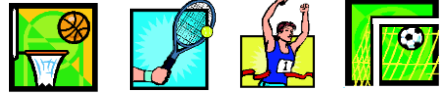


I.E.S. Liceo Caracense  
P.E. Department



# **P.E. Theory Book**

## **1st E.S.O.**

**1st TERM**

## General concepts in physical activity

First of all, it is essential to give the definition of several concepts, so that they are all clear and we use the same vocabulary when we use them.

**Physical activity** is any body movement in which we use more energy than the one we use when we don't move.

**Physical exercise** is any physical activity that has been planned, has a structure and is repeated in time, and its goal is to be fit, to improve someone's physical condition or to keep one or more components of that physical condition.

**Physical condition** is the ability and vitality that allows people to fulfill their daily general tasks, to enjoy an active leisure, preventing at the same time diseases and injuries which can be produced out of the lack of activity. The physical condition consists on a group of characteristics owned by any individual or which can be achieved related to their own ability of doing physical activities.

## Basic physical qualities.

Basic physical qualities are the necessary movement skills on which men and sportsmen develop the technical skills. Physical qualities are developed through training and they determine the physical condition of a person. The development of these basic physical qualities greatly influences the learning of the technical skills and the tactical techniques of sports, and also on the learning of the movement skills. The basic physical qualities are:

- Endurance.
- Speed.
- Strength.
- Flexibility.
- Coordination.

### 1- Endurance

**Definition:** There are many definitions for endurance, but they can all be gathered in one; endurance is the ability of a sportsman to make an effort, more or less intense, for the longest possible period of time.

**Long distance races in athletics are a good example of endurance.**



## 2- Strength

**Definition:** It is the ability of a sportsman to fight against and win an external force by means of muscle contraction.

Put Throw in athletics needs high levels of strength



## 3- Speed

**Definition:** It is the ability of a sportsman to move and go forward at the highest intensity in the shortest time possible.

The 100 meters is the most important speed race.



## 4- Flexibility

**Definition:** It is the joint mobility together with the muscle elasticity.

Stretching exercises.



### Agents that determine flexibility

**a – Joint mobility:** The way each joint is built depends on the bone segments it is made out from, on its tendons, on its ligaments and on other joining elements.

**b- Muscle elasticity:** The articular tissues (tendons, ligaments, muscles, etc.) that make the joints can stretch or shorten, but the most important elasticity to be taken into account is the muscle elasticity.



**Flexibility is an essential skill in gymnastics.**

## 5- Coordination

**Definition:** It is the ability of a sportsman's whole body or just one of his/her body parts, to develop an orderly and efficient sequence, a gesture or a specific action, all of them under his/her brain control.

**Tennis requires high coordination.**



## Warm-up

All activity that uses physical qualities must be preceded by a warm-up. Warm-up is the group of exercises made before doing any physical activity, soft or intense, which helps the body to get ready in order to do an effort preventing injuries.

The main aim of warm-up, as mentioned in its name, is to rise the body temperature, in order to achieve some **effects or goals:**

**a-** To improve the muscle function, so that it improves the muscle ability to contract and relax, and also its elastic abilities. This way, the possibility of getting muscle contractions and injuries is diminished.

**b-** To activate the joints, so they lubricate with the movement. This way, the ligaments get ready for the effort, preventing this way injuries and sprains.

**c-** To activate organic functions by means of the cardiovascular and the nervous systems.

The **phases** in a warm-up are:

**a-** Varied and continuous running. It consists on running softly for 8 or 10 minutes; half of the time is used for plain running and the other half is used for

varied exercises, as lateral running, rising your knees, bending down, lowering, etc.



**The warm-up is  
always the first  
activity to be done in  
P.E. class.**

**b-** Articular mobility. It consists on doing soft, circular movements with all the body joints.

**c-** Muscle stretching. It consists on stretching all the major muscle groups by doing static exercises.

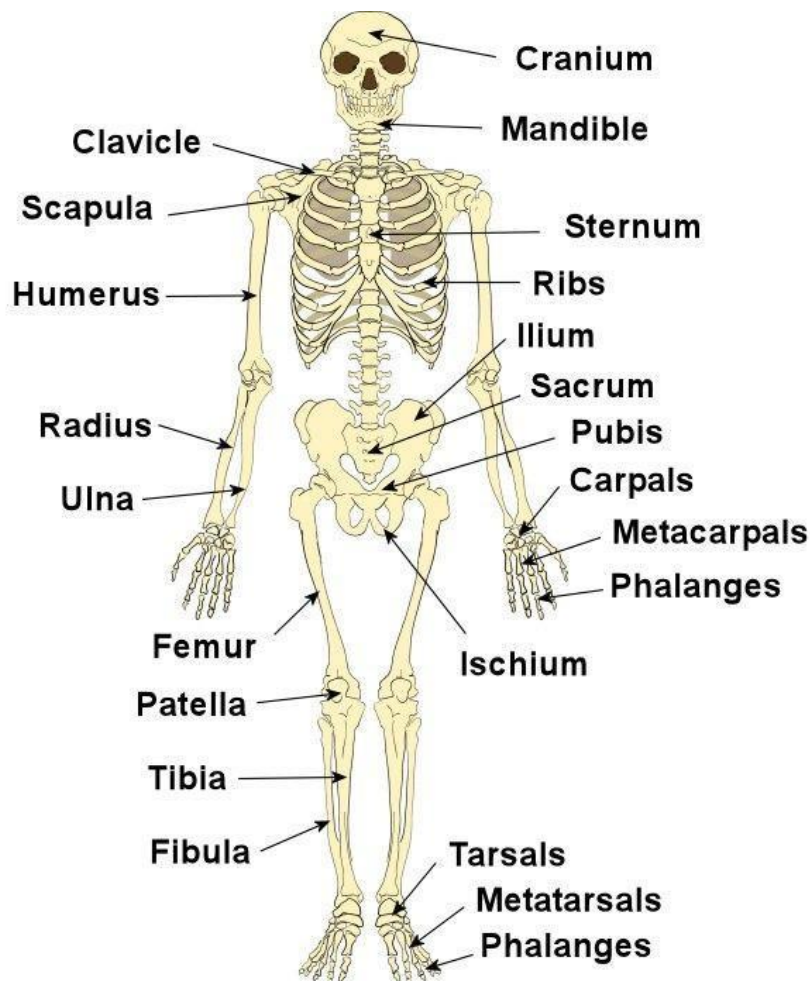
**d-** Running exercises. They must be made with a higher intensity than in the continuous running, as for example rising your knees, your heels, lateral running, very soft multi-jumping, etc.

## Locomotive system

The human body is made out of a group of elements which provide it with a structure and shape, and whose function is to hold it and to allow it to move. Some of these elements are passive (the bones); some other are mobile elements (the joints) and the last group are active elements (the muscles).

**a- Bones:** They are rigid structures, whose main functions are to hold the body, to allow movement by building poles, and to protect the inner organs and viscera (skull bones protect the brain, the thorax box protects the heart and lungs). The group of bones in our body is called skeleton.

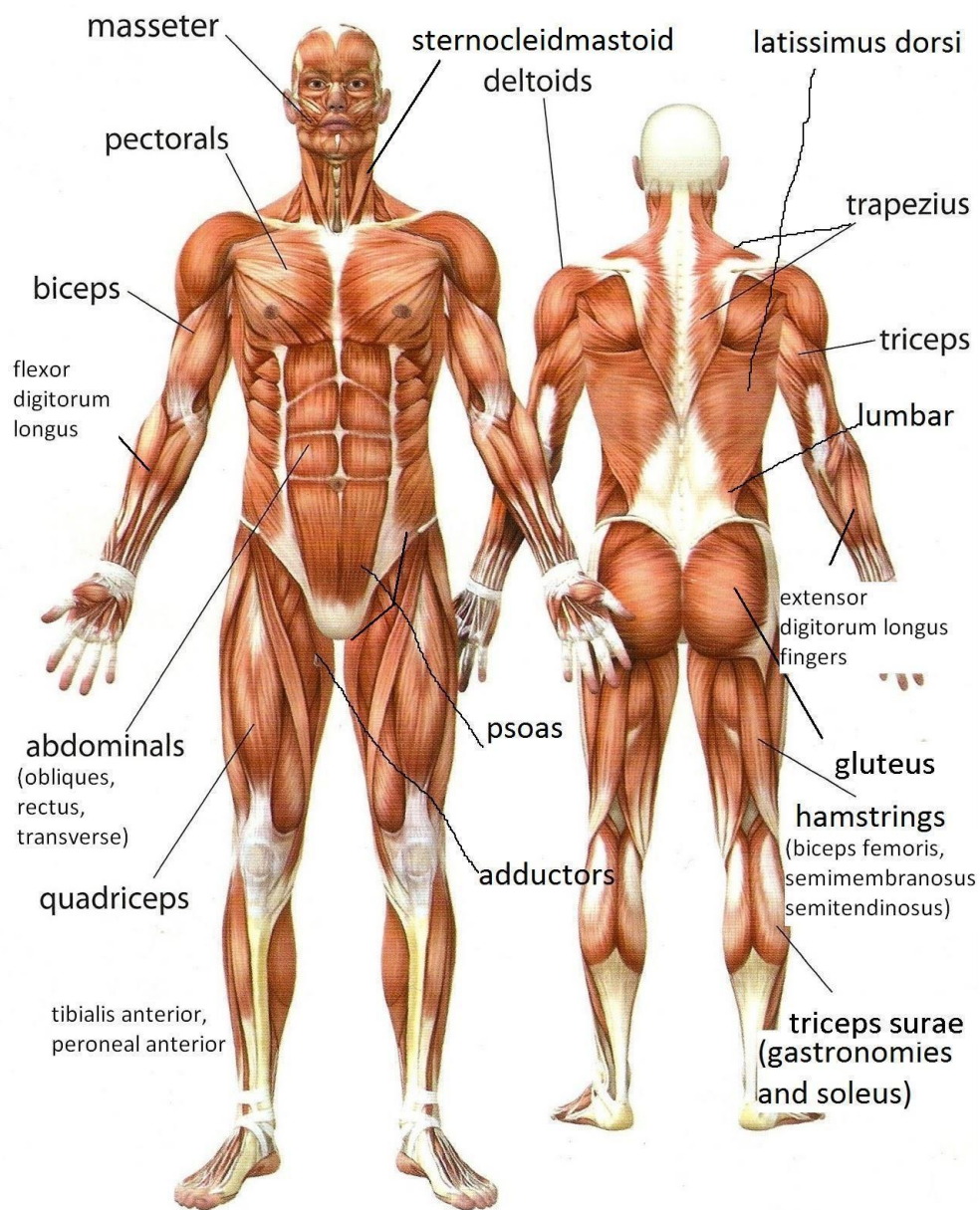
### Main bones in the human body.





**b- Muscles:** They are the organs that generate movement, by means of muscle contraction. They work as an engine that makes movement, and in order to do that, they use energy. Muscles gain energy from the nutrients (already degraded by the digestive system) and the oxygen (got by the respiratory system). Both are transported by the blood to the muscles, thanks to the cardiovascular system. Muscles can be divided into **three groups**: the central part called **womb** and two external portions called **tendons**. Tendons are in charge of joining the muscle to the bone. This juncture is called insertion.

### Muscles in the human body.





**c- Joints:** They are the juncture between two or more bones, allowing movement between two bone segments in most of the cases. There are fixed joints, as the ones found in the skull and mobile joints, as in the knees.



**In a sport like tennis, the correct functioning of joints, greatly influences on the player proficiency.**

## Gymnastic skills.

In the Ancient Times, in order to get ready for the different activities that had to be developed in daily life, some exercises, known as "gymnastica" had to be done. Later, those exercises started being known as gymnastics. They were very varied, although the gimnasia deportiva comes from the German School set by Jahn at the beginning of the XIX century and the gimnasia rítmica comes from the German School created by Bode in 1911.

### Gymnastic skills practiced in the P.E. lesson

There are different gymnastic skills which are practiced during the P.E. lesson:

**1- Turnings:** Any turning or more specifically turning in the air is the basic exercise to be done over any appliance. It consists on turning our body on itself, forward, backwards, grouped or straight. To do it correctly, we must follow these steps:

**A- The head** must be close to our body and so must the arms.

**B- The back** must be perfectly curved.

**C- The legs** must be bent and the knees must stick to the chest.

**D- Hands and arms** must help the body to get the necessary jumping strength to roll, stand up and keep the balance, so that the body ends up in the correct position thanks to a strong pull.

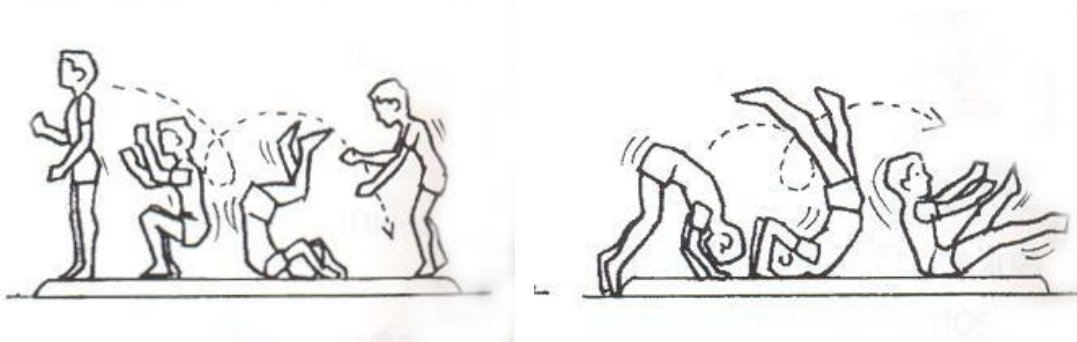
**E- The gymnast** must pay attention to his/her body position, getting an elegant and perfect movement by stretching his/her body for the longest possible time.

**2- Rollings:** Different types of rollings are:

**A- Forward handspring:** hands are placed on the floor, with the fingers pointing forward, and we impel the body with our legs to vault. **Head must not be placed on the floor**, and the chin must stick to the chest.

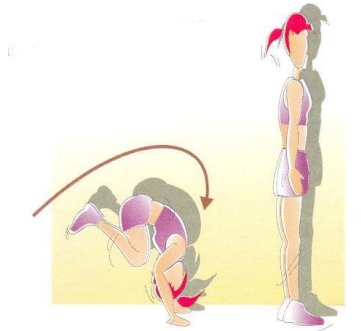


**B- Grouped backward handspring:** We place ourselves with our back towards the floor mat. We lean backwards, our head stuck to the chest, and we place the hands next to the shoulders. We must impel backwards until our palms touch the floor, keeping the knees stuck to our chest, and we keep on impelling until we turn completely.

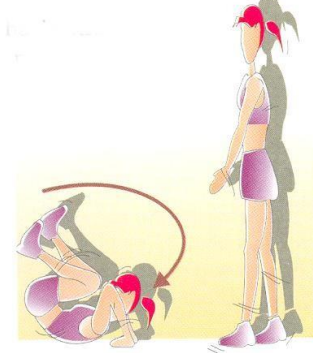


**C- Open-legs forward handspring:** It follows the same steps as in the forward handspring, but you must end with open, straight legs when standing up.

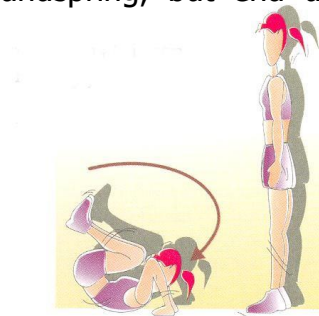
**D- Forward handspring with straight legs placed together:** see above, but end up with straight legs placed together.



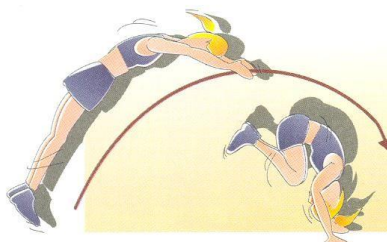
**E- Open-legs backward handspring:** follow the same steps as in the grouped backward handspring, but finish the vault with open, straight legs.



**F- Backward handspring with straight legs placed together:** As in the grouped backward handspring, but end up with straight legs placed together.



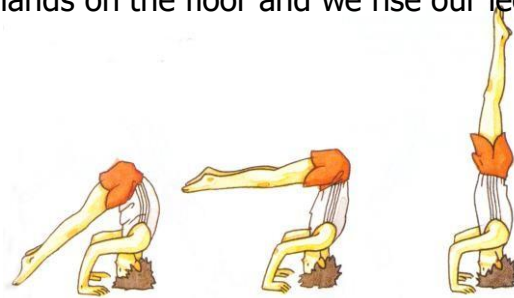
**G- Lion jump:** You must jump and straighten your body in the air. To do it, you must follow the steps for the grouped forward handspring, but jumping in the air, throwing ourselves on a mattress. It is important to place our hands firmly on the mattress and to stick our head to the body.



### 3- Balance exercises:

They are the ones in which we try to put our body upside down, and keep it this way without moving it. They are the following:

**A- Head upside down balance:** we need three leaning points. We place head and both hands on the floor and we rise our legs.



**B- Hands upside down balance:** We only lean on our hands. Only if it is too difficult we can also use a wall to lean on.

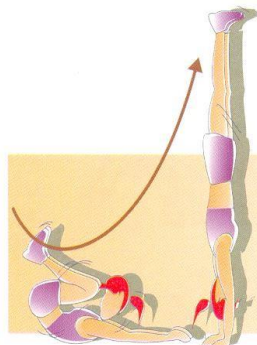


**C- Combined balance and rolling exercises.** There are several different exercises:

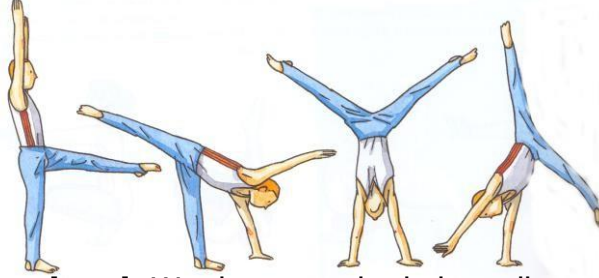
**a – Russian Fall:** The starting point is the hands upside down balance. Then we lean backwards, we drop smoothly and we stand up.



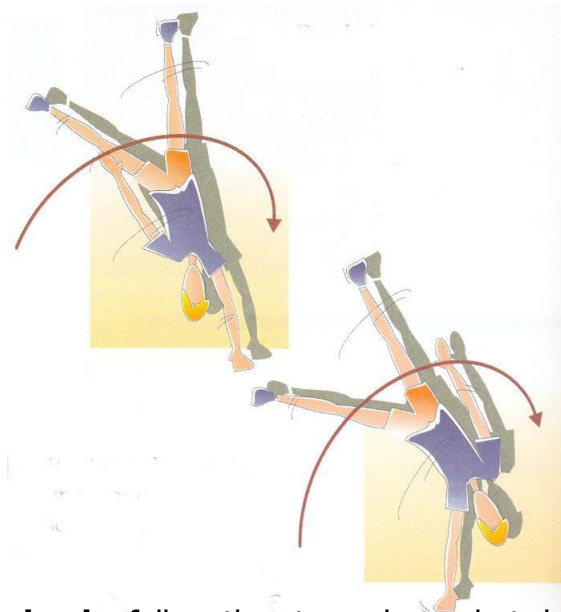
**b- Fifth:** We do a backward handspring, to end up in a hands upside down balance. It can be done with bent or straight arms.



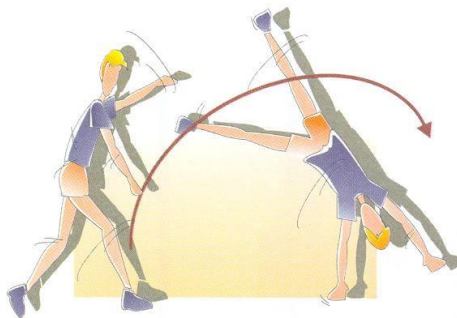
**c - Cartwheel:** Place yourself in front of the floor mat, impel, lean only one hand, and following your own leg impel, laterally lean then the other hand, and complete a whole lateral turning.



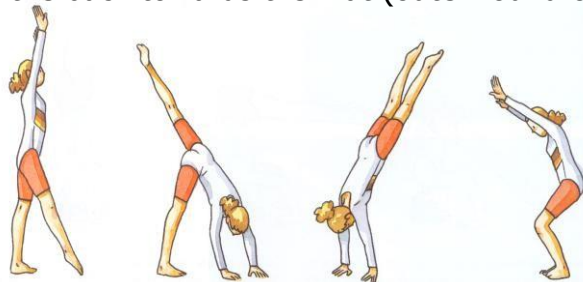
**d- Cartwheel on one hand:** We throw our body laterally, and turn only on one hand. It can be the left or the right hand.



**e- Thrown cartwheel:** follow the steps above, but do a short running before the cartwheel, so we throw ourselves, this time using both hands.



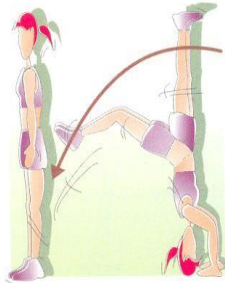
**f- Round off:** The same as above, but ending up straight facing the mat (inner round off ) or with the back towards the mat (outer round off)



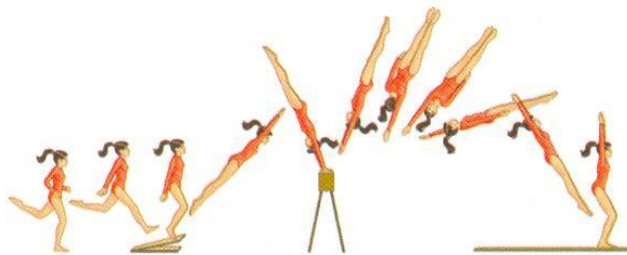


**4- Ballestones:** They are the movements done after having placed our hands on a particular place and having bent our body, to stand up after that. They are the following:

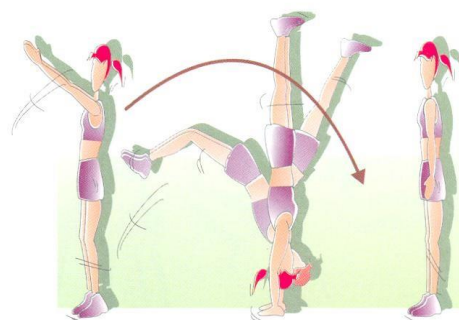
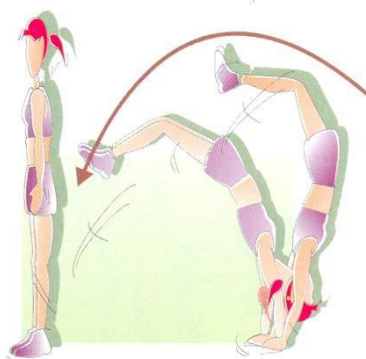
**A- Head Paloma:** The starting position is the head upside down. Then, after a strong impel, we stand up.



**B- Arms dove:** The exercise starts with a short run, then we lean our hands and impel our legs, one before the other, until we finish up standing up.



**C- Standing back handspring:** It can be done forward or backward. We impel ourselves with a jump, lean our hands on the floor and we stand up.





**2nd Term**

# Basketball

## History

There are many theories that explain the ancient origin of basketball. Moreover, many different sports and activities practiced by the Aztecs, Mayas and Persian are supposed to be the first precursors of this sport.

However, basketball as it is known today was born in 1891, when an American highschool teacher from Massachussets called James Naismith created the sport as he was trying to find a game that could be played by his students indoors, as winters in Massachussets were really cold. While he was thinking on how to solve this problem, he remembered a game consisting on throwing balls into some peach baskets. Basketball had just been born. Then, he set a group of thirteen rules to play this sport, among which the main ones are the following: players mustn't run with the ball in their hands and the ball has to be thrown with the hands but not with the fists. At the beginning, teams had 9 players, but around 1897 teams started to have just 5 players.

Nowadays, both male and female basketball are Olympic sports.



**Basketball in old and modern times.**

In Spain, basketball started being played in 1921, thanks to the Escolapian Priest Father Eusebio Millán. The truth was that Spanish basketball, still using 7 players teams and with the baskets being placed on top of soccer goals, was far behind the times. In 1927, an Argentinean club came to play basketball in Spain and it was a total revolution, as for the first time ever in Spain, the team was made out of 5 players and the match was played on a court with the official measures. From that moment, information about techniques and tactics was researched in foreign countries to be used here.

## Rules

### 1- General aims.

The **goal of the game** is to fight against another team trying to basket the ball in the opposite basket using the hands.

The **measures and characteristics** of the court are shown in the following graphic:



Canasta: **Basket**

Zona del banco: **Bench area.**

Banco de equipo **Bench team**

Mesa de anotadores **Write down table**

Aro: **Ring**



The **ball** has a circumference of 75 to 78 centimeters and a weight of 600 to 650 grammes.

A **basketball team** is made out of 10 players, although only 5 of them can be on court at the same time.

A match is conducted by a **main referee** helped by the **auxiliary referee**. They use a gesture language to communicate with the people sat at the main table, the one in charge of the clock and the one who copies the result. This table is always placed in between the team benches.

A **basketball match** lasts 40 minutes splitted in 4 periods of 10 real minutes each (that means that the clock is stopped while not playing). There is a 1 minute gap in between the first and the second period and between the third and fourth ones. Between the second and third period the break lasts 10 minutes. The match starts with a jump between two players, each of one of the teams, in the court centre.

Each team can ask for a minute lasting **time out** in each of the first three periods. In the fourth and last period, each team can ask for two time out of also 1 minute time.

**An action during a basketball match.**



## **2- Faults and penalties.**

There are different types of faults:

**A- Personal faults:** They are made when a player hits, pushes or illegally blocks another player. When a player makes 5 personal faults in a match he/she will leave the game, being substituted by another player. These faults can be penalized in different ways:

**a-** Two free throws if the player on whom the fault was made was throwing the ball to the basket. If the player baskets he/she will score two points and will have an extra throw.

**b-** Three free throws, if the player was throwing the ball beyond the 6.25 line. If he/she baskets, he/she will score three points and will have an extra throw.

**c-** Throw in, if the player on whom the fault is made wasn't throwing the ball.

**d-** If the fault is the fourth one made by the whole team in the same period, two free throws will be made, regardless the kind of action that was being taking place.

**B- Technical faults:** They can be applied on coaches or players. They are normally made when someone shows lack of respect to an opponent or the referees, and also when some anti-sporty behaviour is shown. They are noted down as a personal fault for the player and they are penalized with a free throw and getting the ball from the court centre for the other team.

**C- Faults related to time;** They are penalized by missing the possession. There are different types:

**a- Three seconds rule:** No player of the attacking team can stay on the other team's zone for longer than 3 seconds.

**b- Five seconds rule:** A player can't hold the ball in his/her hands without bouncing it, passing it to another player or throwing it to the basket for longer than 5 seconds.

**c-Eight seconds rule:** When a team has the possession, they must get into the opponent's field before the first 8 seconds.

**c- Twenty-four seconds rule:** When a team has the possession, they have just 24 seconds before throwing the ball to the basket.

**Attack during a basketball match.**



**D- Other faults;** They can be:

**a- Back court:** Once the ball gets into the opponent's field, it can't go again into your own side of the court.

**b- Travelling:** The player can only walk for three steps before bouncing the ball. Also, a player can't bounce the ball without walking at the same time.

**c- Doubles:** A player will be considered to have committed this fault when bouncing the ball with both two hands, or if he/she bounces the ball, catches it and bounces it again.

All these faults are penalized by losing possession.

## **Technical basis**

**A- The basic position:** It is an essential technique, and it consists on keeping the following position: feet must be placed parallel, legs in semi-flexion and body slightly leaning forward. This position allows the player to do a fast and efficient action, both attacking and defending.

**B- The bounce:** It is the action of throwing the ball against the floor, so it comes to the player's hands again. It helps the player to move forward with the ball under control. There are three different types of bounces:

**a- Protective bounce:** Used when your opponent is near. It is a low bounce where the player's body is located between the ball and the opponent.

Image of a protective bounce.



**b- Speed bounce:** Used to move forward quickly when there are no opponents nearby.



Images of speed bounces.

**b- Rhythm changing bounce:** Used to dribble an opponent in a one-to-one action.

Image where a rhythm changing bounce can be seen.



**D- The pass:** It is the action of passing the ball to a mate in a secure and precise way. There are several types:



**a- Breast pass:** Mostly used in short and medium distances, it is made with two hands, from the breast and it goes straight to your mate.

Image of a breast pass.



**b-Bounce pass:** In this pass, the ball must bounce once, before getting into your mate's hands. To do it, you follow the steps of the breast pass but throwing the ball first to the floor. It is used in short and medium distances.

**c- Deliver pass:** Used when your mate is very close, so you just need to impel the ball slightly to hand it straight away.

**d-Baseball pass:** it uses a similar technique to the one necessary for a baseball throw. The ball is placed at your ear level, and it is thrown using just one hand. Useful for long distance passes.

**e- Over the head pass:** The player catches the ball with two hands, places it over his/her head and throws it straight, by stretching his/her arms towards the direction of the pass, and ending up with a short, strong movement of the wrists. Used in short and medium distances.

Image of an over the head pass.

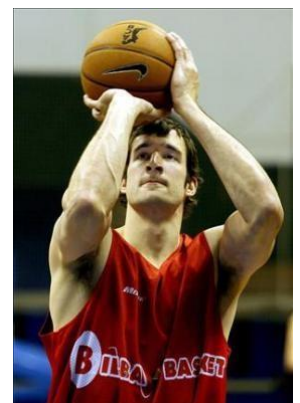


**E- Basket throws:** They are the final step in the attack. There are several types:

**a- Static throw:** Made from any attacking position. Both feet are set on the floor when throwing.



Images of static throws.



**b- Suspension throws:** Using the same technique as in the previous throw, the only difference is that here both feet are in the air at the throwing time.

**Image of a suspension throw.**



**c- Tray throw:** It must be made vertically and directly under the basket ring. It can be done with your left or the right hand.

**Image of a tray throw.**



**d- Basket entry:** This throw is preceded by a previous race, so that the ball is released the closest possible to the ring.

**Image of an entry to basket the ball.**



# Aerobics

## The concept of aerobics

Aerobic can be defined as the physical activity (sport or leisure) related to gymnastics and rhythm, whose main goal is to develop your cardiovascular endurance by means of combining different dancing steps for a long period of time, making them at low or medium intensity and following some music.

## History

The origins of aerobics can be traced in 1968, when the book called "Aerobic", written by Dr. Kenneth Cooper was published. In this book, the author develops a training programme to increase the output and the endurance, decreasing at the same time the risk of suffering a cardiovascular disease. As years passed by, music and dancing steps were introduced, as well as steps related to jazz, gymnastics, etc., and aerobic dance was created, as people started dancing to the musical rhythm in the aerobic way.

In the last years, different types of new sports have appeared, and aerobic has become a competitive discipline with its own rules. But aerobic is not only a competitive sport, but also a leisure sport, in which people make physical activity in a funny, entertaining and healthy way.



An aerobic sesión.



## Aims in aerobics.

Although the main aim in aerobics is the development of the aerobic **endurance** (basic physical ability to improve and keep your health, as it helps to prevent cardiovascular diseases), with this sport we also develop our **coordination** and **rhythm**, as well as the **creativity** when we build our own choreographies.

Coordination is the ability of fitting the movements or sporty gestures we do and we think by means of the movement intelligence. Coordination is shown in the harmony, fluency, efficiency, security and elegance with which we move. This quality allows us to learn new more and more complicated movements and new sporty skills easily.

Rhythm is the coordination ability that allows us to fit our body movements to a space-time structure chronologically speaking, as for example to music. This ability is important not only for those activities made with music, But also for many other sport abilities.

**Image of a room with an aerobic session in progress.**



## **Basic steps in aerobics.**

Below, we will study the basic steps used to design choreographies. These steps can be changed using variations that can transform them according to new and more complicated rhythms, styles, direction, intensity or speed with which they are done.

There are two different types of steps:

**A- Low impact:** the main request for the steps to be considered "low impact" is that at least one foot must be placed on the floor at any time while being done. Low impact steps are:

- a-** Marching.
- b-** Ankles on the floor.
- c-** Step touch.
- d-** Step touch back.
- e-** Open, cross, open, close.
- f-** V step.
- g-** Side touch.
- h-** Lunges.
- i-** Side lunges
- j-** Front, side and back kicks.
- k-** Knees up. (Skipping)
- l-** Ankles up.
- m-** Drop step

**Aerobic session using low impact steps.**



**B- High impact:** For basic steps to be considered high impact steps they need to have an aerial phase when being executed, so that both feet skip



the floor at the same time. The resulting choreographies will be more intense than the ones done with low impact steps.

Most of the basic steps can be made with the two modalities, low or high impact. Moreover, almost all of them can be made forwards, backwards, to the right, to the left or in a crossed section.

High impact steps are:

- a-** Jogging.
- b-** High kicks.
- c-** Kicks while jumping.
- d-** Jumping-Jack.
- e-** Knees up jumping.
- f-** Ankles up jumping.

**Aerobic session where the impel previous to a high impact step is being made.**



# **Table tennis**

## **History**

The origins of table tennis are not clear, so it isn't known for sure when it was first played. We can say that it was in the decade of the 1870's when this sport started in England as an evolution from tennis. It is very likely that tennis players, due to bad weather conditions, invented a new sport similar to "mini-tennis" on a dining-room or billiard table inside a tennis club. The table might have been divided by books or just a piece of string. They also chose small balls, taken from some children games. University students all over England quickly started this game, that at the time was still a "living room" game.

In 1884 the firm F. H. Ayres Ltd. was already making business with a mini-table tennis game. In July 1890, an industrial businessman from Yorkshire called David Forster, patented a new table game to be played indoors, consisting on just one table surrounded by a kind of fence to keep the ball inside the limits.

But in 1901 table tennis tournaments were held in England with around 300 players and with prizes in money with a value up to 25 pounds. It was in this year when the Table Tennis English Association was created, and it gathered around 500 players that belonged to 39 different clubs placed all over England.

In 1922 this new sport was already known in Sweden, France, Wales, Central Europe, etc., with formal regulations and playing championships regularly.

In 1926 the Table Tennis English Association is refunded with new rules and new regulations, and Ivor Montagu is named President, meanwhile Bill Pope becomes the Secretary. When this association was created, both Montagu and Pope started to organize the first World Championship in London, and it turned up to be a great success. In this tournament they realized that a Table Tennis International Federation had to be provisionally created and a new World Championship and a Table Tennis Congress had to be held in London. After this congress the ITTF (International Table Tennis Federation) is officially constituted, with Ivor Montagu as President and Bill Pope as Secretary, who held his charge until his premature death in 1950.

The first decision taken in this congress was to unify the rules with which table tennis had been played up to that day. In the first World Championship the teams had played with the following rules: the teams should score 21 points in each game and the best one out of three games won. In the individual contest, it was the best one out of five games the one who won. The ITTF sets new rules in 1927 using two different systems: the system based on counting up to 21 points in each game, defended by the English and the one based on the old rules, divided in sets of six games, system preferred by Hungarians, Austrians and Germans.

In January 1928, during the World Championships held in Stockholm, both systems were reunited and they counted up to 21 points.



Table tennis has become a Olympic Sport since 1988, games that took place in Seoul, in South Korea, although it had already been considered a Olympic discipline in 1977.

## Rules

We can study the rules in two different groups :

### A- General ideas:

The **goal of the game** is to face two or four players, that equipped with a racket must score points as set in the regulations.

**The table** on which they play has the following measures:



Linea central: **Midline**

Linea de fondo . **Baseline**

Linea lateral. **Sideline**

The playing surface will be of a dark, uniform and dull colour, generally blue, with a 2 cms. wide line surrounding the whole table. The central line, which divides the table in two parts is 3mm. wide. **The ball** is a sphere, it has a 40mms. Diametre and it weighs 2.7 grammes. It is made out of celluloid or a similar plastic material, and it will be White, yellow or orange. To hit the ball, players will use a **racket**, which can be of any size, shape or weight, made out of Wood and rubber around it. Each side of the racket must be of a different colour (red and black). Non of the sides can have any imperfection that could influence the normal development in a match. A table tennis match is always supervised by two **referees**, both placed at the two different central sides of the table.

The rubber used can be of three different kinds:

**a-Smooth:** there are different kinds of rubber, according to the type of game players wish to play, from an aggressive play (high speed and aggressive attack) to the antitop ones (less-sticky rubber for defensive players).

**b-Short rough surface:** used by players who like smashing on the table, at medium or short distances.

**c-Long rough surface:** used by defensive players.



**Image of a table tennis racket and ball.**

## **B-The match**

Matches can be individual or double. Each player or pair will start twice, and then the starting point will go to the opponent(s). If the ball, after a correct start, hits the side of the table of the player who is serving, hits the net or its holding devices, and then lands correctly on the opponent's side of the table, the serve will be repeated as many times as necessary.

If any of the players touches the table with any body part, the point will go onto the opponent's side.

In double matches, the players will alternate to hit the ball (first one of them and then the other one). The serve will be done to the opposite side of the table, for example, if the serving player is on the right, he/she will throw the ball to the other right side. If the ball bounces on the middle, the point will score.

The game or set finishes when one of the two players reaches 11 points with a difference of two points. If they draw in 10 points, they will keep on playing, serving each at a time, until one of the players gets a difference of two points. Matches can be played in 3, 5 or 7 sets depending on the competition. In individual games, serves can be made to any side of the table.

## **Technical basis**

**A-Ways of grabbing the racket:** it can be mainly grabbed in two different ways:

**a-European way (also called classical way):** both sides of the racket can be used, producing right or left strikes. This style is used by most of the players.

**Samples of ways of grabbing a table tennis racket.**



**b-Asian way or penholder (pencil):** It has several variations; Japanese (they only use the front or right part to hit, and the fingers are placed behind, to provide a better grip). A good example of this style is Ryu Seung Min; the Chinese Butterfly Penholder (using the front, right part and the back left part to hit), as for example do Wang Hao or Ma Lin .

#### **B- Hits**

**a-Serving:** serving is free. To serve, the ball must be placed on the palm, not helped by the fingers and with the hand wide open. The ball can't move at all. Then, the player must rise the ball in a vertical way for at least 16 cms., and hit it from behind and above the playing surface level.

The ball must bounce once on the serving player's side, and once on the opponent's side. If these steps are respected any other considerations won't invalid the serve. If the ball touches the net, but all the other aspects were correct, the mistake will be called "net" and the serve will be repeated as many times as necessary. The player can impel his/her ball with effect when serving.



**Serving in a table tennis match.**

**b- Drive hits:** it is a straight hit (the racket doesn't turn to any of the sides), it is the natural hit, so it is the easiest to learn in table tennis. The player must be concentrated on the ball to be able to do a good drive.



**Drive hit during a table tennis match**

**c-Forehand hit:** It is the opposite to the drive. It is made using the other side of the racket, and the racket is never straight. The forehand hit starts on one side and ends up on the other side.



**Forehand hit during a  
table tennis match**

**3rd Term**

# Handball

## History

Handball is a very young sport. Even if some authors place its origins in Ancient Greece, it really appeared in Germany, where Mr. Heiser created it to entertain the workers at Siemens in their free time. Not much later, Karl Schelenz changed some of the rules and he created handball with 11 players, which started to be known as "handbold". In 1947, the sport evolved and started to be played the way we know today. As it was mainly played indoors, handball teams of 7 players started to spread, mainly among the Nordic countries, precursors of this sport, due to their bad weather conditions.

At present handball is an Olympic sport in both categories, male and female.

In Spain this sport has followed the same path as in other countries. We first started playing with the 11 players' handball, as an evolution from soccer, and little by little it evolved into the 7 players handball practiced indoors. According to the Spanish coach Juan de Dios Román, it was the Spanish Military School from Toledo the place and epicenter where the first regulations and the first technical projects on this sport were produced.

Image of a throw to the goal.



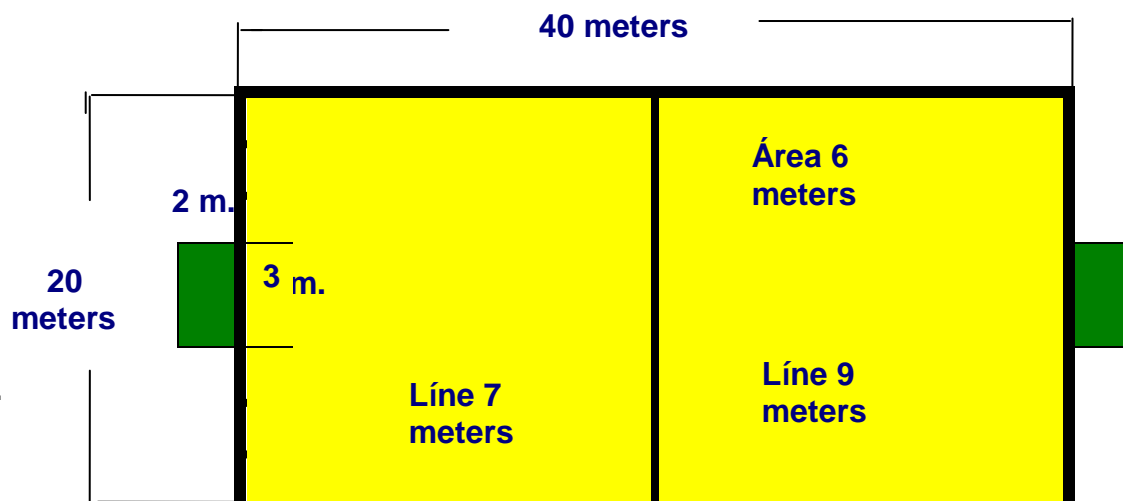
## Rules

There are several groups to be considered:

### 1- General ideas.

The **goal of the game** consists on two opposed teams trying to score goals in the opposite side by using just the hands.

The measures and characteristics of the court are as follows:





The **ball** is a sphere and it weighs 450 grammes. A handball **team** is made up out of 12 **players**, but only 7 can be playing at the same time. One of them is the goalkeeper and he/she is dressed in different colours than the rest of the team.

A handball match is supervised by two **referees**, who use a gesture language to communicate between them and with the two people sat at the table. One of them is in charge of the clock and the other one is noting down the result. This table is placed between the benches assigned to the different teams.

The **match** lasts 60 minutes, divided in two periods of 30 minutes each, and with a 10 minutes break in between. The clock never stops, unless there is an exceptional situation or they are throwing a penalty.

## 2- Faults and penalties.

They can be of two types:

**A- Technical faults:** they are made when the match is in progress.

There are three types:

**a- Made on the opponent:** An opponent can't be held, grabbed, hit or punched when trying to take the ball away from him. Depending on the importance of the fault, it will be penalized with a golpe franco or a penalty.



**Player trying to throw the ball while some defendants try to stop him.**

**b- About ball management:** Players mustn't touch the ball with any body part below the waist. They mustn't keep the ball for more than 3 seconds. If they catch the ball twice or more without it touching the floor or other player, or if they bounce the ball with two hands, they make "**doubles**". Finally, if the player walks three steps holding the ball in his/her hands, he/she makes "**steps**". All these illegal actions are penalized with a golpe franco in favor of the opponent's team.

Inside his/her area, the goalkeeper can touch the ball with the whole body without making any of the faults mentioned above, but if he/she leaves his/her area, then he/she becomes a normal player. When stopping a ball, if it goes out of the court through the end line, it is not a corner.

**Fault made on the attacker when she is throwing the ball.**



**c- About the areas in court:** the goal area, limited by the 6 meters lines, can only be used by the goalkeeper. Players can jump over it, but without stepping on it. If they do so, they will be penalized with a penalty. Stopping a throw inside this area or even passing the ball to your own goalkeeper is also considered penalty.

A **free kick** is a throw made after a fault has been committed. It is thrown from the place where the fault was made, except if it has been made between the 6 and 9 meters lines. If this is the case, the throw is made outside the 9 meters line, and the opponents' team can place a defensive barrier to defend their own goal.

A **penalty**, is blown when the fault committed impedes a clear goal situation. It is thrown from the 7 m line. The goalkeeper is allowed to stop it.

Throwing a penalti.



**B- Disciplinary faults:** There are three different types of disciplinary sanctions, and they are applied when dangerous actions, faults done on purpose or lack of respect to other people take place:

**a- Warning:** It is used when faults are repeated several times, or the player is showing anti-sporty behavior. The aggressor will get a yellow card.

**b- Exclusion:** When a player has two warnings or makes repeated faults. The player will have to leave the game for 2 minutes.

**c- Disqualification:** If a player gets three exclusions, he/she will be disqualified. This particular player won't be allowed to come back to the game, but after two minutes another player can substitute him/her.

## Technical basis of handball.

The most important technical actions in handball are:

**A- The basic position:** it is an essential technical tool and it consists on keeping a position where your feet are parallel, legs in semi-flexion and the body leaning slightly forward. This position allows the player to do faster and more effective actions, both attacking or defending.

**B- The throws:** It is the final goal of an offensive attack. It needs a good technique, which has both power and precision. There are several types:

**a- Fault, penalty or static at the end of an action:** The player catches the ball with one hand, prepares the arm, and throws from a static position. It can be done after a dribbling.



**Free kick throw**



**Throw at the end of a game.**

**b- Suspended:** The player throws the ball while being in the aerial part of a jump.



**Suspended throw**

**C- Passes:** essential technical action which consists on passing the ball to a mate. It must be made with high precision, so it helps the receptor to keep on with the action easily. There are several passes:

**a- Frontal pass:** It is the most widely used. It begins from the basic position, with the arm ready and throwing the ball with a straight and forward trajectory.



**Image of a frontal pass.**

**b- Bounce pass:** The same as above, but the ball follows a leaning trajectory to bounce before getting into his/her mate.

**c- Suspended pass:** done in the aerial part of a jump.

**d- Hip pass:** Here the ball leaves at the heap level, the trajectory going up and normally with some effect. It is used to pass the ball to the pivot.

**e- Tray pass:** It is used when both player and receptor are nearly, so the ball goes from one hand into the other.

**f- Side pass:** It is used to make the ball circle among the players when a static attack is in progress.

**D- Receptions:** It is the technical action consisting on catching the ball after a mate passes it. A good reception is essential to keep the possession and continue with the attack. The reception can be made jumping, standing without moving or running.

**E- Bouncing:** It is the action that allows the player advance with the ball under control. Bouncing is the action of throwing the ball against the floor and letting it come to your hands again, but without holding it. There are two types of bouncing:

**a- High or offensive bouncing:** It is used to go the fastest possible way to the opposite goal. The ball bounces high and in front of the body. It is mainly used in counter attacks.

**Offensive bouncing**



**b- Low or defensive bouncing:** It is used to protect the ball when a defender is nearby. The ball must bounce low and it must be protected with the body.



**Defensive bouncing**



# Ship chandlery

In a wide sense it means the group of ropes and strings in, for example, a boat. However, in some other contexts it not only includes the material, but also all the actions made with them. The main actions done with ropes are knots. Below, some knots will be studied:

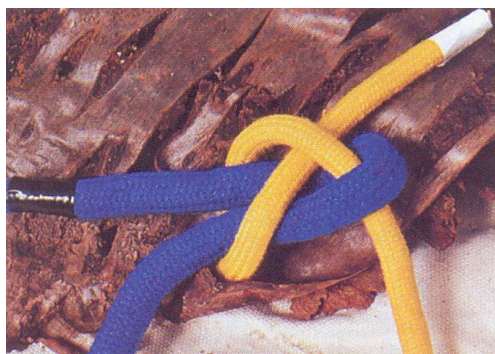
## Knots classification

**a- Top knots:** As hinted in its name, they are used to prevent the end of a rope from sliding through a ring, loop or hole. They are used in climbing, camping and sailing.

Image about top knots



**b- Joining knot:** they are used to join two pieces of ropes or strings to get a longer one. It is important that the two ropes are of the same type and of the same diameter.



Joining knot

**c- Loops:** They are the knots done at the end of a rope, facing them backwards, and building a ring or a loop on which the knot can be made. They are very important in sailing, where it is considered one of the basic knots. It is used to hold another rope, a ring or something similar.



**Image of a loop**

**d- Sliding knots:** They get tight around the object on which the knot has been done, loosening itself the moment the tension is released. This is one of the oldest knots, having been used by prehistoric hunters to build weapons, tolos and traps to hunt animals.

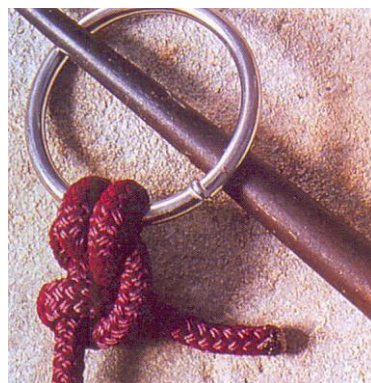


**Sliding knots**

**e- Shortening knots:** They are used to shorten long ropes or strings without having to cut them.



**f- Half hitch knot:** They are knots used to secure a rope or string to any object (a pole, anchorage, mast, etc.) or to another rope, which isn't part of the present knot.



**Image half hitch knot**



**g- Fishing knots:** from the Ancient times, all the cultures have discovered different ways of securing fishhooks to a fish line, so it is not surprising that there exist so many of them.



**Image of a fishing knot.**

## **Sport Activities in the Nature.**

### **Tracking**

Tracking consists on following a person, animal or vehicle by watching the traces left by them as moving forward. A good tracker is not only able of following traces, no matter how subtle they can be, but he can also deduce the movements that have been made, how far away the object is, and even the size, weight and characteristics.

Natural traces let us follow and locate a person or animal, no matters his own will. But there is another system based on artificial clues, and built up with conventional signals that allows the first walker to indicate his chasers the path they must follow in order to find him. Using this method, the route marker will provide interesting information about dangers in the road, special details and characteristics that will help the chasers that don't know the way.



**Tracking can be practiced in a forest.**

## How to signal a track

It is a very easy process:

**a-** First, you must signal the beginning of the track at the accorded place. This sign will state the words "Tracking walk".

**b-** Place as many signals as necessary along the path. Try to avoid extra information.

**c-** Use proper signals.

**d-** Place special attention to crossings, turnings, bifurcations, etc.

**e-** Signals must be always placed on the right hand side of the road.

**f-** When using materials found in nature to create the signals (stones, branches, grass, etc.), pay attention that they can be easily discriminated from the natural media.

**g-** In very complicated spots, leave extra information with clearer instructions.

**h-** Signals mustn't be left above one meter from the ground.

**i-** Mark the track keeping in mind that the chaser doesn't know his way, so anticipate to his possible doubts and solve them beforehand.

## How to follow the clues.

Some basic rules must be observed by the chasers:

**a-** Don't walk as fast as to miss one of the clues.

**b-** If some doubt arises, try to go into the marker's shoes.

**c-** Remember precisely the place where the last clue was found. If you miss your way, you will have to go back to this place, and try to find the track again.

**d-** Bear in mind that some clues can just disappear, regardless the good intentions of the tracker.

**e-** Don't look for clues where there can't be any, according to the rules.

**f-** If you are not the last one following this track, don't spoil the signals.

If you are the last one, erase them carefully.

It is very convenient, mainly in competitions, to write down on a piece of paper all the signals, set or found, both by tracers and chasers, so that they can be checked by the judges at the end of the race, and if there is a draw, give the correct punctuation to the participants.

## Tracking clues.

Below, you can see a summary with the main voluntary clues:



# The indiaca

## History

The indiaca finds its origins in South America, in Brazil, where at present, it is a very popular sport. In this country it is called "Peteka". As in many other popular sports, it is very difficult to find out the Ancient origin of the indiaca. It is very similar to another popular game played in China and Korea, and also to another one played by The Incas.



Image of indiaca

The indiaca came into Europe through Germany, where it was imported from Brazil by a P.E. teacher called Kart Hans. Then, it started to be played all around the old continent, travelling as far as Spain.

The Brazilian Indians used a indiaca built up with a small leather bag filled of sand or flour, and with some feathers on top, which had been joined together with mud, and were tied to the bag with string. As years passed by, this activity evolved, and now we can find different models of indiacas. Most of the ones used today have changed the former leather bags by ones made up of foam, which can have different weights and densities. Some others still use leather bas attached to artificial or real feathers.

As many other games and activities, the indiaca started as a popular game, played by children on the streets in order to enjoy themselves. But with the passing of the years, it evolved, and new rules, regulations and necessities arose.

## Regulations

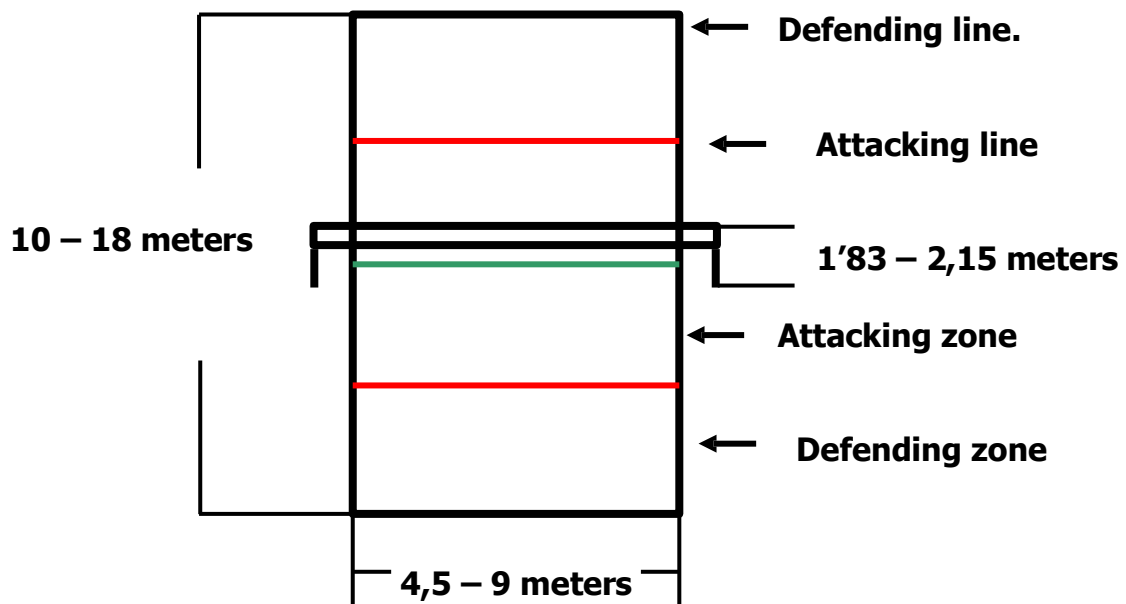
They can be divided into several groups:

### A- General ideas:

The **goal of the game** consists on hitting an instrument ( indiaca ), passing it over a net, with a maximum of three hits per team, so that it touches the ground on the opponents' side. You can use your hands or any other body part placed above the waist.

An indiaca match admits a variety in the number of players (one, two...), being the teams of six members the most common ones. Three of them will be defenders and the other three will attack.

Depending on the number and age of the players, the court will vary the measures. The **playing court** will always be a rectangle, whose length can vary between 10 to 18 meters, and whose width will be in between 4.5 to 9 meters. The lines will be painted on the floor. The net height can also vary in between 1.83 to 2.15 meters. The court will be divided into defending and attacking areas. Both will have similar sizes.



If the **indiaca hits the net** after the three ruled touch, an extra touch can be done.

The **indiaca** must be **hit** but it must never be held with the hand.

A player **can touch the indiaca twice in a role**, but he must always change hands.

When the **indiaca**, coming from a game situation, **hits a player**, this particular touch is not considered a first touch, so the player still has three ruled hits to go.

**Smashes mustn't be made** between the attacking zone and the net.

The ball **can be blocked** over the net if the arms are together and they don't go over the net.

If the indiaca falls on the **line or outside it**, but touching it, the point will score.

#### **B- Punctuation system.**

The game ends up after 22 points in a role, but with a difference of two points with the other player. If there is a draw at 22 points, four more points will be played changing the starting player each time. If there is still a draw after that, one extra game will be played and the scoring team will become the winner.

### **One point will be scored if:**

- a-** It takes more than 5 seconds to serve.
- b-** The players don't rotate when serving.
- c-** The player steps on the line when serving.
- d-** The indiaca touches the net when serving.
- e-** The indiaca lands outside the lines.
- f-** The Indiaca hits a player and then lands on the court, regardless the place.
- g-** The indiaca goes below the net.
- h-** The player goes into the opponent's court or touches the net, getting an advantage from it.
- i-** A team hits the indiaca more than three times.
- j-** The player hits the indiaca twice in a role using the same hand.

### **C- Faults and penalties**

An indiaca player mustn't:

- a-** Touch the indiaca with the bottom limbs.
- b-** Touch the net on purpose.
- c-** Protest continuously interrupting the match.
- d-** Touch the opponent above or below the net.
- e-** Take the indiaca away from an opponent in his part of the court.
- f-** Insult or behave violently against an opponent.

If any of these faults are committed, the penalizations are:

- a-** If it is a very grave action, the team that made it will lost. The final score will be 2 - 0.
- b-** If it is the first time the action has been committed and it is a minor fault, the player will get a verbal warning.
- c-** If the fault is repeated several times, the player who did it will be expelled from the game.
- d-** If a player hits the ball with his feet, he will be expelled for a minute and the opponent's team will score 5 points.

## **Technical basis**

### **A- Serving**

It is always the first action in a match. The player has got five seconds to serve the ball and it must be done with just one touch.

The player has to serve twice in a role, each of them with a different hand.

If the match is in pairs or teams, the serve must be rotated among all the players.

A player mustn't serve with a high or tennis serve from the attacking line. If the player is serving and after having thrown the indiaca, it lands on the ground and it hasn't been touched, he won't be penalized and will have to serve again, but still with the 5 seconds rule

There are three types of serving in this sport:

- a- High serve or tennis serve:** the indiaca is thrown to the air and it is hit while falling down, but with the upper part of the hand. It will be



compulsory made from the base line or defending line. The player can step on it, but without trespassing it. The player can also jump when serving.

**b- Low serve or de cuchara:** It can be made from the attacking line or from the base or defending line. The indiaca will be placed just in front of the hand and it will be hit with the open hand in a down-to-upwards movement.

### **B- The reception**

It is a defensive-offensive action, with which a player catches the indiaca previously thrown by another player.

Depending on the number of touches when receiving the indiaca we can distinguish two stops:

**a- Stop in one movement:** the indiaca is stopped with just one touch.

**b- Stop in two movements:** the indiaca is stopped in two movements, the first one to stop it and the second one to get ready for an attack (smash) or to get it ready for a mate to hit it.

Depending on the height on which the reception is made, it can be:

**a- Low:** the player throws himself in a diving movement and touches the indiaca at a low level.

**b- Medium:** done at a medium level, using a right hand stroke, always for placing or stopping the indiaca.

**c-High:** done with a jump or a touch made with the upper part of your hand.

### **C- Smashing**

Smashing is the most spectacular and offensive action of the game and it always finishes an attack. There is only one limitation: it must be made from behind the attacking line. It is allowed, and it is more correct from the technical point of view, to jump behind this line, smash in the air and land on the attacking zone.

### **D- Blocking**

It is the action of intercepting the indiaca when it comes from the opponent's field. Only when achieving this defensive action, the indiaca can be touched with both hands at the same time or with any other part of the body.



**Blocking in an indiaca match.**