



Teheran University of Medical Sciences

International campus Vice-Dean for Educational Affairs



دانشگاه علوم پزشکی تهران

معاونت دانشجویی

مدیریت تربیت بدنی دانشگاه

An Introduction to Basketball

Physical Education (2)

Management of Physical Education

Deputy of Education and Culture of Tehran University of Medical Sciences

Translated by:

Educational Office for International Students

International Campus of Tehran University of Medical Sciences

Introduction:

Basketball is a team sport that is very popular among people who are interested in group activities. This sport not only enhances a person's physical abilities but also the positive aspects of the mind. In this respect, playing basketball increases pace, cardiovascular stamina and strengthens capabilities such as agility and individual flexibility. Psychologically, it improves self-confidence, establishes team work, encourages a sense of forgiveness and discipline. In this way, basketball helps the young people acquire the skills needed to cope with life's problems and better adapt to social issues. It is recommended to start this sport between 9-10. Obviously at this age, there is a suitable ground for developing the mentioned abilities. Furthermore, playing basketball is an appropriate and healthy entertainment for spare time of youngsters and the adult.

Public basketball has been played for over a century and was invented in 1891 by a sports game designer named James Naismith in Massachusetts. The rules of this game have changed several times over a century. Currently, athletes of this game play it at an advanced level like an artist on the stage.

Regulations:

The court consists of a rectangular floor that is 28*15 meters. The vertical lines are called side lines and the end lines are called widths. (All the lines on the court and the board are 5cm). The court is divided into two equal halves by a line (half line). One is the front court (attached field) and the other is the back court (defense field). The court is not mixed and it is made of mecaleom panels or other hard materials.

Backboard and hoop:

The backboard is installed in ground by bases one-meter distance between the end line. The backboard enters the court approximately 110 cm. The backboard can be made of glass. The dimensions of the backboard are 1/80*120 and the height is 2/75 above the ground. (The top of the hoop is 305 cm above the ground). The hoop is installed to the backboard 30cm above the end of the edge and the diameter of the circle is approximately 45cm. The dimensions of this net are 40 cm and is affixed to the backboard to show the touch of the ball.

The ball:

The ball is made of either plastic or leather and has one layer. The circumference is 70cm for women and 75cm for men. The weight of the ball is 550gr for women and 650gr for men. The air in the ball is appropriate when the thrower releases the ball from the top of the head and reaches the thrower's chest.

The court:

For the Olympic tournaments and the world championship cups, the length of the court should be 28 meters and 15meters wide.

The legal height must be 7meters above the ground and there must be enough light for competitions. The court lines should be 2meters away from fans and the advertisements. The margins are 5cm and should be visible. Right in the center of the court, there is a circle with a radius of 1.80 meters. Also, a parallel line divides the end lines into two equal parts.

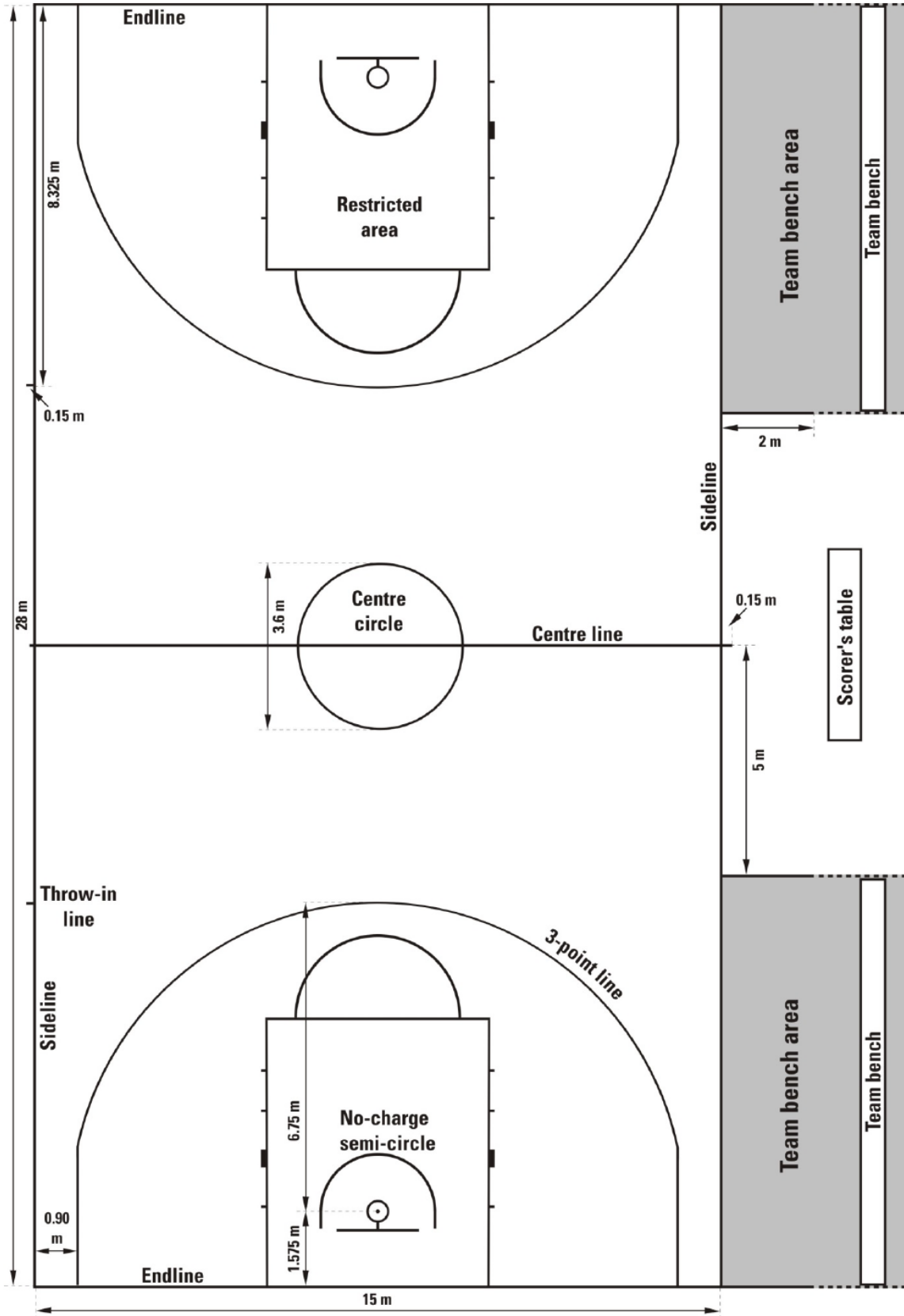


Diagram 1 Full size playing court

Penalty box:

The diameter of the penalty box is 3.60 cm. This area is free throwing. The area in both sides is equal and the central circle is called the jump ball circle and is used to start the match.

Number of players and time of the match:

Each team is allowed to have 10 to 12 players, of which 5 players enter the court to play, the other 5 to 7 players (the substitute players) remain on the bench. These players can replace other players with the permission of the referee and there is no limit for substitution (each player can only replace one player on the field).

Time of the match:

The official basketball time is 40 minutes. The game consists of four quarters of 10 minutes, with a 15-minute break at half-time. There is also a two-minute interval between the first and second periods, and between the third and fourth periods.

In the first half, each coach is allowed to use two breaks (1 minute each time) and in the second half three time-outs and another time-out is in the extra time.

Result of the game:

The team that scores more points at the end of 40 minutes wins the game. If the teams draw at this time, there will be added 5 minutes as extra time and if they draw again the 5-minute extra time will be added until one team wins.

Regulations and fouls:

The following fouls result in in loss of ball possession

- The 3-second rule: a player must not stay in the opponents' restricted area (front court) for more than three consecutive seconds (with or without the ball).

If a player commits the three-second foul, the referee will show it as shown in the following picture.

- The 8-second rule: when a team gains possession of the ball in the defense half (their own half), they have eight seconds to move the ball into the front half (opposition's half) by passing or dribbling. If a player commits the 8-second foul, the referee will show it as shown in the following image.

- The 24-second rule:

Since gaining possession of the ball, each team has 24 seconds to make a throw to the basket. The 24 seconds may be restarted if the ball is thrown to the basket and hits the hoop. If a team commits the 24-second foul, the referee will show it as shown in the image below.

- Half-way foul: (retaking the ball to the backcourt)

The team which possesses the ball in the frontcourt is not allowed to take the ball back to the backcourt.

- Running: (Travelling)

This foul is committed when a player walks with the ball without dribbling or moves the feet while moving the ball.

- Double dribble:

Players are not allowed to dribble right after another completed dribble unless they pass or shoot the ball between the first and second dribble. It should be mentioned that, if two hands simultaneously touch the ball during dribbling, it is considered double dribbling and it is foul.

Fouls:

Physical contact and unsporting conduct (such as pushing, blocking, holding arms, etc.) are considered fouls and may result in free throw based on the intensity of the foul and number of fouls according to regulations.

Punishment:

Each foul will be written in front of the player's name in the referee's notebook. If the foul is committed during throwing, there are two situations as follows:

- a) Player scores (there is one extra throw)
- b) Player does not score (if the throw was in the 2-point area, there will be 2 throws and if in 3-point area, there will be 3 throws for the player).

Individual and team fouls:

Each player is allowed to commit 4 fouls during one match. If the fifth foul is committed, the player will be sent out of the match until the end.

Team fouls:

Each individual foul brings one team foul. If each team commits 4 fouls in each period, the next foul gives two free throws to the next team.

Score sheet:

Team fouls, individual fouls, time-outs, number of scorer(s), and points will be written in the score sheet.

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Score and points:

Each free throw from the penalty box is worth 1 point.

If a player makes a field goal from the two-point line, the player scores two points.

If a player makes a field goal from the three-point line, the player scores three points.

Referees and assistants:

The crew consists of a lead referee, one or two umpires, one sheet keeper, one scoreboard keeper and one for 24-second period. The referees are not allowed to change rules and regulations and their outfit contains a long black pair of pants, a gray shirt and a black pair of shoes.

Playing the ball:

The game will start in three ways.

- 1- Jump ball and alternative possession of the ball: The jump ball is done by the referee in central circle between the two sides to start the first period.

Alternative possession: This happens when one or more players from both teams touch the ball in a way that neither of them has the ball, albeit without violence.

- 2- Throw in: for so doing, the player should stand behind the line (cross bar or vertical line) and throw the ball in the court.

Throw-in fouls:

- 1- Stepping a foot on the line
- 2- Walking while throwing
- 3- Entering the court with the ball
- 4- Moving the ball hand to hand
- 5- Waiting more than 5 seconds to throw the ball

1- Penalty throw-in

If a player attempts to shoot (not moving, 3 steps) and loses his balance by a defender, a free shot will be given to the offensive. If the player scores the ball, the point will be calculated and a free shot will be given as well. If the player does not score, 2 or 3 free shots will be given based on the area of the throw.

Individual skills in basketball

Basketball includes many individual skills. For General Physical Education course, the following are enough for this active and exciting game, since learning these skills is enough for playing the game.

Passes:

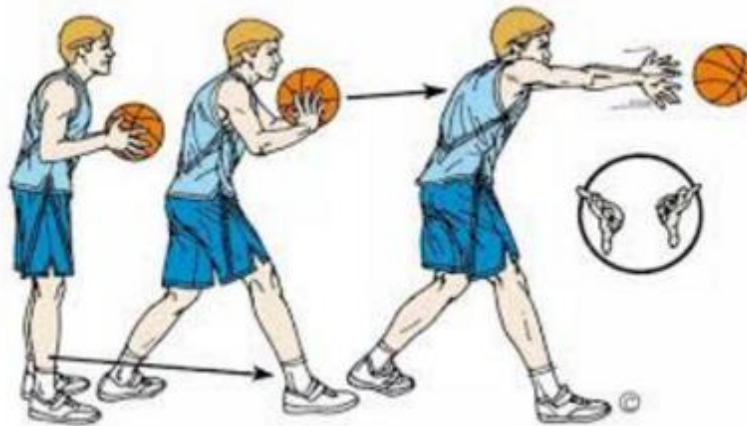
Passing is moving the ball between two players.

Types of pass:

- 1- Chest pass (direct and with two hands)
- 2- Two-handed pass on the ground
- 3- One-handed pass (baseball pass)

Chest pass:

This type of pass is used for short distances, approximately 3 meters, when there is no defender between the teammates. The origin of this pass is at the chest of the passer and is sent to the chest of the receiver. The arms and elbows are close to the body, the hands around the ball (all fingers except the palm) and the ball is released as the elbow joints open and the wrists and fingers move. The ball should go in a straight direction and reach the receiver with appropriate spins. For ease of sending, the player can use one foot and go back and forth.

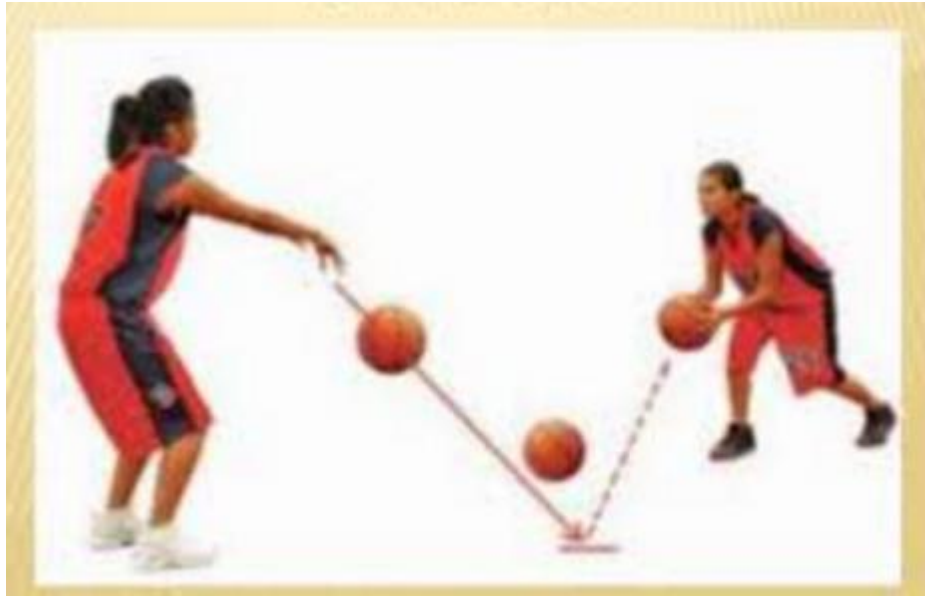


While receiving this and other passes:

Hands should be stretched and the front foot should go back to keep balance while receiving the ball. When passing the ball, the arms should follow and stretch at the direction of the pass and the palm should rotate out. The sender and receiver should have physical balance during this pass. Feet should be spread at the width of shoulders, knees should be bent a little, back should be straight, head should be forward and the balance must be kept.

Ground pass:

This pass is mostly similar to the chest pass, the difference is in the origin of the pass which is the belly and hits the ground before reaching the receiver. The ball, in this pass, should reach the receiver by the movements of hands and feet, using the ground. The place for the ball to hit the ground should be close to the feet of the receiver (two thirds between the sender and the receiver). The rotational motion of the ball before hitting the ground changes while thrown to the receiver. This pass is used against tall players or defenders whose hands are up.



Points to recall when passing:

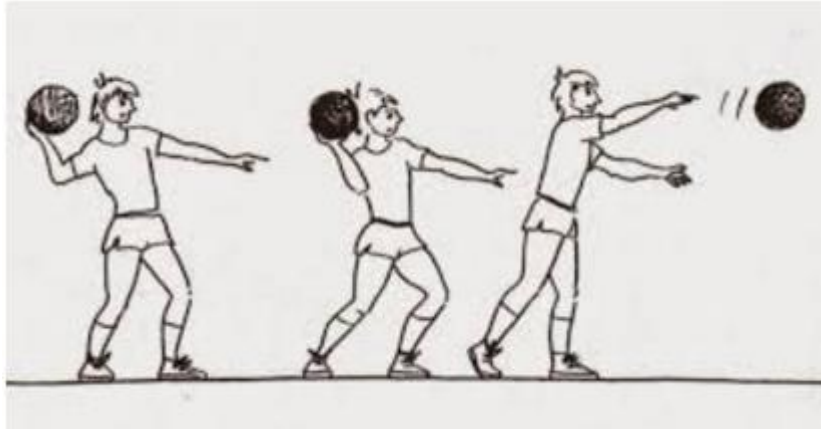
- Pass easily, it's not necessary to always lead to goal.
- Pass to a player who is not marked.
- Use pass tricks to open pass lines up.
- In counterattack, use air pass rather than ground pass.
- Dribble to make better passing angles.
- Supply centers with ground pass.
- Step toward the defender when you want to pass.
- Free other players from the lower part of the throw line.
- Follow your pass to the end, do not let your ball be without receiver.
- Throw your pass with both hands. You can hardly rectify passes which were thrown with one hand and they usually end up with the opponent's possession.
- Throw your pass away from the defenders.
- To see all the court, look at the basket.
- Do not throw your pass to a voice.
- Do not jump while passing.



- Do not pass to a busy player.
- Do not pass from your own half.
- Do not pass too much in counterattack.
- Do not pass to a player who is about to get marked.
- The best part for receiving air pass is the chest and for ground pass is between chest and belly. Note that passes should reach the receiver away from the defenders. For example, you can mislead your opponent using head and shoulders movements. Never doubt when you want to pass. You should be quick and doubtless when you want to pass and you should avoid throwing unnecessary passes.
- The receiver's body should also be prepared when throwing the pass. The receiver should block the defender's access to the ball by stepping one foot toward the ball. The fingers should be half-bend when receiving the ball and it is better to hold up the head to increase sight. When receiving the ball, you should keep it by arms and body and at the same time you should control your balance.
- **Definition of baseball pass (one-handed pass)**

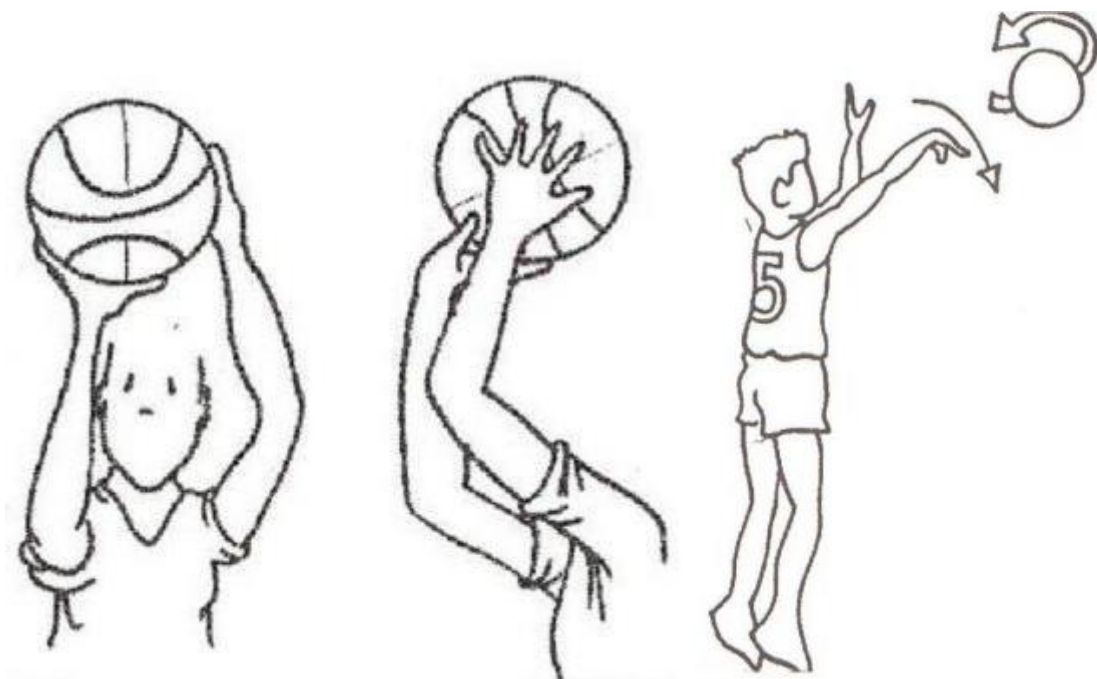
This pass is mostly used for long distance. Note that the passer must stand in a correct position to reach the best result physically and mentally. The angle of arms for this pass should be around 90 degrees at first and the hand throwing the ball should be inclined to the body direction. Note that the ball should be carried by both arms until the final seconds before throwing it. At this time, the arm of the thrower should move higher than the shoulder and should be close to the face and reach the back of the body. Control of the ball should be held by fingers and the other arm should be used only to hold the balance and protect the ball. To increase the power, it is better to lean

your weight on the front foot and throw the ball at this position. (Workable during counterattack)



Steady shot:

Shooting or throwing the ball into the basket is a procedural goal in basketball. All ball or no-ball skills performed by players in order to throw the ball into the basket get the result. There are several ways to throw the ball to the basket. Two cases are listed below:



Steady shot and three-step shot:

This shot is used when the player is close to the basket without being identified. To throw this shot, the body has balance. The player stands in front of the basket while carrying the ball with two hands. The hands rise above the forehead (for right-handed players, the ball should be in accordance with the hand which is throwing the ball) and the throwing foot is simultaneously ahead of the opposite foot. The ball is thrown from the forehead toward the basket. In this type of shot, the angles of wrist with forearm, forearm with arm and arm with the body are 90 degrees. The ball should be surrounded by both hands (except the palm). The opposite hand should be a support to the throwing arm until the last second. The throwing arm should follow the ball after it is released and the wrist descends. The ball should be thrown with a suitable spin toward the basket. The player should have a clear sight of the basket when throwing the ball. The act of getting strength for throwing begins from knee joints, waistline, elbow, and wrist respectively and should end by bending the wrist.

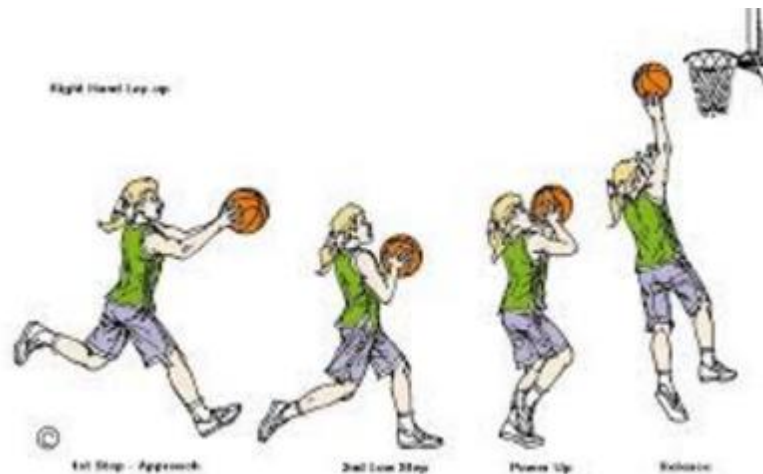
Three-step shot:

This type of shot is performed from close range and players use this shot to make a secure point and maneuver between defenders.

To perform this shot, the player should step his right foot forward stopping dribbling or receiving the pass. Then the left foot is stepped forward with a proper strength and a short step is made forward and the ball is thrown to the basket. (This is for right-handed players. For left-handed players, first is the left foot, then the right foot and finally they should step up the left foot and attempt the shot).

During the whole process, the ball should be held with both hands towards the belly and chest. The foot, which is the same side of the throwing arm, should be held above the forehead and the arm should be at the highest position when throwing the ball.

The arm should follow the ball when it is thrown. When the ball is thrown, the body should be completely stretched. The player should land on the chest of his/her feet and then the whole foot.



Dribble:

Dribbling is the act of hitting the ball by hands and the ground. A player can move in the court using dribbling.

To dribble, it is necessary for the forearm to open and close on the arm, and the wrist must also move left and right. The fingers should surround the ball in the shape of a spoon (the palm should not touch the ball), the ball will be moved by the pressure of fingers and bending wrist. To keep the height of the ball, the elbow must be opened and closed.

For long dribbles, the hand must hold the top of the ball and the height should be kept based on the player's need between knees and waistline.



Short or controlled dribble:

If there is a defender in front of the dribbler, the height of the ball should be up to the knees, the hand should be on the top of the ball and the ball should be out of the reach of the defender. The opposite hand and foot should be ahead to support the ball. In this position, the body bends using knees.

Long or fast dribble:

If there is no defender in front and the player intends to move forward quickly, the hand would be behind the ball hitting its top. The ball would be in front of the body, the hands stretched and the body would be straight.

Note: To dribble, you must know how to do it ambidextrously. Also, you should dribble when you cannot shoot or pass the ball.

Rebound: (catching the ball from the basket)

When the ball is thrown into the basket, the thrower and other players are ready to catch the ball if it does not go to the basket. This term is called rebound. To do this, the player jumps at the same time when the ball is descending (using rotational movement of hands) to catch the ball at the highest point.

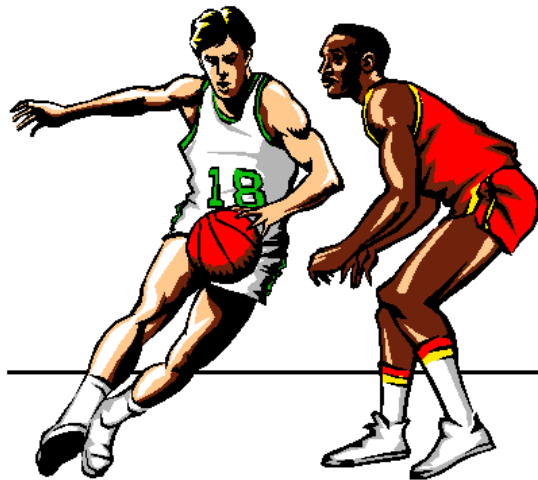
The player catches and keep the ball at the chest, and lands on feet and bends the knees. The legs open a little more than the width of shoulders. (If the ball is rebounded at the basket of the opponent, it is better not to take the ball too low and not to bend your body too low so as to shoot again). If the ball is rebounded from the home side, you should take it away dribbling or passing.



Defense:

All the movements mentioned earlier were the principles of offence. In basketball, defenders usually stop attackers. To do this, a defender should observe the following points to have correct and successful defense.

- 1- Keeping balance: Getting shorter as bending knees, a hand and a foot go ahead (the hand of the front foot goes up) and a hand and foot go back (the hand of the back foot goes down)
- 2- Maintaining distance: The defender must maintain a distance of one meter or sometimes more or less with the attacker to predict the movements.
- 3- The player should stand between the basket and the attacker.
- 4- Sliding movements: To control the attacking movements, sliding is used, the body should be shortened and the balance should be kept.



Preventing sport injuries:

Effective factors in preventing sport injuries

- 1- Preparing the body both physically and mentally
- 2- Using appropriate and standard sport equipment
- 3- Appropriate use of body levers during practice
- 4- Executing rules and regulations of the sport

Principles of preparing the body (physical and mental)

- 1- Principle of warming up the body
- 2- Principal of gradual pressure in training (for 6 to 8 weeks)
- 3- Principle of training pressure
- 4- Principle of time of training (between 60 to 110 minutes)
- 5- Principle of capacity and capability of individuals (differences and individual features)
- 6- Principle of power
- 7- Principle of encouragement and incentive
- 8- Principle of specialty of training and practice
- 9- Principle of relaxation and sufficient rest
- 10- Principle of getting back to first condition

Purpose of warming up

- 1- Increasing the central temperature of body and deep muscles
- 2- Increasing metabolism
- 3- Increasing and developing contractile speed of muscles



- 4- Increasing and developing speed of neural flows
- 5- Increasing practicality of muscles and developing range of joint movements
- 6- Preventing joint and ligament injuries
- 7- Releasing more oxygen from hemoglobin in organs and body tissues
- 8- Increasing heart beat in accordance with intensity of exercise
- 9- Increasing heart beat and synchronizing it with intensity of activity
- 10- Desirable function and performance of the athlete

Reasons for sport injuries

- 1- Physical weakness and lack of physical preparation
- 2- Lack of balance resulting from weakness in coordination between neural and muscular systems (lack of ability to perform the skills well)
- 3- Weakness in tendons and ligaments and excessive stretch of them
- 4- Lack of flexibility or over-flexibility
- 5- Lack of muscular volume
- 6- Inappropriate nutrition
- 7- Lack of spiritual and mental readiness and not having motivation
- 8- Excessive tiredness
- 9- Over-training and training more than strength (over-training syndrome)
- 10- Not warming up properly before starting exercise

Symptoms of injuries

- 1- Pain and sensitiveness in the injured organ
- 2- Turgidity due to concentration of fluid or blood
- 3- Excessive heat of the injured organ in comparison to other organs
- 4- Inflammation
- 5- Lack of ability to perform the movement
- 6- Change of appearance in the injured organ

Checking sport injuries

- 1- Checking natural range of movements at different intervals and comparing movements of injured joint and organ with the natural range of joints
- 2- Checking of the injured person's statements about the injury and observing
- 3- Checking the injured organ
- 4- Finding the points which are susceptible to pain
- 5- Checking the pain and intensity of it in time and also checking the spread and factors of spread. Checking assuaging healers and intensity of the pain in the area
- 6- Checking bumps and joint secretion
- 7- Checking the strength of muscles
- 8- Neural checking and investigation

Passing and receiving

The ball is controlled by the tip of the fingers.

The elbow directs the ball and should be in the direction of the receiver.

The left arm is used to keep the balance and control of the ball.

The body stands on feet and at balance.

When releasing the ball, the weight should be placed on the left foot (for right-handed people).