

The Chinese University of Hong Kong

Physical Education Compulsory and Elective Course Notes - Tennis

1. History

The origin and development of tennis can be summed up in four sentences: conceived in France, born in Britain, popularized in the United States, and prevalent all over the world.

Dating back to the 12th-13th centuries in France, a game of hitting the ball with the palm of the hand was popular among missionaries by two people separated by a rope in the open space, and the palm of the hand hit the ball made of cloth wrapped around the hair. This movement prevailed not only in monasteries, but also in the French court. During the reign of King Louis X of France, this pastime tennis was often practiced in the court. In 1358-1360, this kind of ancient tennis for the nobility was introduced to England from France, and Edward the third pair of tennis in England became very interested in tennis and ordered the construction of an indoor court in the palace. At that time, the racket surface was changed to sheepskin, the ball was changed from cloth to leather, and the size and weight of the ball were not recorded in detail. In the 15th century, the stringed racket was invented, and in the 16th century, ancient indoor tennis became the national ball of France. Later, ancient indoor tennis had its own rules and was better developed in Europe, especially in Britain.

In 1877, several lawn tennis clubs were set up in Wimbledon, outside London, England, and lawn tennis was further developed in Britain. In July of the same year, the first Lawn Tennis Championships were held, which was the first Wimbledon Championship.

In 1913, the 12 associations formed the International Tennis Federation (ITF) at a conference in Paris, France.

In 1924, to promote tennis to the whole world, international tennis rules were promulgated.

The International Tennis Association hosts three international team competitions, namely the Davis Cup for the men's team, the Association Cup for the women's team, and the He Wen Cup for the men and women mixed team. The Association has also recognized four Grand Slam tournaments: the Australian Open, the French Open, the Wimbledon Championships, and the U.S. Open.

1.1 Australian Open (Hardcourt Court Events in January)

www.australianopen.com



1.2 French Open (Clay Tournament from May to June)

<https://www.rolandgarros.com/en-us/>



1.3 Wimbledon (Grass Court Events from June to July)

<http://www.wimbledon.com> <http://www.usopen.org/>



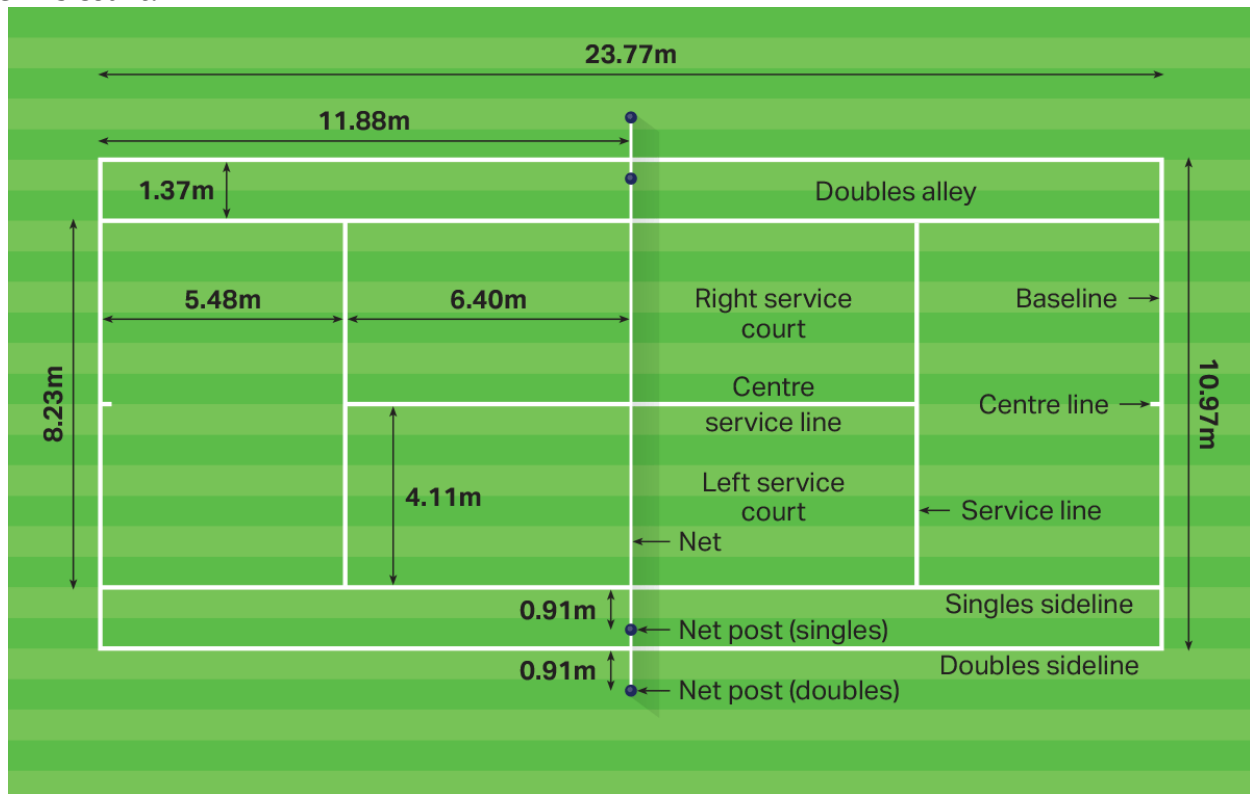
1.4 US Open (Hard Court Events from August to September)

<http://www.usopen.org/>



2. Equipment

2.1 Tennis court:



Tennis matches are played on a rectangular court. The tennis court floor is demarcated with a white line. The length of the standard tennis court is 23.77 m (78 ft). The width of the course is set at 8.23 m (27 ft) for singles matches and 10.97 m (36 ft) for doubles matches. The lines on the left and right sides of the course are correspondingly called "singles sidelines" or "doubles sidelines". The white lines at both ends of the pitch are called the "bottom line". The middle of the two bottom lines is marked with a short middle boundary point. Space must be allowed around the pitch.

The site is divided into three main types according to the material: grass, clay and hard ground. The four Grand Slam tournaments were originally grassy, now the Australian Open and the US Open are hard ground, the French Open is red clay, and Wimbledon is grass.

2.2 Nets and posts:

The court is divided into a second-class sub-field area by a net with ropes or steel cables from the center. The two ends of the rope are tied to two net posts 1.07 meters (3.12 feet) high, and the net should be long enough to fill the space between the two net posts, and the mesh should be small enough to hinder the passage of the ball. The center height of the net is 0.914 m (3 ft) and the net is tightly bound with a strap. Ropes, cables and the upper end of the mesh must be wrapped in a harness and must be white.

2.3 Tennis rackets:

Basically, a tennis racket is composed of a racquet head, a racquet throat, and a handle grip, and it also needs to be used with accessories such as tennis wires and shock absorbers when used. It is generally divided into four grades: L (light, 11-13 ounces), LM (medium light), M (medium, 13.5-13.75 ounces) and T (heavy, 14-15 ounces). You can decide according to your arm strength and physical strength, beginners generally choose light or medium as well.

2.4 Tennis:

There are two main types of tennis for competition: hard tennis and soft tennis, both of which must be used in accordance with the instructions of the International Tennis Association and the International Olympic Committee.

2.5 Tennis string:

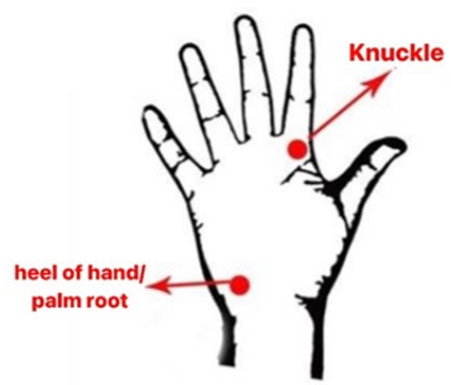
The tennis string is woven in the shape of a net on the frame of the tennis racket and is used to hit the ball. Common string materials are natural intestinal string, nylon string, polyester string, etc., and the different materials, thicknesses, tensile forces, and surface structures of the string provide different feel, strength, spin and durability.

3. Tennis Skills

Gripping: align right index finger knuckle and heel of hand/palm root with grip position.



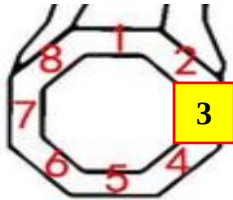
(Figure A) Grip position



(Figure B) Knuckle and heel of hand/palm root

3.1 Forehand gripping and technique (with the right hand as the dominant hand)

Eastern forehand grip method:



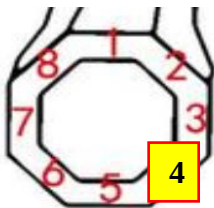
(Figure C) Right index finger root put 3



(Figure D) Eastern forehand grip

The Eastern grip method originated in the eastern region of the United States, suitable for hitting the ball at the height of the waist of the body, because the East way forehand grip beat surface is consistent with the palm of the palm, it is very easy to control, so it is widely used by coaches to guide beginners to do it.

Semi-Western forehand grip method:



(Figure E) Right index finger root put 4



(Figure F) Semi-Western forehand grip

Semi-Western grip is between the Eastern grip method and the Western way grip method, this grip method is more suitable for hitting the ball higher than the waist than the Eastern way grip method, and it is more aggressive than the Western way grip method, so it has both the strength of the East way grip method and the characteristics of the Western way grip method is easy to spin up, in the professional tennis tour, many bottom-line strength players use this grip method to play.

Forehand hitting technique:

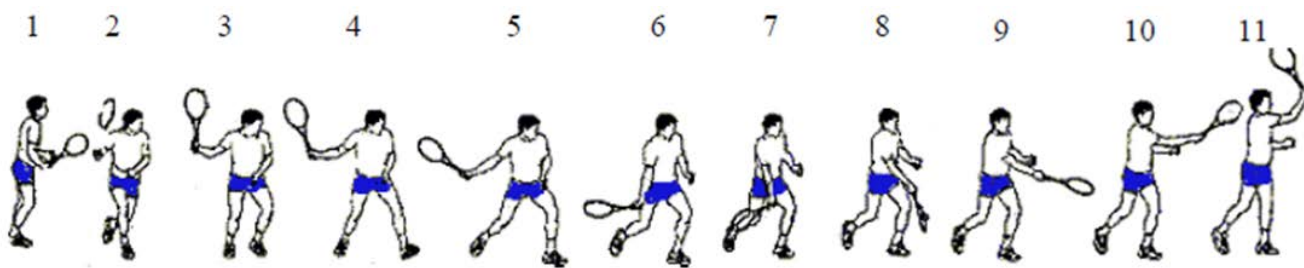
Preparation: Feet shoulder width apart, center of gravity on the tiptoes, knees slightly bent. The racket is held in front of the body, the elbow is slightly bent, and the non-clapping hand is holding the neck. Determine where the incoming ball bounces and move to the ideal position to hit the ball.

Swing: Sideways, left foot tiptoe diagonally forward, racket swing back, racket head slightly higher than shoulder to shoulder.

Hitting: Adjust the distance with tiny step, the left foot is in the front, the contact point is next to the front of the left foot, the knee to the waist height, and the wrist is fixed.

After hitting the ball: The face of the shot should be swung along the trajectory of the ball.

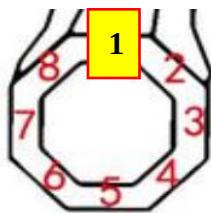
Follow through: The racket can end next to the left ear, the finger joint near the left ear, the center of gravity is on the front foot (left foot), the waist and shoulders are turned to the net, the right heel is lifted, and only the tip of the foot lands.



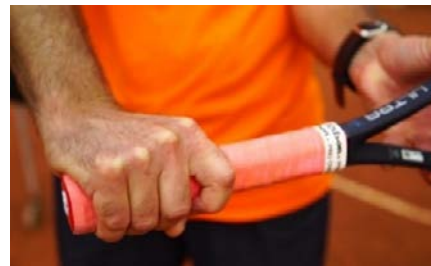
(Figure G) Forehand hitting

3.2 One-handed backhand gripping and technique (with the right hand as the dominant hand)

One-handed backhand grip method:



(Figure H) Right index finger root put 1



(Figure I) One-handed backhand grip

One-handed backhand hitting technique:

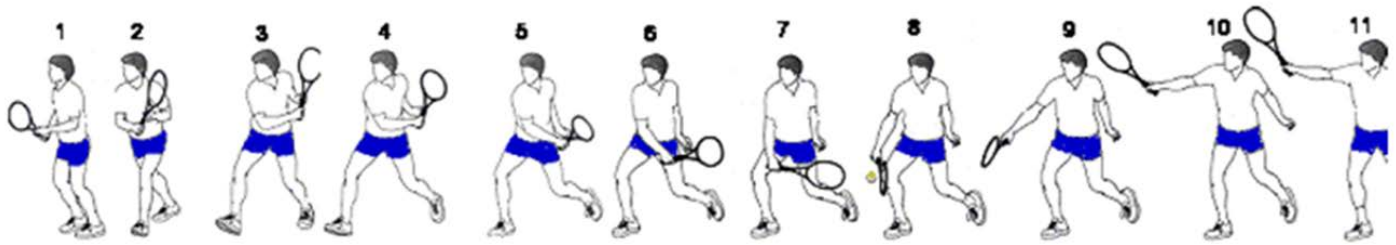
Preparation: Feet shoulder width apart, center of gravity on tiptoes, knees slightly bent. The racket is held in front of the body, the elbow is slightly bent, and the non-clapping hand is holding the neck to pull the racket.

Swing: Turn your shoulders and upper body to the left, turn your back towards the ball, and swing the racket back to the left shoulder with your left hand to determine the bounce position of the incoming ball and move to the ideal position to hit the ball.

Hitting: Swinging forward, the ball is contacted in front of the right foot, between the knee and the waist.

After hitting the ball: The racket face should be swung forward along the trajectory of the ball, with two elbows spread.

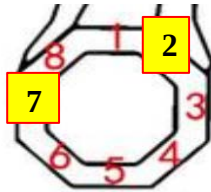
Follow through: Move the weight forward, spread your hands widely, and lift the head of the racket forward upwards.



(Figure J) One-handed backhand hitting

3.3 Two-handed backhand gripping and technique (with the right hand as the dominant hand)

Two-handed backhand grip method:



(Figure K) Lift index finger root put 7 &
Right index finger root put 2.



(Figure L) Two-handed backhand grip

Two-handed backhand hitting technique:

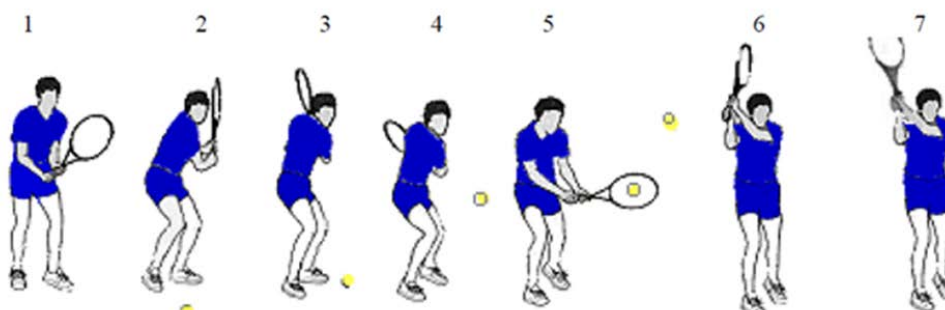
Preparation: Feet shoulder width apart, center of gravity on tiptoes, knees slightly bent. The racket is held in front of the body, the elbow is slightly bent, and the non-clapping hand is supported by the neck racket

Swing: Determine where the incoming ball bounces and move to the ideal position to hit the ball. Swing the racket sideways and backwards, holding the racket with both hands, swinging the racket back slightly below the height of the shot.

Hitting: Step out on the front foot (right foot) and swing the racket to the front of the front foot to hit the ball. When hitting the ball, the rotation of the upper body must be fully utilized, and the front of the racket must be swung higher than the head, and the center of gravity must be lowered to increase the force

After hitting the ball: The racket faced should be swung forward along the trajectory of the ball

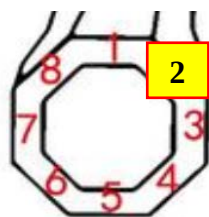
Follow through: Move the weight forward, lift the head of the racket forward, and close the right arm



(Figure M) Two-handed backhand hitting

3.4 Volley gripping and technique (with the right hand as the dominant hand)

Continental grip method:



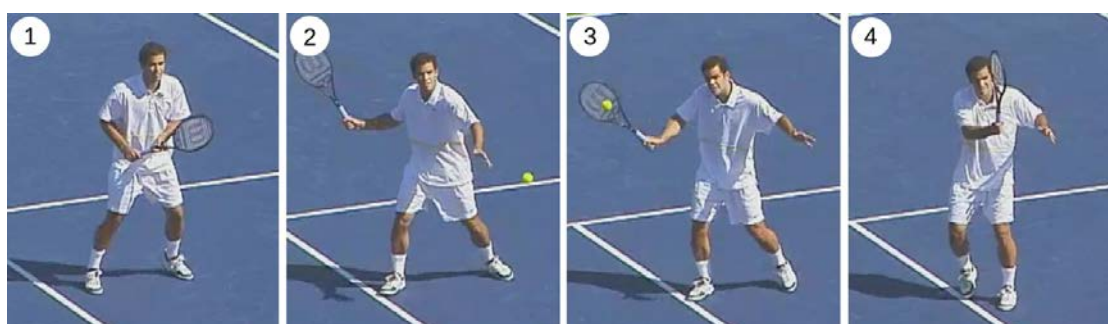
(Figure N) Right index finger root put 2



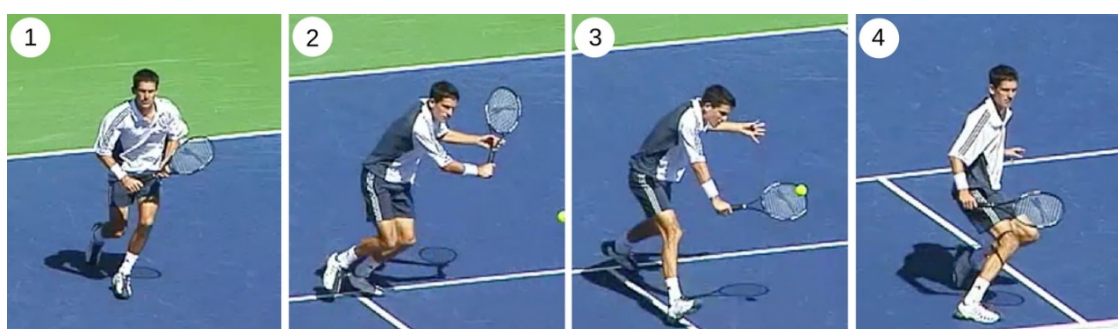
(Figure O) Continental grip

Volley technique:

Preparation: - 2 to 3 meters from the net. - Hands-on racket with racket head faces forward. - Relax your whole body and pay attention to the incoming ball.	Forehand volley: - The racket should be placed in front of the body. - Spread your feet apart to predict the height of the incoming ball and directions. - When hitting the ball, hold the racket tightly. - Swing forward to control the speed of the shot.	Backhand volley: - The racket should be placed in front of the body. - When hitting the ball, keep an eye on the incoming ball. - Keep your feet apart to keep your body balanced. - When the racket hits the ball forward, let go of the other hand.
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(Figure P) Forehand volley



(Figure Q) Backhand volley

3.5 Serve gripping and technique (with the right hand as the dominant hand)

High-level matches place a lot of emphasis on servings, which are one of the common means of scoring points and attacking. The types of serves can be roughly divided into kick serve, slice serve and flat serve.

Grip method: Continental style for strength and spin.

Ball holding method: Hold the tennis ball together with your fingers that do not hold the racket.

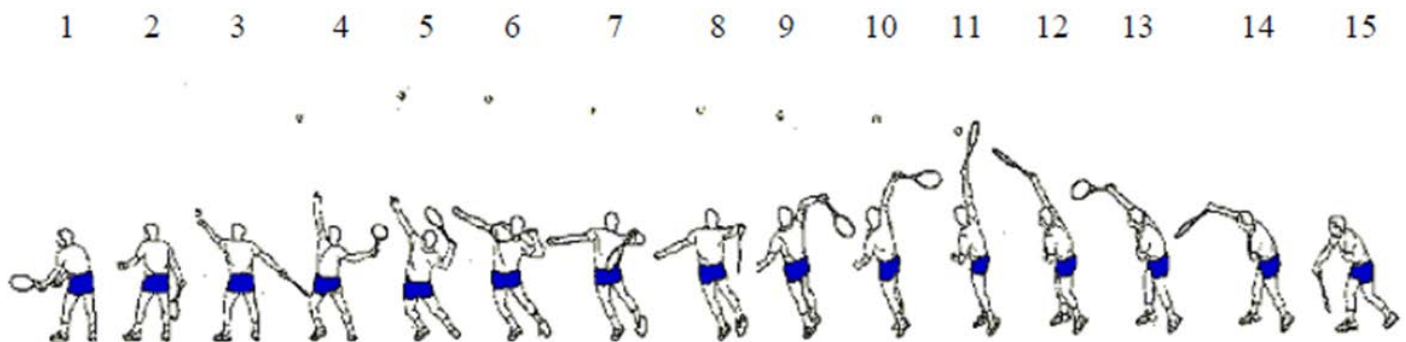
Serve technique:

Preparation: Balance the back foot with the bottom line, point the forefoot at the net at a 45-degree angle, and spread it appropriately, with slight relaxation of the knees.

Ball holder and racket: Free hand holding the ball, dominant hand swinging racket.

Hitting: Look up and hit the ball above the front of the right shoulder.

Follow the action: After hitting the ball, the racket head goes up first and then forward. The racket descends to the other side of the body.



(Figure R) Basic serve action

4. Tennis Rules

4.1 Server, Receiver

- Players should be on each side of the net, with the first serving player being called the serving player and the other side being called the receiving player.

4.2 Side selection and tee selection

Before the start of the first set, the right to choose sides, serves shall be decided by coin tossing or turning the racket. (The winner can only choose one of them.)

The winner of the coin toss, may choose or ask the opponent to choose:

- Choose the serve or receive the ball, the opponent can choose the side.
- The opponent can choose to serve or receive the ball.

4.3 Players have a 5-minute warm-up before the start of the match

During the serve, the serving player may not violate the following:

- It is not possible to walk or run to change position, but slight foot movement is allowed.
- Either foot touches the baseline or the field area.
- Either foot touches the imaginary extension of the outer line of the sideline.
- Either foot touches the imaginary extension of the middle line.

If a player violates one of the above rules, he or she will be judged as a "FOOT FAULT".

- The time limit for serving between each segment shall not exceed 25 seconds. The first warning, followed by a fault.
- The time limit for servings between odd-numbered turns must not exceed 90 seconds. The first warning, back to the fault of the serve (FAULT).

4.4 Serve area and effective serve

- The serving player shall take turns to serve from the right and left sides of the field area after the bottom line, and each round shall be served first from the right side of the field, if the serving player serves from one of the wrong sides and is not found, the result of this wrong serve will still be recognized. However, once discovered, it should be corrected immediately.
- The ball sent must cross the net and land on the opposite side's serve or any of the tee line in the diagonal area before the receiving player can return fire.

4.5 Player Loses Points (PLAYER LOSES POINT) A player loses points if:

- The serve player made two consecutive serve mistakes; or
- The ball in progress failed to return the ball to the net before landing on the second landing; or
- Counter-strike the ball in progress touching the ground outside the opponent's field line, or other objects; or
- The return ball in progress touches the fixed equipment before it lands; or
- The receiver returns the shot from the serve that has not yet landed; Or
- Deliberately carrying or catching the ball with a racket when returning fire, or deliberately touching the ball with the racket more than once; or
- During the game, the player's body or racket (whether held in the hand or not) or the items worn or carried touch the net.
- Intercept balls in the air that have not yet passed the net; or
- The ball in progress touches any object he is wearing outside the player or racket; or
- When hitting a ball with a racket that is not in the hand; or
- When hitting the ball, the player deliberately and substantially deforms the racket.
- In doubles matches, hit the ball back at the same time as players in the same group.

4.6 Appeal and Electronic Review System (Eagle Eye System).

- When a player or team challenges the referee's verdict through Eagle Eye, the screen displays the ball's flight path and landing position, and finally decides whether it is an image inside or outside the boundary
- Each player (team) is allowed three appeals per set, with one additional appeal in the seven points tie break. Players will have an unlimited number of successful appeals.

5. Competition Scoring Method

- Each MATCH is played in a five-set win-three or best-of-three format.
- Each set (SET) is won with a first six sets and a lead of two sets. If the number of games is 5:5, the game must be played to 7:5 for win. If the number of games is 6:6, the tiebreaker system is generally adopted.
- Tiebreaker System (TIE-BREAK): Seven points and a two-point difference in points are taken to win the round and the set.
- Each game takes four points to win the round. Reading scores: Read the player's score first. "LOVE" is read on zero points, "fifteen" is read on the first minute, "THIRTY" is read on the second minute, and "forty" (FORTY) is read when the third minute is won; If both sides score three points each (i.e. forty to forty), they are tied (DEUCE) and must score two consecutive points to win the round.

6. Singles Strategy

In tennis, players use the tactics that suit them best, based on their best skills. These strategies can be roughly divided into three types: baseliner, Volleyer, and comprehensive.

6.1 Baseliner

Aggressive baseliner

- They tend to take the initiative, usually hitting the ball near the bottom line and trying to win points by hitting the winner shot.
- Often hits a very fast ball, so that the opponent is too late to arrive or even if it is arrived, it is not good to fight back.
- Often hit the left side and hit the right side at once until the opponent has a gap.

Defensive baseliner

- Most high-level athletes tend to take a defensive approach, hitting all the balls back as much as possible and waiting for the opponent to make a mistake.
- Stability is the priority of the game, reducing active mistakes.
- Must have a very fast shifting speed and flexible hands.

6.2 Volleyer

Serve-and-volleyer

- He has excellent volley skills and has a good sense of the ball to be able to shift sensitively in front of the net and intercept it.
- When it's your turn to serve, go to the net and volley as soon as you have the chance.
- Always actively attack and can shoot many winning goals with multiple variations of interceptions

6.3 Comprehensive type

All-court player

- World-class players can be both a volleyer and baseliner
- It is usually the case to take the initiative, using a mixture of the base line stroke and the volley, leaving the opponent to guess what to do next
- When the baseline stroke of the all-round player does not work, they will switch to the Serve and volley strategy; When its serve and volley strategy does not work, it stays at the base line.

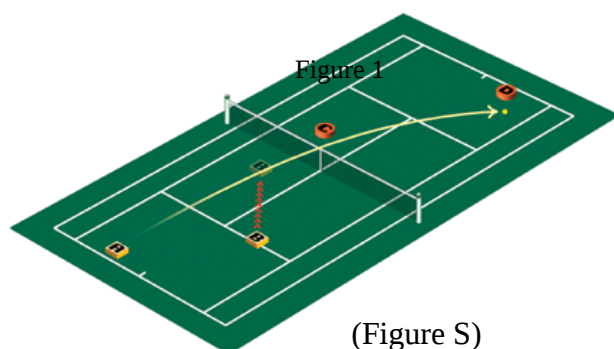
7. Doubles Strategy

Doubles in tennis: The combination of formations between partners is very important.

Here are the 3 basic positions:

7.1 **One volley one baseline type: (Figure S)**

- The most basic doubles formation
- The scorers are mainly near-net players, while the bottom-line players are responsible for the movement and defense of the ball
- Pros: People in front of the net are easy to intercept and score, and people at the bottom line can solidify the defense
- Disadvantages: If you continue to stand one in the front and back, there will be a large gap between the partners, making it easy for the opponent to attack

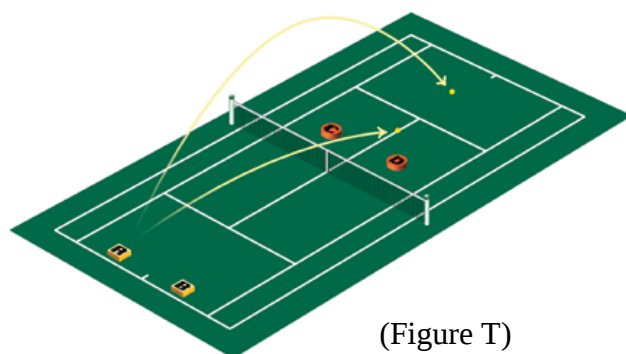


7.2 **Double baseline (defensive) type: (Figure T, A and B players)**

- The 2 players, one left and one right, are standing near the bottom line, so that the range of the ball can be received in the full court
- This position is generally used when we are at a disadvantage and the opponent's serve
- Give up the struggle for control in front of the net, but there will be plenty of time to react to the opponent's interception and the opportunity to play a higher level of high hanging ball

7.3 **Double volley (offensive) type: (Figure T, C and D players)**

- The most attacking doubles match strategy
- Two players, one left and one right, stand in front of the net
- They all have a high level of skill in all kinds of interception and semi-interception
- They can seize the opportunity to get into the net and seal the opponent's batting route,
- Cause pressure on the opponent and make a mistake, or be forced to hit the high hanging ball to create a smash opportunity



8. Reference Materials and Web Pages

1. 神谷胜則 (2013)。《實用網球技巧提升 200》。遼寧科學技術出版社
2. Jim M. Brown, & Camille Soulier, (2013). *Tennis: Steps to Success* Human Kinetics
3. Nick Bollettieri, (2015). *Nick Bollettieri's Tennis Handbook* Human Kinetics
4. Marty Smith, (2017). *Absolute Tennis : The Best And Next Way To Play The Game* New Chapter Press, U.S.
5. John Parsons, (2018). *The Ultimate Encyclopedia of Tennis* Carlton
6. International Tennis Federation, (2024). *Rules of Tennis* ITF
7. <https://www.itftennis.com/media/7221/2024-rules-of-tennis-english.pdf> (2024)
8. <https://www.3du.tw/knowledge/Yzl1ams=.html> (2024)
9. <https://kknews.cc/sports/6alj843.html> (2024)
10. <https://www.youtube.com/watch?v=hnJhv2vUDUo> (2024)
11. <https://youtu.be/hnJhv2vUDUo?si=8zeFh4aTltGFqCDM> (2024)