs like a sprinters running form (see Fig. 6.25a and 6.25b).
 - a) Your legs and hips lead the movement to the key torqued position (see Fig 6.25a).
 - b) From the balance position, the body is accelerated across the ring with your left leg.
3. The right foot is put down on the center of the circle. The right foot is turned upward before landing to ensure an early pivot and to keep the hips ahead of the upper body to stay on the toes and rotate/.

4. The hips must remain ahead of the shoulders and the discus, creating torque. /Torque is the difference between the hips and the shoulders which build up or make up an "X" shape. (see Fig 6.25a)
5. Go into the power position. The upper body and the discus are turned together toward the right with the discus over the left heel /a torque position/.
6. Release the discus from the hand. (see fig. 6.26. c, d and e).

Primarily the discus is released off the index finger and the discus rotates in a clockwise manner.

Finish

1. Finish in a 360° rotation, facing the front of the ring with the knees flexed and feet apart.
2. Replacing the left foot with the right foot, and lowering the center of gravity, complete the release. (see Fig 6.26)

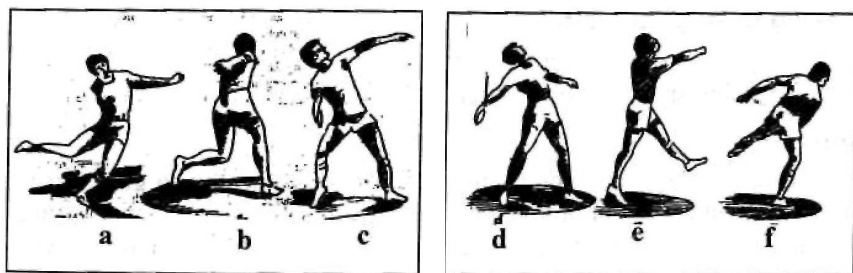


Fig 6.26 Rotating 360° in the last phase of throwing

Safety rules

- Check regularly all discuses to see that they are in good order.
- The metal rim must be smooth and without burrs.
- The equipment that you use for training purposes must also be safe.
- Don't throw at people, be always sure that there is no one in the direction of throwing
- Listen carefully to the command of the teacher at the beginning of every activities.

Common errors in discus throw

1. Stepping back into the throwing stance with the wrong leg.
2. The throwing arm and chest move forward into the throw while the hips and seat move backward.

3. During the release, the body falls to the left or right.
4. Releasing the discus out of the back of the hand.

Basic rules

1. The discus must be thrown within 40° sector.
2. The thrower may not touch any part of a pointed line.

Individual practice

- Start practicing from the simple, rolling the discuss through the index finger.

1. Standing throw using a discus substitute object like small rubber ring and then each thrower steps forward toward the direction of throw. The throwing arm is kept extended throughout, and swings it around the body just below shoulder level. If the thrower is a right-handed, he/ she steps

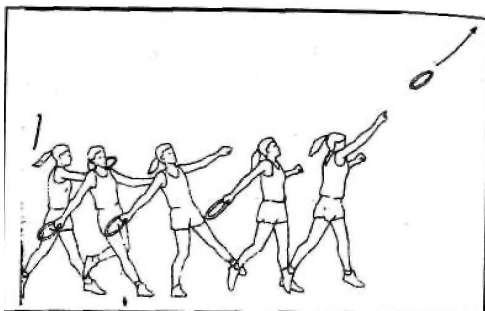


Fig 6.27 Slinging a rubber ring

forward into the throw with the left foot extending the legs powerfully and driving the hips and chest forward in to the throw.

2. Standing throw initiated with the thrower side toward the direction of throw. The thrower swings the rubber ring and the shoulders back and around to the right side of the body. This action cause to rotate on the balls of the feet toward the right, simultaneously shifting the body weight over right leg. The

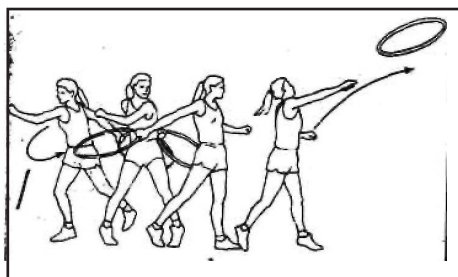


Fig G.28 Standing throw initiated with the side of the athlete toward the direction of throw: (whole view)

throw begins with right leg extending and the hips rotating vigorously toward the direction of throw, so hips lead the chest and throwing arm, and body drives upward and forward. (See fig. 6.28)

3. A rotary throw using a rubber ring or small hoop requires the same footwork and body actions as Fig 6.29

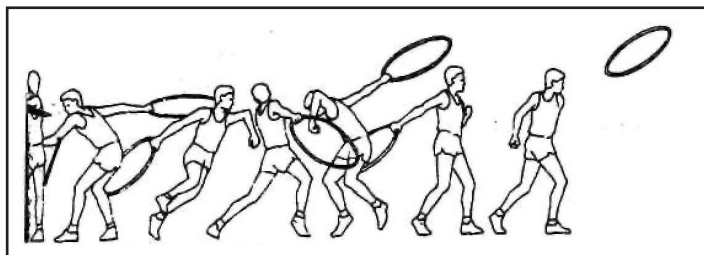


Fig 6.29 Rotary throw using a discus substitute material

4. Familiarize yourself with the weight and shape of the discus.
5. Practice the hand hold, the discus on the pads of the fingers, resting the thumb against the side of the discus and flexing the hand slightly inward at the wrist.
6. Swing the discus lightly forward and back at the side of the body with the arm acting as a pendulum with out release.
7. Practice blowing the discus along the ground then tossing the discus in the air with the correct spin.
8. Practice stands with the back toward the direction of throw. Swing the discus back to the right and simultaneously step back with the left foot, keeping the body weight over a flexed right leg.

After placing the left foot in position, vigorously extend the leg and rotate the hip toward the direction of throw. Your hips are followed by the chest and the throwing arm, which is swung around the body just below shoulder level. (See fig 6.30)

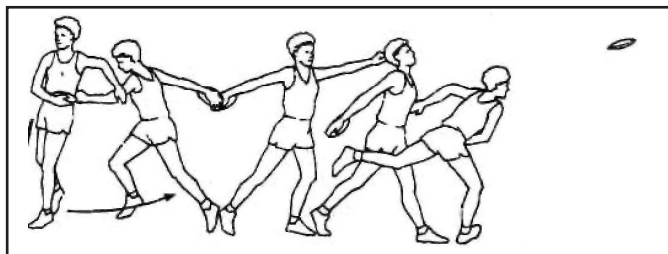


Fig 6. 30 Technique for the standing throw

9. Step - Back Standing Throw with the discus. The thrower begins in a shoulder width stance with the back toward the direction of throw, loosely swinging the discus back and forth. As the discus is swung back in the wind up, the thrower immediately places the left foot back ward in to the throwing stance, making sure that the body weight remains over the right leg as the left leg is thrust back into its position. Legs, hips, and chest then rotate in that sequence around and forward into the throw. (See fig 6.31)

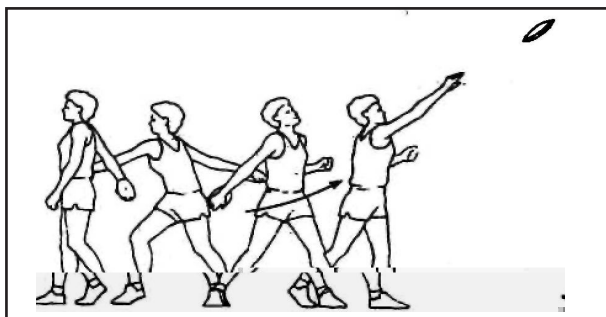


Fig 6.31 Step- back standing throw with the discus

10. Perform rotary discus throw initiated with the back toward the direction of throw and then either swing the discus back low and close to the hip, using rotary speed to hold it in position, or swing the discus back and hold it on the seat during the rotation across the ring then repeat this action with reverse /after releasing the discus arrest the forward movement of the body by reversing the feet/. (See fig. 6.32)

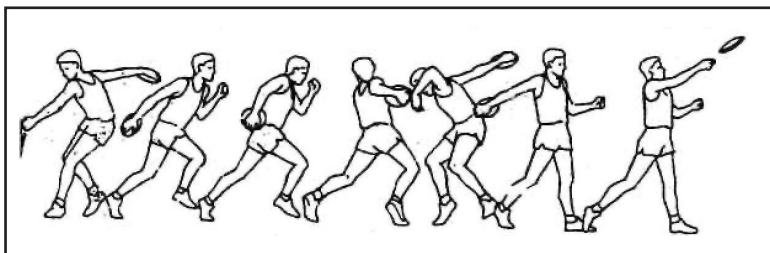


Fig 6.32 Rotary discus throw initiated with the back of the athlete toward the direction of throw

Think about it

1. Describe how to hold a discus?
2. When and how do you release discus?
3. What is the purpose of a spinning action?
4. State the logical order of progression in practicing the discus throw.
5. The main importance of a follow-through action in discus throw is
 - a. to keep the direction of the discus
 - b. to keep balance
 - c. to attain maximum distance
 - d. to use your body power properly
 - e. all of the above

Activity

Perform the following tasks with your partner.

- (*) Stand behind your friend's throwing direction while he/she is performing a discus throw, and check the stance (position), and the whole sequences of the throwing action.
 - A. Are his/her feet wider than the width of his/her shoulder?
 - B. Are his/her ankles, knees, and hips slightly flexed?
 - C. Is his/her head erect?
 - D. Are his/her eyes seeming to gaze out at the horizon?
- (*) Look at the following throwing actions.
 - E. His/her grip, power position, and Spin;
 - F. His/her rotation (360°), feet placement, and body position (lowering center of gravity);
 - G. His/her complete release, follow-through and recovery;
 - H. The trajectory and the arc of the discus in the air;
- (*) Then exchange your role with your partner. Thus, while you are performing, your friend will check the above points on you.

Finally, write a half page report by linking this action with your physics knowledge and discuss all your information with your partner as well as with your class-mates in the class.

Unit Summary

- Tumbling is the art of manipulating the body in feats of skill with out the use of apparatus.
- Apparatus gymnastics is a part of gymnastics that involves moving in relation to one or several equipment.
- Emotions are activated by external and internal stimuli.
- Learning self defense not only help you to protect yourself against assault, but also are effective means to improve your physical conditioning.
- Blocking is the corner stone of self defense.
- Punching is a commonly used attacking technique.
- Basket ball is a fast-moving, high scoring team game that requires of the individual player extreme qualities of skill, precision, control and agility, as well as the physical prerequisites vital for athletics excellence.
- The rules and regulations of the game help to maintain the main features of the game. There are a number of fundamental techniques of playing basketball. For instance, passing, receiving, dribbling, shooting, etc. passing includes the chest, bounce, overhead, and basketball passes, and shooting includes the set shot, lay-up shot, and jump shot.
- Hurdling is an interesting event that involves not only of sprinting but also of clearing obstacles in the path of the runner. It teaches rhythm, pacing, tempo, and an appreciation of stride count and stride length.
- Triple jump is a continuous, integrated series of movements consisting of the hop, step and jump. Each of these phases are equally important for success in triple jump.
- High jump consists of a sequence of movements aimed at clearing a vertical obstacle. High jumping needs to convert the horizontal plane of motion in to a vertical one.
- The discus throw is a slinging throw which needs care and repeated practice. The implement has to be thrown from a circle of 2.5m in diameter. The rational techniques in the discus throw are the grip, the swing, power position, the spin release and recovery.

Key Terms

Approach - a run used before the actual take off in triple jump.

Assault - sudden attack

Back Court - that half of the court which contains a team's defensive basket.

Court- is a playing area of basketball game.

Cross -bar - the bar that a high jumper has to clear.

Discus - one of the field events in Athletics in which a cylinder like object is thrown. It can be made of wood with a metal rim round the circumference and brass plate in the center.

Dorsiflexion- flexion movement of the ankle that results in the top of foot moving toward the anterior tibia bone.

Drill- a repetitive practice designed to improve one or more particular fundamental skills or team combinations.

Emotions- strong feeling

Fake (Feint) - a movement made with the aim of deceiving an opponent.

Fast break-(quick break) - a fast offense that attempts to advance the ball to the front court before the defense is organized, with the objective of achieving numerical superiority to give a good shot.

Fine Centering - watching on the ball or at the target by focusing at the spot; to give more concentration.

Follow-through - is the action of a natural continuation of a shot or pass while the eyes are still concentrating on the target.

Free - leg - the leg that takes the second jump in triple jumping.

Front Court - that half of the court which contains the basket which a team is attacking.

Fundamental techniques- are the basic skills of the game, necessary as a background for all team play.

Jump ball - a jump ball takes place when the official tosses the ball between two opposing players.

Lead leg- the leg that passes over the hurdle at first.

Leaning forward - slightly bending the upper body forward.

Linear velocity - a movement of an object like a discus in a straight line with constant velocity.

One-to-One defense- a style of defense in which each player is assigned to guard a specific opponent regardless of where he/she goes in his/her offensive maneuvers.

Personality - the qualities feature of a person

Pivot - a) To keep one foot in contact while moving the other foot during discus throwing.

b) A pivot takes place when a player who is holding a ball steps once or more than once in any direction with the same foot, the other foot-called the pivot foot; being kept at its point of contact with the floor.

Punch a hard - blow with closed hand

Rebound- a term used to describe the actual retrieving a ball as it rebounds from the backboard or the ring after an unsuccessful shot.

Recovery - a moment of landing after passing over the hurdle.

Screen- a screen occurs when a defensive player attempts to prevent an offensive player from reaching a desired position or maintained his/her defensive position.

Slide - when a defensive player, in order to prevent him/herself being screened, moves as he follows his/her own opponent, between a team-mate and that team-mate's opponent.

Slow break - a deliberate attack against a defense that is set-up.

Soft-centering- Looking over wide area, using peripheral vision.
(eg. Basketballer has thousands of eyes)

Spin - to turn around in a complete circle.

Stride - distance covered by one long step.

Take - off - the step immediately before the hurdle.

Take off - is the starting position for the first jump (the hop) in triple jumping.

Take off board - is a board from which triple jumpers start to jump the last jumping phase.

Torque - the difference between the hips and the shoulders which build (make) up an "X" shape.

Trail -leg - the leg that passes the hurdle at second.

Trajectory - a curved path of something like discus, that had been thrown into the air.

Trial - an attempt in a field event.

Zone defense - a team's defensive tactic in which the five defensive players react to the ball and, in so doing, are each responsible for an area of the court in which they move in relation to the movements of the ball.

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