



Volleyball

Volleyball is a team sport in which two teams of six players are separated by a net. Each team tries to score points by grounding a ball on the other team's court under organized rules.^[1] It has been a part of the official program of the [Summer Olympic Games](#) since 1964.

The complete [rules](#) are extensive. But simply, play proceeds as follows: a player on one of the teams begins a 'rally' by serving the ball (tossing or releasing it and then hitting it with a hand or arm), from behind the back boundary line of the court, over the net, and into the receiving team's court. The receiving team must not let the ball be grounded within their court. The team may touch the ball up to 3 times but individual players may not touch the ball twice consecutively. Typically, the first two touches are used to set up for an attack, an attempt to direct the ball back over the net in such a way that the serving team is unable to prevent it from being grounded in their court.

The rally continues, with each team allowed as many as three consecutive touches, until either (1): a team makes a *kill*, grounding the ball on the opponent's court and winning the rally; or (2): a team commits a *fault* and loses the rally. The team that wins the rally is awarded a point, and serves the ball to start the next rally. A few of the most common faults include:

- causing the ball to touch the ground or floor outside the opponents' court or without first passing over the net;
- *catching and throwing* the ball;

- *double hit*: two consecutive contacts with the ball made by the same player;
- four consecutive contacts with the ball made by the same team;
- net foul: touching the net during play;
- foot fault: the foot crosses over the boundary line when serving.

The ball is usually played with the hands or arms, but players can legally strike or push (short contact) the ball with any part of the body.

A number of consistent [techniques](#) have evolved in volleyball, including *spiking* and *blocking* (because these plays are made above the top of the net, the [vertical jump](#) is an athletic skill emphasized in the sport) as well as *passing*, *setting*, and specialized player positions and offensive and defensive structures.

Rules of the game

Volleyball court

The court dimensions

A volleyball court is 18 m (59 ft) long and 9 m (29.5 ft) wide, divided into 9 m × 9 m halves by a one-meter (40-inch) wide net. The top of the net is 2.43 m (8 ft 0 in) above the center of the court for men's competition, and 2.24 m (7 ft 4 in) for women's competition, varied for veterans and junior competitions.

The minimum height clearance for indoor volleyball courts is 7 m (23 ft), although a clearance of 8 m (26 ft) is recommended.

A line 3 m (9.84 ft) from and parallel to the net is considered the "attack line". This "3 meter" (or "10-foot") line divides the court into "back row" and "front row" areas (also back court and front court). These are in turn divided into 3 areas each: these are numbered as follows, starting from area "1", which is the position of the serving player:

Rotation pattern

After a team gains the serve (also known as siding out), its members must rotate in a clockwise direction, with the player previously in area "2" moving to area "1" and so on, with the player from area "1" moving to area "6". Each player only rotates one time after the team gains possession of the serve; the next time each player rotates will be after the other team wins possession of the ball and loses the point.

The team courts are surrounded by an area called the free zone which is a minimum of 3 meters wide and which the players may enter and play within after the service of the ball.^[16] All lines denoting the boundaries of the team court and the attack zone are drawn or painted within the dimensions of the area and are therefore a part of the court or zone. If a ball comes in contact with the line, the ball is considered to be "in". An antenna is placed on each side of the net perpendicular to the sideline and is a vertical extension of the side boundary of the court. A ball passing over the net must pass completely between the antenna (or their theoretical extensions to the ceiling) without contacting them.

The ball

Main article: [Volleyball \(ball\)](#)

FIVB regulations state that the ball must be spherical, made of leather or synthetic leather, have a circumference of 65–67 cm, a weight of 260–280 g and an inside pressure of 0.30–0.325 kg/cm².^[17] Other governing bodies have similar regulations.

Game play

White is on the attack while red attempts to block

Each team consists of six players. To get play started, a team is chosen to serve by [coin toss](#). A player from the serving team throws the ball into the air and attempts to hit the ball so it passes over the net on a course such that it will land in the opposing team's court (the *serve*). The opposing team must use a combination of no more than three contacts with the volleyball to return the ball to the opponent's side of the net. These contacts usually consist first of the *bump* or *pass* so that the ball's trajectory is aimed towards the player designated as the *setter*; second of the *set* (usually an over-hand pass using wrists to push finger-tips at the ball) by the setter so that the ball's trajectory is aimed towards a spot where one of the players designated as an *attacker* can hit it, and third by the *attacker* who *spikes* (jumping, raising one arm above the head and hitting the ball so it will move quickly down to the ground on the opponent's court) to return the ball over the net. The team with possession of the ball that is trying to attack the ball as described is said to be on *offense*.

The team on *defense* attempts to prevent the attacker from directing the ball into their court: players at the net jump and reach above the top (and if possible, across the plane) of the net to *block* the attacked ball. If the ball is hit around, above, or through the block, the defensive players arranged in the rest of the court attempt to control the ball with a *dig* (usually a fore-arm pass of a hard-driven ball). After a successful dig, the team transitions to offense.

The game continues in this manner, rallying back and forth, until the ball touches the court within the boundaries or until an error is made. The most frequent errors that are made are either to fail to return the ball over the net within the allowed three touches, or to cause the ball to land outside the court. A ball is "in" if any part of it touches a sideline or end-line, and a strong spike may compress the ball enough when it lands that a ball which at first appears to be going out may actually be in. Players may travel well outside the court to play a ball that has gone over a sideline or end-line in the air.

Other common errors include a player touching the ball twice in succession, a player "catching" the ball, a player touching the net while attempting to play the ball, or a player penetrating under the net into the opponent's court. There are a large number of other errors specified in the rules, although most of them are infrequent occurrences. These errors include back-row or libero players spiking the ball or blocking (back-row players may spike the ball if they jump from behind the attack line), players not being in the correct position when the ball is served, attacking the serve in the front court and above the height of the net, using another player as a source of support to reach the ball, stepping over the back boundary line when serving, taking more than 8 seconds to serve,^[18] or playing the ball when it is above the opponent's court.

Scoring

Scorer's table just before a game

When the ball contacts the floor within the court boundaries or an error is made, the team that did not make the error is awarded a point, whether they served the ball or not. If the ball hits the line, the ball is counted as in. The team that won the point serves for the next point. If the team that won the point served in the previous point, the same

player serves again. If the team that won the point did not serve the previous point, the players of the serving team rotate their position on the court in a clockwise manner. The game continues, with the first team to score 25 points by a two-point margin is awarded the set. Matches are best-of-five sets and the fifth set, if necessary, is usually played to 15 points. (Scoring differs between leagues, tournaments, and levels; high schools sometimes play best-of-three to 25; in the [NCAA](#) matches are played best-of-five to 25 as of the [2008](#) season.)^[19] Before 1999, points could be scored only when a team had the serve (*side-out scoring*) and all sets went up to only 15 points. The FIVB changed the rules in 1999 (with the changes being compulsory in 2000) to use the current scoring system (formerly known as *rally point system*), primarily to make the length of the match more predictable and to make the game more spectator- and television-friendly. The final year of side-out scoring at the [NCAA Division I Women's Volleyball Championship](#) was [2000](#). Rally point scoring debuted in [2001](#) and games were played to 30 points through [2007](#). For the [2008](#) season, games were renamed "sets" and reduced to 25 points to win.

Libero

In 1998 the libero player was introduced internationally.^[20] The libero is a player specialized in defensive skills: the libero must wear a contrasting jersey color from his or her teammates and cannot block or attack the ball when it is entirely above net height. When the ball is not in play, the libero can replace any back-row player, without prior notice to the officials. This replacement does not count against the substitution limit each team is allowed per set, although the libero may be replaced only by the player whom he or she replaced.

The libero may function as a setter only under certain restrictions. If she/he makes an overhand set, she/he must be standing behind (and not stepping on) the 3-meter line; otherwise, the ball cannot be attacked above the net in front of the 3-meter line. An underhand pass is allowed from any part of the court.

The libero is, generally, the most skilled defensive player on the team. There is also a libero tracking sheet, where the referees or officiating team must keep track of whom the libero subs in and out for. There may only be one libero per set (game), although there may be a different libero in the beginning of any new set (game).

Furthermore, a libero is not allowed to serve, according to international rules, with the exception of the NCAA women's volleyball games, where a 2004 rule change allows the libero to serve, but only in a specific rotation. That is, the libero can only serve for one person, not for all of the people for whom she goes in. That rule change was also applied to high school and junior high play soon after.

Recent rule changes

Other rule changes enacted in 2000 include allowing serves in which the ball touches the net, as long as it goes over the net into the opponents' court. Also, the service area was expanded to allow players to serve from anywhere behind the end line but still within the theoretical extension of the sidelines. Other changes were made to lighten up calls on faults for carries and double-touches, such as allowing multiple contacts by a single player ("double-hits") on a team's first contact provided that they are a part of a single play on the ball.

In 2008, the NCAA changed the minimum number of points needed to win any of the first four sets from 30 to 25 for women's volleyball (men's volleyball remained at 30.) If a fifth (deciding) set is reached, the minimum required score remains at 15. In addition, the word "game" is now referred to as "set".^[19]

Changes in rules have been studied and announced by the [FIVB](#) in recent years, and they have released the updated rules in 2009.^[21]

Skills

Competitive teams master six basic skills: serve, pass, set, attack, block and dig. Each of these skills comprises a number of specific techniques that have been introduced over the years and are now considered standard practice in high-level volleyball.

Serve

Setting up for an overhand serve.

A player making a jump serve.

A player stands behind the inline and serves the ball, in an attempt to drive it into the opponent's court. The main objective is to make it land inside the court; it is also desirable to set the ball's direction, speed and

acceleration so that it becomes difficult for the receiver to handle it properly. A serve is called an "ace" when the ball lands directly onto the court or travels outside the court after being touched by an opponent.

In contemporary volleyball, many types of serves are employed:

- Underhand: a serve in which the player strikes the ball below the waist instead of tossing it up and striking it with an overhand throwing motion. Underhand serves are considered very easy to receive and are rarely employed in high-level competitions.
- Sky ball serve: a specific type of underhand serve occasionally used in [beach volleyball](#), where the ball is hit so high it comes down almost in a straight line. This serve was invented and employed almost exclusively by the Brazilian team in the early 1980s and is now considered outdated. In Brazil, this serve is called *Jornada nas Estrelas* ([Star Trek](#)).
- Topspin: an overhand serve where the player tosses the ball high and hits it with a wrist span, giving it topspin which causes it to drop faster than it would otherwise and helps maintain a straight flight path. Topspin serves are generally hit hard and aimed at a specific returner or part of the court. Standing topspin serves are rarely used above the high school level of play.
- Float: an overhand serve where the ball is hit with no spin so that its path becomes unpredictable, akin to a [knuckleball](#) in baseball.
- Jump serve: an overhand serve where the ball is first tossed high in the air, then the player makes a timed approach and jumps to make contact with the ball, hitting it with much pace and topspin. This is the most popular serve amongst college and professional teams.
- Jump float: an overhand serve where the ball is tossed high enough that the player may jump before hitting it similarly to a standing float serve. The ball is tossed lower than a topspin jump serve, but contact is still made while in the air. This serve is becoming more popular amongst college and professional players because it has a certain unpredictability in its flight pattern.

Pass

A player making a forearm pass or bump.

Also called reception, the pass is the attempt by a team to properly handle the opponent's serve, or any form of attack. Proper handling

includes not only preventing the ball from touching the court, but also making it reach the position where the setter is standing quickly and precisely.

The skill of passing involves fundamentally two specific techniques: underarm pass, or bump, where the ball touches the inside part of the joined forearms or platform, at waist line; and overhand pass, where it is handled with the fingertips, like a set, above the head. Either are acceptable in professional and beach volleyball, however there are much tighter regulations on the overhand pass in beach volleyball.

Set

Jump set

The set is usually the second contact that a team makes with the ball. The main goal of setting is to put the ball in the air in such a way that it can be driven by an attack into the opponent's court. The setter coordinates the offensive movements of a team, and is the player who ultimately decides which player will actually attack the ball.

As with passing, one may distinguish between an overhand and a bump set. Since the former allows for more control over the speed and direction of the ball, the bump is used only when the ball is so low it cannot be properly handled with fingertips, or in beach volleyball where rules regulating overhand setting are more stringent. In the case of a set, one also speaks of a front or back set, meaning whether the ball is passed in the direction the setter is facing or behind the setter. There is also a jump set that is used when the ball is too close to the net. In this case the setter usually jumps off his or her right foot straight up to avoid going into the net. The setter usually stands about $\frac{2}{3}$ of the way from the left to the right of the net and faces the left (the larger portion of net that he or she can see).

Sometimes a setter refrains from raising the ball for a teammate to perform an attack and tries to play it directly onto the opponent's court. This movement is called a "dump".^[22] This can only be performed when the setter is in the front row, otherwise it constitutes an illegal back court attack. The most common dumps are to 'throw' the ball behind the setter or in front of the setter to zones 2 and 4. More experienced setters toss the ball into the deep corners or spike the ball on the second hit.

As with a set or an overhand pass, the setter/passer must be careful to touch the ball with both hands at the same time. If one hand is noticeably late to touch the ball this could result in a less affective set, as well as the referee calling a 'double hit' and giving the point to the opposing team.

Attack

The attack, also known as the *spike*, is usually the third contact a team makes with the ball. The object of attacking is to handle the ball so that it lands on the opponent's court and cannot be defended. A player makes a series of steps (the "approach"), jumps, and swings at the ball. Ideally the contact with the ball is made at the apex of the hitter's jump. At the moment of contact, the hitter's arm is fully extended above his or her head and slightly forward, making the highest possible contact while maintaining the ability to deliver a powerful hit. The hitter uses arm swing, wrist snap, and a rapid forward contraction of the entire body to drive the ball. A 'bounce' is a slang term for a very hard/loud spike that follows an almost straight trajectory steeply downward into the opponent's court and bounces very high into the air. A "kill" is the slang term for an attack that is not returned by the other team thus resulting in a point.

Contemporary volleyball comprises a number of attacking techniques:

- Backcourt (or backrow)/pipe attack: an attack performed by a back row player. The player must jump from behind the 3-meter line before making contact with the ball, but may land in front of the 3-meter line.
- Line and Cross-court Shot: refers to whether the ball flies in a straight trajectory parallel to the side lines, or crosses through the court in an angle. A cross-court shot with a very pronounced angle, resulting in the ball landing near the 3-meter line, is called a cut shot.
- Dip/Dink/Tip/Cheat/Dump: the player does not try to make a hit, but touches the ball lightly, so that it lands on an area of the opponent's court that is not being covered by the defense.
- Tool/Wipe/Block-abuse: the player does not try to make a hard spike, but hits the ball so that it touches the opponent's block and then bounces off-court.
- Off-speed hit: the player does not hit the ball hard, reducing its speed and thus confusing the opponent's defense.

- Quick hit/"One": an attack (usually by the middle blocker) where the approach and jump begin before the setter contacts the ball. The set (called a "quick set") is placed only slightly above the net and the ball is struck by the hitter almost immediately after leaving the setter's hands. Quick attacks are often effective because they isolate the middle blocker to be the only blocker on the hit.
- Slide: a variation of the quick hit that uses a low back set. The middle hitter steps around the setter and hits from behind him or her.
- Double quick hit/"Stack"/"Tandem": a variation of quick hit where two hitters, one in front and one behind the setter or both in front of the setter, jump to perform a quick hit at the same time. It can be used to deceive opposite blockers and free a fourth hitter attacking from backcourt, maybe without block at all.

Block

3 players performing a block

Blocking refers to the actions taken by players standing at the net to stop or alter an opponent's attack.

A block that is aimed at completely stopping an attack, thus making the ball remain in the opponent's court, is called offensive. A well-executed offensive block is performed by jumping and reaching to penetrate with one's arms and hands over the net and into the opponent's area. It requires anticipating the direction the ball will go once the attack takes place. It may also require calculating the best foot work to executing the "perfect" block.

The jump should be timed so as to intercept the ball's trajectory prior to it crossing over the net. Palms are held deflected downward about 45–60 degrees toward the interior of the opponents court. A "roof" is a spectacular offensive block that redirects the power and speed of the attack straight down to the attacker's floor, as if the attacker hit the ball into the underside of a peaked house roof.

By contrast, it is called a defensive, or "soft" block if the goal is to control and deflect the hard-driven ball up so that it slows down and becomes more easy to be defended. A well-executed soft-block is performed by jumping and placing one's hands above the net with no penetration into

the opponent's court and with the palms up and fingers pointing backward.

Blocking is also classified according to the number of players involved. Thus, one may speak of single (or solo), double, or triple block.

Successful blocking does not always result in a "roof" and many times does not even touch the ball. While it's obvious that a block was a success when the attacker is roofed, a block that consistently forces the attacker away from his or her 'power' or preferred attack into a more easily controlled shot by the defense is also a highly successful block.

At the same time, the block position influences the positions where other defenders place themselves while opponent hitters are spiking.

Dig

Player going for a dig.

Digging is the ability to prevent the ball from touching one's court after a spike or attack, particularly a ball that is nearly touching the ground.

In many aspects, this skill is similar to passing, or bumping: overhand dig and bump are also used to distinguish between defensive actions taken with fingertips or with joined arms. It varies from passing however in that it is a much more reflex based skill, especially at the higher levels. It is especially important while digging for players to stay on their toes; several players choose to employ a split step to make sure they're ready to move in any direction.

Some specific techniques are more common in digging than in passing. A player may sometimes perform a "dive", i.e., throw his or her body in the air with a forward movement in an attempt to save the ball, and land on his or her chest. When the player also slides his or her hand under a ball that is almost touching the court, this is called a "pancake". The pancake is frequently used in indoor volleyball, but rarely if ever in beach volleyball because the uneven and yielding nature of the sand court limits the chances that the ball will make a good, clean contact with the hand. When used correctly, it is one of the more spectacular defensive volleyball plays.

Sometimes a player may also be forced to drop his or her body quickly to the floor to save the ball. In this situation, the player makes use of a specific rolling technique to minimize the chances of injuries.