

**Volleyball** is a [team sport](https://en.wikipedia.org/wiki/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]](https://en.wikipedia.org/wiki/Volleyball#cite_note-1) It has been a part of the official program of the [Summer Olympic Games](https://en.wikipedia.org/wiki/Summer_Olympic_Games) since [Tokyo 1964](https://en.wikipedia.org/wiki/1964_Summer_Olympics). [Beach volleyball](https://en.wikipedia.org/wiki/Beach_volleyball) was introduced to the programme at the [Atlanta 1996](https://en.wikipedia.org/wiki/1996_Summer_Olympics). The adapted version of volleyball at the [Summer Paralympic Games](https://en.wikipedia.org/wiki/Summer_Paralympic_Games) is [sitting volleyball](https://en.wikipedia.org/wiki/Sitting_volleyball).

The [complete set of rules](https://en.wikipedia.org/wiki/Volleyball_rules) is extensive,[[2]](https://en.wikipedia.org/wiki/Volleyball#cite_note-LatestRules-2) but play essentially 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.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) The receiving team must not let the ball be grounded within their court. The team may touch the ball up to three times to return the ball to the other side of the court, but individual players may not touch the ball twice consecutively.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) Typically, the first two touches are used to set up for an attack. An attack is an attempt to direct the ball back over the net in such a way that the team receiving the ball is unable to pass the ball and continue the rally, thus, losing the point. 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 or under the net when a front row player is trying to keep the ball in play.

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](https://en.wikipedia.org/wiki/Volleyball#Skills) have evolved in volleyball, including *spiking* and *blocking* (because these plays are made above the top of the net, the [vertical jump](https://en.wikipedia.org/wiki/Vertical_jump) is an athletic skill emphasized in the sport) as well as *passing*, *setting*, and specialized player positions and offensive and defensive structures.[[4]](https://en.wikipedia.org/wiki/Volleyball#cite_note-4)

* [1History](https://en.wikipedia.org/wiki/Volleyball#History)
  + [1.1Origins](https://en.wikipedia.org/wiki/Volleyball#Origins)
  + [1.2Refinements and later developments](https://en.wikipedia.org/wiki/Volleyball#Refinements_and_later_developments)
  + [1.3Volleyball in the Olympics](https://en.wikipedia.org/wiki/Volleyball#Volleyball_in_the_Olympics)
* [2Rules of the game](https://en.wikipedia.org/wiki/Volleyball#Rules_of_the_game)
  + [2.1The court dimensions](https://en.wikipedia.org/wiki/Volleyball#The_court_dimensions)
  + [2.2The ball](https://en.wikipedia.org/wiki/Volleyball#The_ball)
  + [2.3Gameplay](https://en.wikipedia.org/wiki/Volleyball#Gameplay)
  + [2.4Scoring](https://en.wikipedia.org/wiki/Volleyball#Scoring)
  + [2.5Libero](https://en.wikipedia.org/wiki/Volleyball#Libero)
  + [2.6Recent rule changes](https://en.wikipedia.org/wiki/Volleyball#Recent_rule_changes)
* [3Skills](https://en.wikipedia.org/wiki/Volleyball#Skills)
  + [3.1Serve](https://en.wikipedia.org/wiki/Volleyball#Serve)
  + [3.2Pass](https://en.wikipedia.org/wiki/Volleyball#Pass)
  + [3.3Set](https://en.wikipedia.org/wiki/Volleyball#Set)
  + [3.4Attack](https://en.wikipedia.org/wiki/Volleyball#Attack)
  + [3.5Block](https://en.wikipedia.org/wiki/Volleyball#Block)
  + [3.6Dig](https://en.wikipedia.org/wiki/Volleyball#Dig)
* [4Team play](https://en.wikipedia.org/wiki/Volleyball#Team_play)
* [5Strategy](https://en.wikipedia.org/wiki/Volleyball#Strategy)
  + [5.1Player specialization](https://en.wikipedia.org/wiki/Volleyball#Player_specialization)
  + [5.2Formations](https://en.wikipedia.org/wiki/Volleyball#Formations)
    - [5.2.14–2](https://en.wikipedia.org/wiki/Volleyball#4%E2%80%932)
    - [5.2.26–2](https://en.wikipedia.org/wiki/Volleyball#6%E2%80%932)
    - [5.2.35–1](https://en.wikipedia.org/wiki/Volleyball#5%E2%80%931)
* [6Controversies](https://en.wikipedia.org/wiki/Volleyball#Controversies)

History

**Origins**

[](https://en.wikipedia.org/wiki/File:William_G._Morgan.jpg)

[William G. Morgan](https://en.wikipedia.org/wiki/William_G._Morgan), c. 1915

In December 1895,[[5]](https://en.wikipedia.org/wiki/Volleyball#cite_note-5) in [Holyoke, Massachusetts](https://en.wikipedia.org/wiki/Holyoke,_Massachusetts) (United States), [William G. Morgan](https://en.wikipedia.org/wiki/William_G._Morgan), a [YMCA](https://en.wikipedia.org/wiki/YMCA) physical education director, created a new game called *Mintonette*, a name derived from the game of [badminton](https://en.wikipedia.org/wiki/Badminton),[[6]](https://en.wikipedia.org/wiki/Volleyball#cite_note-6) as a pastime to be played (preferably) indoors and by any number of players. The game took some of its characteristics from other sports such as baseball, [tennis](https://en.wikipedia.org/wiki/Tennis) and [handball](https://en.wikipedia.org/wiki/Team_handball).[[7]](https://en.wikipedia.org/wiki/Volleyball#cite_note-7) Another indoor sport, [basketball](https://en.wikipedia.org/wiki/Basketball), was catching on in the area, having been invented just ten miles (sixteen kilometres) away in the city of [Springfield, Massachusetts](https://en.wikipedia.org/wiki/Springfield,_Massachusetts), only four years before. Mintonette was designed to be an indoor sport, less rough than basketball, for older members of the YMCA, while still requiring a bit of athletic effort.

The first rules, written down by William G. Morgan, called for a net 6 ft 6 in (1.98 m) high, a 25 ft × 50 ft (7.6 m × 15.2 m) court, and any number of players. A match was composed of nine innings with three serves for each team in each inning, and no limit to the number of ball contacts for each team before sending the ball to the opponents' court. In case of a serving error, a second try was allowed. Hitting the ball into the net was considered a foul (with loss of the point or a side-out)—except in the case of the first-try serve.

After an observer, Alfred Halstead, noticed the volleying nature of the game at its first exhibition match in 1896, played at the International YMCA Training School (now called [Springfield College](https://en.wikipedia.org/wiki/Springfield_College)), the game quickly became known as *volleyball* (it was originally spelled as two words: "*volley ball*"). Volleyball rules were slightly modified by the International YMCA Training School and the game spread around the country to various YMCAs.[[8]](https://en.wikipedia.org/wiki/Volleyball#cite_note-FIVB_Volleyball_History-8)[[9]](https://en.wikipedia.org/wiki/Volleyball#cite_note-ncva-9)

In the early 1900s [Spalding](https://en.wikipedia.org/wiki/Spalding_(company)), through its publishing company American Sports Publishing Company, produced books with complete instruction and rules for the sport.[[10]](https://en.wikipedia.org/wiki/Volleyball#cite_note-10)

**Refinements and later developments**

[](https://en.wikipedia.org/wiki/File:Mazanar_volleyball_00166u.jpg)

Japanese American women playing volleyball, [Manzanar](https://en.wikipedia.org/wiki/Manzanar) internment camp, California, c. 1943

The first official ball used in volleyball is disputed; some sources say Spalding created the first official ball in 1896, while others claim it was created in 1900.[[11]](https://en.wikipedia.org/wiki/Volleyball#cite_note-Timeline1-11)[[12]](https://en.wikipedia.org/wiki/Volleyball#cite_note-SportsKnowHow-12)[[13]](https://en.wikipedia.org/wiki/Volleyball#cite_note-13) The rules evolved over time: in 1916, in the Philippines, the skill and power of the set and spike had been introduced, and four years later a "three hits" rule and a rule against hitting from the back row were established. In 1917, the game was changed from requiring 21 points to win to a smaller 15 points to win. In 1919, about 16,000 volleyballs were distributed by the [American Expeditionary Forces](https://en.wikipedia.org/wiki/American_Expeditionary_Force) to their troops and [allies](https://en.wikipedia.org/wiki/Allies_of_World_War_I), which sparked the growth of volleyball in new countries.[[11]](https://en.wikipedia.org/wiki/Volleyball#cite_note-Timeline1-11)

The first country outside the United States to adopt volleyball was Canada in 1900.[[11]](https://en.wikipedia.org/wiki/Volleyball#cite_note-Timeline1-11) An international federation, the [Fédération Internationale de Volleyball](https://en.wikipedia.org/wiki/F%C3%A9d%C3%A9ration_Internationale_de_Volleyball) (FIVB), was founded in 1947, and the first World Championships were held in 1949 for men and 1952 for women.[[14]](https://en.wikipedia.org/wiki/Volleyball#cite_note-FIVB_History-14) The sport is now popular in [Brazil](https://en.wikipedia.org/wiki/Brazil), in Europe (where especially Italy, the [Netherlands](https://en.wikipedia.org/wiki/Netherlands), and countries from [Eastern Europe](https://en.wikipedia.org/wiki/Eastern_Europe) have been major forces since the late 1980s), in Russia, and in other countries including China and the rest of Asia, as well as in the United States.[[8]](https://en.wikipedia.org/wiki/Volleyball#cite_note-FIVB_Volleyball_History-8)[[9]](https://en.wikipedia.org/wiki/Volleyball#cite_note-ncva-9)[[14]](https://en.wikipedia.org/wiki/Volleyball#cite_note-FIVB_History-14)

[](https://en.wikipedia.org/wiki/File:Nudist-naturist_volleyball.jpg)

A [nudist/naturist](https://en.wikipedia.org/wiki/Naturism) volleyball game at the Sunny Trails Club during the 1958 Canadian Sunbathing Association (CSA) convention in British Columbia, Canada

[Beach volleyball](https://en.wikipedia.org/wiki/Beach_volleyball), a variation of the game played on sand and with only two players per team, became a FIVB-endorsed variation in 1987 and was added to the Olympic program at the [1996 Summer Olympics](https://en.wikipedia.org/wiki/1996_Summer_Olympics).[[11]](https://en.wikipedia.org/wiki/Volleyball#cite_note-Timeline1-11)[[14]](https://en.wikipedia.org/wiki/Volleyball#cite_note-FIVB_History-14) Volleyball is also a sport at the [Paralympics](https://en.wikipedia.org/wiki/Paralympics) managed by the [World Organization Volleyball for Disabled](https://en.wikipedia.org/wiki/World_Organization_Volleyball_for_Disabled).

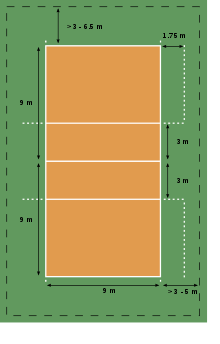
[Nudists](https://en.wikipedia.org/wiki/Naturism) were early adopters of the game with regular organized play in clubs as early as the late 1920s.[[15]](https://en.wikipedia.org/wiki/Volleyball#cite_note-15)[[16]](https://en.wikipedia.org/wiki/Volleyball#cite_note-16) By the 1960s, a volleyball court had become standard in almost all [nudist/naturist](https://en.wikipedia.org/wiki/Naturism) clubs.[[17]](https://en.wikipedia.org/wiki/Volleyball#cite_note-17)

**Volleyball in the Olympics**

*Main article:*[*Volleyball at the Summer Olympics*](https://en.wikipedia.org/wiki/Volleyball_at_the_Summer_Olympics)

Volleyball has been part of the [Summer Olympics](https://en.wikipedia.org/wiki/Summer_Olympics) program for both men and women consistently since [1964](https://en.wikipedia.org/wiki/1964_Summer_Olympics).

Rules of the game

[](https://en.wikipedia.org/wiki/File:VolleyballCourt.svg)

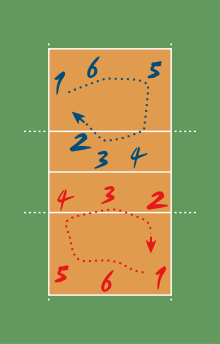
Volleyball court

**The court dimensions**

A volleyball court is 9 m × 18 m (29.5 ft × 59.1 ft), divided into equal square halves by a net with a width of one meter (39.4 in).[[18]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:0-18) The top of the net is 2.43 m (7 ft 11+11⁄16 in) above the center of the court for men's competition, and 2.24 m (7 ft 4+3⁄16 in) for women's competition, varied for veterans and junior competitions.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3)

The minimum height clearance for indoor volleyball courts is 7 m (23.0 ft), although a clearance of 8 m (26.2 ft) is recommended.[[18]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:0-18)

A line 3 m (9.8 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).[[18]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:0-18) 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:

[](https://en.wikipedia.org/wiki/File:VolleyballRotation.svg)

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".[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) Each player rotates only one time after the team gains possession of the service; the next time each player rotates will be after the other team wins possession of the ball and loses the point.[[18]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:0-18)

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.[[19]](https://en.wikipedia.org/wiki/Volleyball#cite_note-19) 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 antennae (or their theoretical extensions to the ceiling) without contacting them.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3)

**The ball**

*Main article:*[*Volleyball (ball)*](https://en.wikipedia.org/wiki/Volleyball_(ball))

[FIVB](https://en.wikipedia.org/wiki/FIVB) regulations state that the ball must be spherical, made of leather or synthetic leather, have a circumference of 65–67 cm (26–26 in), a weight of 260–280 g (9.2–9.9 oz) and an interior air pressure of 0.30–0.325 kg/cm2 (4.26 to 4.61 psi)(294.3 to 318.82 mbar or hPa).[[20]](https://en.wikipedia.org/wiki/Volleyball#cite_note-20) Other governing bodies have similar regulations.

**Gameplay**

[](https://en.wikipedia.org/wiki/File:Volleyball_pano_IMG_0658.JPG)

White is on the attack while red attempts to block.

Each team consists of six players.[[18]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:0-18) To get play started, a team is chosen to serve by [coin toss](https://en.wikipedia.org/wiki/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*).[[18]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:0-18) 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.[[18]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:0-18) 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.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) The team with possession of the ball that is trying to attack the ball as described is said to be on *offence*.

The team on *defence* 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.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) 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 offence.

[](https://en.wikipedia.org/wiki/File:Monks_play_volleyball_in_Sikkim_India.jpg)

[Buddhist](https://en.wikipedia.org/wiki/Buddhist) monks play volleyball in the [Himalayan](https://en.wikipedia.org/wiki/Himalaya) state of [Sikkim](https://en.wikipedia.org/wiki/Sikkim), India.

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.[[18]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:0-18) 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.[[18]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:0-18) A ball is "in" if any part of it touches the inside of a team's court or 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 frontcourt 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,[[21]](https://en.wikipedia.org/wiki/Volleyball#cite_note-21) or playing the ball when it is above the opponent's court.

**Scoring**

[](https://en.wikipedia.org/wiki/File:Mesa_de_anotadores_de_voleibol.jpg)

Scorer's table just before a game

A point is scored when the ball contacts the floor within the court boundaries or when an error is made: when the ball strikes one team's side of the court, the other team gains a point; and when an error is made, the team that did not make the error is awarded a point, in either case paying no regard to whether they served the ball or not. If any part of the ball hits the line, the ball is counted as in the court. 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 team acquiring the serve 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 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](https://en.wikipedia.org/wiki/National_Collegiate_Athletic_Association) matches are played best-of-five to 25 as of the [2008](https://en.wikipedia.org/wiki/2008_NCAA_Division_I_Women%27s_Volleyball_Tournament) season.)[[22]](https://en.wikipedia.org/wiki/Volleyball#cite_note-ncaa.org-22)

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](https://en.wikipedia.org/wiki/NCAA_Division_I_Women%27s_Volleyball_Championship) was [2000](https://en.wikipedia.org/wiki/2000_NCAA_Division_I_Women%27s_Volleyball_Tournament). Rally point scoring debuted in [2001](https://en.wikipedia.org/wiki/2001_NCAA_Division_I_Women%27s_Volleyball_Tournament),[[23]](https://en.wikipedia.org/wiki/Volleyball#cite_note-vsunewrl-23) and games were played to 30 points through [2007](https://en.wikipedia.org/wiki/2007_NCAA_Division_I_Women%27s_Volleyball_Tournament). For the [2008](https://en.wikipedia.org/wiki/2008_NCAA_Division_I_Women%27s_Volleyball_Tournament) season, games were renamed "sets" and reduced to 25 points to win. Most high schools in the U.S. changed to rally scoring in 2003,[[24]](https://en.wikipedia.org/wiki/Volleyball#cite_note-rlchevwr-24)[[25]](https://en.wikipedia.org/wiki/Volleyball#cite_note-atmes-25)[[26]](https://en.wikipedia.org/wiki/Volleyball#cite_note-ronrsha-26) and several states implemented it the previous year on an experimental basis.[[27]](https://en.wikipedia.org/wiki/Volleyball#cite_note-wndofch-27)

**Libero**

The libero player was introduced internationally in 1998,[[28]](https://en.wikipedia.org/wiki/Volleyball#cite_note-28) and made its debut for NCAA competition in 2002.[[29]](https://en.wikipedia.org/wiki/Volleyball#cite_note-vlotmnewlk-29) The libero is a player specialized in defensive skills: the libero must wear a contrasting jersey color from their 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. Most U.S. high schools added the libero position from 2003 to 2005.[[25]](https://en.wikipedia.org/wiki/Volleyball#cite_note-atmes-25)[[30]](https://en.wikipedia.org/wiki/Volleyball#cite_note-tnknsas-30)

The modern-day libero often takes on the role of a second setter. When the setter digs the ball, the libero is typically responsible for the second ball and sets to the front row attacker. The libero may function as a setter only under certain restrictions. To make an overhand set, the libero 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. Under FIVB (Federation Internationale de Volleyball) rules, two liberos are designated at the beginning of the play, only one of whom can be on the court at any time.

Furthermore, a libero is not allowed to serve, according to international rules. NCAA rules for both men and women differ on this point; 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 he or 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 for another three years, switching to 25 in 2011). 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".[[22]](https://en.wikipedia.org/wiki/Volleyball#cite_note-ncaa.org-22)

The *Official Volleyball Rules* are prepared and updated every few years by the FIVB's Rules of the Game and Refereeing Commission.[[31]](https://en.wikipedia.org/wiki/Volleyball#cite_note-31) The latest edition is usually available on the FIVB's website.[[2]](https://en.wikipedia.org/wiki/Volleyball#cite_note-LatestRules-2)

Skills

Competitive teams master six basic skills: serve, pass, set, attack, block and dig.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) 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**

[](https://en.wikipedia.org/wiki/File:Volleyball_Sprungaufschlag.jpg)

A player making a jump serve

3D animation floating 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.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) 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; when the only player on the server's team to touch the ball is the server.

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.[[32]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:4-32)
* Sky ball serve: a specific type of underhand serve occasionally used in [beach volleyball](https://en.wikipedia.org/wiki/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. During the [2016 Olympic Games in Rio de Janeiro](https://en.wikipedia.org/wiki/2016_Summer_Olympics), however, the sky ball serve was extensively played by Italian [beach volleyball](https://en.wikipedia.org/wiki/Beach_volleyball) player [Adrian Carambula](https://en.wikipedia.org/wiki/Adrian_Carambula). In Brazil, this serve is called *Jornada nas Estrelas* ([*Star Trek*](https://en.wikipedia.org/wiki/Star_Trek)).[[33]](https://en.wikipedia.org/wiki/Volleyball#cite_note-33)
* Topspin: an overhand serve where the player tosses the ball high and hits it with a wrist snap, 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.[[32]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:4-32)
* [Float](https://en.wikipedia.org/wiki/Volleyball_float_serve): an overhand serve where the ball is hit with no spin so that its path becomes unpredictable, akin to a [knuckleball](https://en.wikipedia.org/wiki/Knuckleball) in baseball.[[32]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:4-32)
* 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 among college and professional teams.[[32]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:4-32)
* 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 among college and professional players because it has a certain unpredictability in its flight pattern.[[32]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:4-32)

**Pass**

[](https://en.wikipedia.org/wiki/File:Volleyball_reception.jpg)

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.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3)

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 waistline; and overhand pass, where it is handled with the fingertips, like a set, above the head.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) Either are acceptable in professional and [beach volleyball](https://en.wikipedia.org/wiki/Beach_volleyball); however, there are much tighter regulations on the overhand pass in beach volleyball. When a player passes a ball to their setter, it's ideal that the ball does not have a lot of spin to make it easier for the setter.

**Set**

[](https://en.wikipedia.org/wiki/File:Jump_Set.jpg)

Jump set

The set is usually the second contact that a team makes with the ball.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) 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.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) 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 their right foot straight up to avoid going into the net. The setter usually stands about ⅔ 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".[[34]](https://en.wikipedia.org/wiki/Volleyball#cite_note-34) 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.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) If one hand is noticeably late to touch the ball this could result in a less effective set, as well as the referee calling a 'double hit' and giving the point to the opposing team.

**Attack**

*See also:*[*Volleyball offensive systems*](https://en.wikipedia.org/wiki/Volleyball_offensive_systems)

[](https://en.wikipedia.org/wiki/File:Bilateral_Espa%C3%B1a-Portugal_de_voleibol_-_02.jpg)

A [Spanish player](https://en.wikipedia.org/wiki/Spain_men%27s_national_volleyball_team), #18 in red outfit, about to spike towards the [Portuguese](https://en.wikipedia.org/wiki/Portugal_men%27s_national_volleyball_team) field, whose players try to block the way

The attack, also known as the *spike*, is usually the third contact a team makes with the ball.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) The object of attacking is to handle the ball so that it lands on the opponent's court and cannot be defended.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) 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 their 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.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) 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:[[35]](https://en.wikipedia.org/wiki/Volleyball#cite_note-35)

* Backcourt (or back row): 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. A Pipe Attack is when the center player in the back row attacks the ball.
* Line and Cross-court Shot: refers to whether the ball flies in a straight trajectory parallel to the sidelines, 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 defence.
* 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 defence.
* 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 backset. 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 back-court, maybe without block at all.

**Block**

[](https://en.wikipedia.org/wiki/File:Triple_block_(Serbia_vs_China,_Grand_Prix_2017).jpg)

Three players performing a block (a.k.a. triple block)

Blocking refers to the actions taken by players standing at the net to stop or alter an opponent's attack.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3)

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.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) It requires anticipating the direction the ball will go once the attack takes place.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) It may also require calculating the best footwork to executing the "perfect" block.

The jump should be timed so as to intercept the ball's trajectory prior to it crossing over the plane of the net. Palms are held deflected downward roughly 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 easier to defend. 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 backwards.

Blocking is also classified according to the number of players involved. Thus, one may speak of single (or solo), double, or triple block.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3)

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

[](https://en.wikipedia.org/wiki/File:Volleyball_dig.jpg)

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.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) 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.[[3]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:1-3) It varies from passing however in that is it 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 their body in the air with a forward movement in an attempt to save the ball, and land on their chest. When the player also slides their 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 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 their 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.

Team play

[](https://en.wikipedia.org/wiki/File:U.S._Womens_Volleyball_team_CISM_2007.jpg)

[U.S. women's team](https://en.wikipedia.org/wiki/United_States_women%27s_national_volleyball_team) doing team planning

Volleyball is essentially a game of transition from one of the above skills to the next, with choreographed team movement between plays on the ball. These team movements are determined by the teams chosen serve receive system, offensive system, coverage system, and defensive system.

The serve-receive system is the formation used by the receiving team to attempt to pass the ball to the designated setter. Systems can consist of 5 receivers, 4 receivers, 3 receivers, and in some cases 2 receivers. The most popular formation at higher levels is a 3 receiver formation consisting of two left sides and a libero receiving every rotation. This allows middles and right sides to become more specialized at hitting and blocking.

Offensive systems are the formations used by the offence to attempt to ground the ball into the opposing court (or otherwise score points). Formations often include designated player positions with skill specialization (see [*Player specialization*](https://en.wikipedia.org/wiki/Volleyball#Player_specialization), below). Popular formations include the 4–2, 6–2, and 5-1 systems (see [*Formations*](https://en.wikipedia.org/wiki/Volleyball#Formations), below). There are also several different attacking schemes teams can use to keep the opposing defence off balance.

Coverage systems are the formations used by the offence to protect their court in the case of a blocked attack. Executed by the 5 offensive players not directly attacking the ball, players move to assigned positions around the attacker to dig up any ball that deflects off the block back into their own court. Popular formations include the 2-3 system and the 1-2-2 system. In lieu of a system, some teams just use a random coverage with the players nearest the hitter.

Defensive systems are the formations used by the defence to protect against the ball being grounded into their court by the opposing team. The system will outline which players are responsible for which areas of the court depending on where the opposing team is attacking from. Popular systems include the 6-Up, 6-Back-Deep, and 6-Back-Slide defence. There are also several different blocking schemes teams can employ to disrupt the opposing teams' offence.

When one player is ready to serve, some teams will line up their other five players in a screen to obscure the view of the receiving team. This action is only illegal if the server makes use of the screen, so the call is made at the referee's discretion as to the impact the screen made on the receiving team's ability to pass the ball. The most common style of screening involves a W formation designed to take up as much horizontal space as possible.

Strategy

[](https://en.wikipedia.org/wiki/File:Europei_di_pallavolo_2005_-_Italia-Russia.jpg)

An image from an international match between Italy and Russia in 2005. A Russian player on the left has just served, with three men of his team next to the net moving to their assigned block positions from the starting ones. Two others, in the back-row positions, are preparing for defense. Italy, on the right, has three men in a line, each preparing to pass if the ball reaches him. The setter is waiting for their pass while the middle hitter with no. 10 will jump for a quick hit if the pass is good enough. [Alessandro Fei](https://en.wikipedia.org/wiki/Alessandro_Fei_(volleyball)) (no. 14) has no passing duties and is preparing for a back-row hit on the right side of the field. Note the two liberos with a different colour dress. Middle hitters/blockers are commonly substituted by liberos in their back-row positions.

**Player specialization**

There are five positions filled on every volleyball team at the elite level. Setter, Outside Hitter/Left Side Hitter, Middle Hitter, Opposite Hitter/Right Side Hitter and Libero/Defensive Specialist. Each of these positions plays a specific, key role in winning a volleyball match.

* **Setters** have the task for orchestrating the offence of the team. They aim for the second touch and their main responsibility is to place the ball in the air where the attackers can place the ball into the opponents' court for a point. They have to be able to operate with the hitters, manage the tempo of their side of the court and choose the right attackers to set. Setters need to have a swift and skilful appraisal and tactical accuracy and must be quick at moving around the court. At elite level, setters used to usually be the shortest players of a team (before liberos were introduced), not being typically required to perform jump hits, but that would imply need for short-term replacemente by taller bench players when critical points required more effective blocks; in the 1990s taller setters (e.g. [Fabio Vullo](https://en.wikipedia.org/wiki/Fabio_Vullo), [Peter Blangé](https://en.wikipedia.org/wiki/Peter_Blang%C3%A9)) became being deployed, in order to improve blocks.
* **Liberos** are defensive players who are responsible for receiving the attack or serve. They are usually the players on the court with the quickest reaction time and best passing skills. *Libero* means 'free' in [Italian](https://en.wikipedia.org/wiki/Italian_language)—they receive this name as they have the ability to substitute for any other player on the court during each play. They do not necessarily need to be tall, as they never play at the net, which allows shorter players with strong passing and defensive skills to excel in the position and play an important role in the team's success. A player designated as a libero for a match may not play other roles during that match. Liberos wear a different colour jersey than their teammates.
* **Middle blockers** or **Middle hitters** are players that can perform very fast attacks that usually take place near the setter. They are specialized in blocking since they must attempt to stop equally fast plays from their opponents and then quickly set up a double block at the sides of the court. In non-beginners play, every team will have two middle hitters. At elite levels, middle hitters are usually the tallest players, whose limited agility is countered by their height enabling more effective blocks.
* **Outside hitters** or **Left side hitters** attack from near the left antenna. The outside hitter is usually the most consistent hitter on the team and gets the most sets. Inaccurate first passes usually result in a set to the outside hitter rather than middle or opposite. Since most sets to the outside are high, the outside hitter may take a longer approach, always starting from outside the court sideline. In non-beginners play, there are again two outside hitters on every team in every match. At elite level, outside hitters are slightly shorter than middle hitters and outside hitters, but have the best defensive skills, therefore always re-placing to the middle while in the back row.
* **Opposite hitters** or **Right-side hitters** carry the defensive workload for a volleyball team in the front row. Their primary responsibilities are to put up a well-formed block against the opponents' *Outside Hitters* and serve as a backup setter. Sets to the opposite usually go to the right side of the antennae. Therefore, they are usually the most technical hitters since balls lifted to the right side are quicker and more difficult to handle (the setters having to place the ball while slightly off-set to the right, and with their back to the attacker), and also having to jump from the back row when the setter is on the front row. At elite level, until the 1990s several opposite hitters used to be able to also play as middle hitters (e.g. [Andrea Zorzi](https://en.wikipedia.org/wiki/Andrea_Zorzi), [Andrea Giani](https://en.wikipedia.org/wiki/Andrea_Giani)), before high specialization curtained this flexibility in the role.

At some levels where substitutions are unlimited, teams will make use of a **Defensive Specialist** in place of or in addition to a Libero. This position does not have unique rules like the libero position, instead, these players are used to substitute out a poor back row defender using regular substitution rules. A defensive specialist is often used if you have a particularly poor back court defender in right side or left side, but your team is already using a libero to take out your middles. Most often, the situation involves a team using a right side player with a big block who must be subbed out in the back row because they aren't able to effectively play backcourt defence. Similarly, teams might use a Serving Specialist to sub out a poor server.

**Formations**

The three standard volleyball formations are known as "4–2", "6–2" and "5–1", which refers to the number of hitters and setters respectively. 4–2 is a basic formation used only in beginners' play, while 5–1 is by far the most common formation in high-level play.

**4–2**

The 4–2 formation has four hitters and two setters. The setters usually set from the middle front or right front position. The team will, therefore, have two front-row attackers at all times. In the international 4–2, the setters set from the right front position. The international 4–2 translates more easily into other forms of offence.

The setters line up opposite each other in the rotation. The typical lineup has two outside hitters. By aligning like positions opposite themselves in the rotation, there will always be one of each position in the front and back rows. After service, the players in the front row move into their assigned positions, so that the setter is always in the middle front. Alternatively, the setter moves into the right front and has both a middle and an outside attacker; the disadvantage here lies in the lack of an offside hitter, allowing one of the other team's blockers to "cheat in" on a middle block.

The clear disadvantage to this offensive formation is that there are only two attackers, leaving a team with fewer offensive weapons.

Another aspect is to see the setter as an attacking force, albeit a weakened force, because when the setter is in the frontcourt they are able to 'tip' or 'dump', so when the ball is close to the net on the second touch, the setter may opt to hit the ball over with one hand. This means that the blocker who would otherwise not have to block the setter is engaged and may allow one of the hitters to have an easier attack.

**6–2**

In the 6–2 formation, a player always comes forward from the back row to set. The three front row players are all in attacking positions. Thus, all six players act as hitters at one time or another, while two can act as setters. So the 6–2 formation is actually a 4–2 system, but the back-row setter penetrates to set.

The 6–2 lineup thus requires two setters, who line up opposite to each other in the rotation. In addition to the setters, a typical lineup will have two middle hitters and two outside hitters. By aligning like positions opposite themselves in the rotation, there will always be one of each position in the front and back rows. After service, the players in the front row move into their assigned positions.

The advantage of the 6–2 is that there are always three front-row hitters available, maximizing the offensive possibilities. However, not only does the 6–2 require a team to possess two people capable of performing the highly specialized role of setter, it also requires both of those players to be effective offensive hitters when not in the setter position. At the international level, only the Cuban National Women's Team employs this kind of formation. It is also used by [NCAA](https://en.wikipedia.org/wiki/National_Collegiate_Athletic_Association) teams in [Division III](https://en.wikipedia.org/wiki/NCAA_Division_III) men's play and women's play in all divisions, partially due to the variant rules used which allow more substitutions per set than the 6 allowed in the standard rules—12 in matches involving two Division III men's teams[[36]](https://en.wikipedia.org/wiki/Volleyball#cite_note-36) and 15 for all women's play.[[37]](https://en.wikipedia.org/wiki/Volleyball#cite_note-37)

**5–1**

The 5–1 formation has only one player who assumes setting responsibilities regardless of their position in the rotation. The team will, therefore, have three front-row attackers when the setter is in the back row and only two when the setter is in the front row, for a total of five possible attackers.

The player opposite the setter in a 5–1 rotation is called the *opposite hitter*. In general, opposite hitters do not pass; they stand behind their teammates when the opponent is serving. The opposite hitter may be used as a third attack option (back-row attack) when the setter is in the front row: this is the normal option used to increase the attack capabilities of modern volleyball teams. Normally the opposite hitter is the most technically skilled hitter of the team. Back-row attacks generally come from the back-right position, known as zone 1, but are increasingly performed from back-centre in high-level play.

The big advantage of this system is that the setter always has 3 hitters to vary sets with. If the setter does this well, the opponent's middle blocker may not have enough time to block with the outside blocker, increasing the chance for the attacking team to make a point.

There is another advantage, the same as that of a 4–2 formation: when the setter is a front-row player, he or she is allowed to jump and "dump" the ball onto the opponent's side. This too can confuse the opponent's blocking players: the setter can jump and dump or can set to one of the hitters. A good setter knows this and thus won't only jump to dump or to set for a quick hit, but when setting outside as well to confuse the opponent.

The 5–1 offence is actually a mix of 6–2 and 4–2: when the setter is in the front row, the offense looks like a 4–2; when the setter is in the back row, the offense looks like a 6–2.

Controversies

In 2017, a new volleyball players' union was formed in response to dissatisfaction with the organization and structure of professional beach volleyball tournaments.[[38]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:2-38) The union is named the International Beach Volleyball Players Association, and it consists of almost 100 professional players.[[38]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:2-38) The IBVPA claims its goal is to help athletes and provide them with the means to enjoy playing volleyball by improving the way the sport is run.[[38]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:2-38)

Another controversy within the sport is the issue of the inclusion of [transgender](https://en.wikipedia.org/wiki/Transgender) players.[[39]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:3-39) With transgender athletes such as [Tiffany Abreu](https://en.wikipedia.org/wiki/Tifanny_Abreu) joining professional volleyball teams alongside other non-transgender teammates, many professionals, sports analysts, and fans of volleyball are either expressing concerns about the legitimacy and fairness of having transgender players on a team or expressing support for the transgender people's efforts.[[39]](https://en.wikipedia.org/wiki/Volleyball#cite_note-:3-39)

A **volleyball** is a [ball](https://en.wikipedia.org/wiki/Ball) used to play [indoor volleyball](https://en.wikipedia.org/wiki/Indoor_volleyball), [beach volleyball](https://en.wikipedia.org/wiki/Beach_volleyball), or other less common [variations of the sport](https://en.wikipedia.org/wiki/Volleyball_variations). Volleyballs are round and traditionally consist of eighteen nearly rectangular panels of synthetic or genuine leather, arranged in six identical sections of three panels each, wrapped around a bladder. A [valve](https://en.wikipedia.org/wiki/Valve) permits the internal air [pressure](https://en.wikipedia.org/wiki/Pressure) to be adjusted. In a break from the traditional construction, in 2008, the [FIVB](https://en.wikipedia.org/wiki/FIVB) adopted as its official indoor ball a new [Mikasa](https://en.wikipedia.org/wiki/Mikasa_Sports) with dimples and only eight panels for a softer touch and truer flight.[[1]](https://en.wikipedia.org/wiki/Volleyball_(ball)#cite_note-1)

[](https://en.wikipedia.org/wiki/File:Volleyball.jpg)

A [Molten](https://en.wikipedia.org/wiki/Molten_Corporation) indoor volleyball

[](https://en.wikipedia.org/wiki/File:Mikasa_VLS300_official_beach_volleyball.jpg)

Mikasa VLS300 official beach volleyball FIVB beach events (2017)

* [1Volleyball characteristics](https://en.wikipedia.org/wiki/Volleyball_(ball)#Volleyball_characteristics)
  + [1.1Major brands](https://en.wikipedia.org/wiki/Volleyball_(ball)#Major_brands)
  + [1.2Adopted use](https://en.wikipedia.org/wiki/Volleyball_(ball)#Adopted_use)
  + attack

Volleyball characteristics[[edit](https://en.wikipedia.org/w/index.php?title=Volleyball_(ball)&action=edit&section=1)]

*Indoor volleyballs* are designed for the indoor version of the sport, and *beach volleyballs* for the beach game.

Indoor volleyballs may be solid white or the brightest shade of yellow. They are made in two versions: the youth version is slightly smaller and weighs much less than an adult volleyball, and a heavier medicine ball type that allows setters to strengthen their fingers.

Beach volleyballs are slightly larger than standard indoor balls, have a rougher external texture, and a lower internal pressure. They can be brightly colored or solid white. The very first volleyballs were made from leather paneling over a rubber carcass.

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| --- | --- | --- | --- |
| **Volleyball characteristics**[[2]](https://en.wikipedia.org/wiki/Volleyball_(ball)#cite_note-2)[[3]](https://en.wikipedia.org/wiki/Volleyball_(ball)#cite_note-3) | | | |
|  | **Circumference cm (inches)** | **Mass** [**grams**](https://en.wikipedia.org/wiki/Gram)**(**[**ounces**](https://en.wikipedia.org/wiki/Ounce)**)** | **Internal pressure** [**kgf/cm²**](https://en.wikipedia.org/wiki/Technical_atmosphere)**(**[**psi**](https://en.wikipedia.org/wiki/Pounds_per_square_inch)**)** |
| **Standard indoor** | 65-67 (25.5-26.5) | 260-280 (9.2-9.9) | 0.3-0.325 (4.3-4.6) |
| **Youth indoor** | 63-65 (25-26) | 260-280 (9.2-9.9) | 0.3 (4.3) |
| **Beach** | 66-68 (26-27) | 260-280 (9.2-9.9) | 0.175-0.225 (2.5-3.2) |

**Major brands**[[edit](https://en.wikipedia.org/w/index.php?title=Volleyball_(ball)&action=edit&section=2)]

There are several brands of competitive volleyballs in use, including, but not limited to:

* [Tachikara](https://en.wikipedia.org/wiki/Tachikara)
* [Molten](https://en.wikipedia.org/wiki/Molten_Corporation)
* Allsix
* Copaya
* [Wilson](https://en.wikipedia.org/wiki/Wilson_Sporting_Goods)
* [Baden Sports](http://www.badensports.com/collections/volleyball)
* [Mikasa](https://en.wikipedia.org/wiki/Mikasa_Sports)
* [Mizuno](https://en.wikipedia.org/wiki/Mizuno_Corp.)
* [Nike](https://en.wikipedia.org/wiki/Nike_Inc)
* [Spalding](https://en.wikipedia.org/wiki/Spalding_(sports_equipment))
* [Beta](https://en.wikipedia.org/w/index.php?title=Beta_sport&action=edit&redlink=1)
* Gala (made in Czech Republic)

Most of these brands also make cheaper variations for recreational (non-competitive) use.

**Adopted use**[[edit](https://en.wikipedia.org/w/index.php?title=Volleyball_(ball)&action=edit&section=3)]

* Mikasa makes the official balls of the [Fédération Internationale de Volleyball](https://en.wikipedia.org/wiki/F%C3%A9d%C3%A9ration_Internationale_de_Volleyball) and the CEV - [European Volleyball Confederation](https://en.wikipedia.org/wiki/European_Volleyball_Confederation) (beach and indoor).
* Molten makes the official ball of [USA Volleyball](https://en.wikipedia.org/wiki/USA_Volleyball).
* Molten makes the official ball of [NCAA](https://en.wikipedia.org/wiki/NCAA) Volleyball (indoor).
* Wilson makes the official ball of the [Association of Volleyball Professionals](https://en.wikipedia.org/wiki/Association_of_Volleyball_Professionals) (beach).

**Volleyball offensive systems** are the ways in which a coach can personalize and tweak his or her team's offense based on each player's skill level to make the team as competitive as possible. This is done by using different formations that allow a team to use a variety of [volleyball](https://en.wikipedia.org/wiki/Volleyball) attacks. A team on offense will try to increase the probability of winning a [point](https://en.wikipedia.org/wiki/Volleyball#Scoring) on a hit by confusing the opposing blockers and disguising the setter's intended receiver as much as possible. This is done keeping in mind that the goal is to score a point and that running a successful offense is executed differently for every team. Teams use offensive systems in whatever way suits the team best.

Volleyball offense is how a team can attempt to score a point by causing the ball to land on the opposing teams side of the [court](https://en.wikipedia.org/wiki/Court). Generally, this is done by first receiving the ball from the other side in the form of either an attack or [serve](https://en.wikipedia.org/w/index.php?title=Serve_(olleyball)&action=edit&redlink=1), having the ball set to an attacker, and then having a player jump and attack the ball. Once the ball is received, the goal is to get the ball where it can be hit most effectively. This is usually close to the net where an attacker can jump and hit the ball. Based on a teams skill level, they will be able to run their offense smoothly with a unique arsenal of attacks and formations.

### Basic[[edit](https://en.wikipedia.org/w/index.php?title=Volleyball_offensive_systems&action=edit&section=3)]

The basics sets are used by teams that do not yet have the experience to run more complicated plays. Any more advanced set, relative to the team skill level, should be used sparingly so the opposing block is tricked by thinking the set is merely a basic set.  
  
**10**: A 10 is a high [set](https://en.wikipedia.org/wiki/Volleyball#Set) to the back row [antenna](https://en.wikipedia.org/wiki/Volleyball#The_court_dimensions)[[1]](https://en.wikipedia.org/wiki/Volleyball_offensive_systems#cite_note-1) where a back row attacker may hit it.  
**5**: A 5 is a high set to the left antenna where an outside attacker may hit it.  
**4**: A 4 is a quick (Shoot) set, to the left antenna where an outside attacker may hit it.

**3**: A 3 (also referred to as a 32 or 33) is a nice high set between the middle hitter and outside hitter.

**7**: A 7 is a high set that goes right behind the setter (essentially a backwards 2)

**6**: A 6 is a quick, low set (very similar to a 1) to the right side hitter.

**BS**: A BS (Back Shoot) is a quick, low set to the right side antenna. This set is very similar to a 4.

**1**: A 1, also called a quick, is a fast, low set that is set straight up at the middle of the net.  
**2**: A 2 is set in the same spot as a 1 but is about three times as high above the net.

**9**: A 9 is a high set to the right side antenna where a right-front attacker may hit it.

### Advanced[[edit](https://en.wikipedia.org/w/index.php?title=Volleyball_offensive_systems&action=edit&section=4)]

These more complicated sets are meant to fool the opposition and get your attacker with 1 blocker or less. At higher levels, teams will use a basic set if it is a last resort, meaning that the ball was received poorly.  
  
**Shoot**: A shoot or Go-ball is a quick, low set to the left-front hitter near the antenna.[[2]](https://en.wikipedia.org/wiki/Volleyball_offensive_systems#cite_note-2)  
**32**: A 32 (pronounced three-two) is a set to the left-front hitter halfway in between the middle of the net and the antenna about the height of a two ball.  
**Flare**: A [flare](https://en.wikipedia.org/w/index.php?title=Flare_(volleyball)&action=edit&redlink=1) is when an attacker uses an inside-out path to attack an outside set. A teammate commonly runs a quick fake to trick the opponents, then the attacker flares out to attack.  
**Slide**: A slide is a set to any attacker who runs parallel to the net and jumps off of one foot.  
**Iso**: An isolation play is a play where you use an attacker, usually the middle, as a decoy to leave another attacker with a weaker opposing block.  
**Tandem**: A [tandem](https://en.wikipedia.org/wiki/Tandem) is when one attack follows another and hits the ball right after the first one lands, using the first attacker as a decoy.  
**Double quick**: A double quick is when two attackers take an approach towards the [setter](https://en.wikipedia.org/wiki/Setter) so that he or she may set either a 1 or a back 1, which is a 1 set over the shoulder of the setter.  
**X**: An x is when a middle goes up for a 1 and the right side attacker comes from the other side to hit a 2, making the two paths of the hitters cross.

## Formations[[edit](https://en.wikipedia.org/w/index.php?title=Volleyball_offensive_systems&action=edit&section=5)]

In volleyball, teams must have their players in a specific formation.[[3]](https://en.wikipedia.org/wiki/Volleyball_offensive_systems#cite_note-3) The players then rotate around the court clockwise whenever the team performs a side-out. There is a penalty for being out of rotation and the opposing team receives a point. There are three formations that are widely used in the sport, each having advantages and disadvantages.

### 4-2[[edit](https://en.wikipedia.org/w/index.php?title=Volleyball_offensive_systems&action=edit&section=6)]

This offense takes its name from the fact that it uses 4 attackers and two setters.[[4]](https://en.wikipedia.org/wiki/Volleyball_offensive_systems#cite_note-4) This is a basic formation generally used by less experienced teams to avoid confusion on the court. At any given time, one of the setters is front row and the other is back row. They are always opposite of each other on the court. This allows for 2 attackers front row at any given time, and the setter is able to dump the ball as the setter will always be in the front court. This basic offensive formation allows for any of the basic sets to be run, as well as a 32, shoot, or possibly a tandem. Teams that use a 4-2 will rarely set anything other than the basic sets. The positive aspects of the 4-2 include its simplicity, so a team can gain experience and later move on to a more complicated formation. The negative aspect of using a 4-2 is its limits regarding your offense. Some think that having two setters takes away from your team as the setter is generally the team leader. Some coaches opt to start their team out running a more complicated system and just having the players adopt it.[[5]](https://en.wikipedia.org/wiki/Volleyball_offensive_systems#cite_note-5)

### 5-1[[edit](https://en.wikipedia.org/w/index.php?title=Volleyball_offensive_systems&action=edit&section=7)]

A 5-1 takes its name from using 1 setter and having 5 attackers on the court. The secondary setter is replaced by an [opposite](https://en.wikipedia.org/wiki/Volleyball) hitter who is always opposite the setter on the court. This formation allows the setter to be able to dump the ball for half the rotations and have 3 front row attackers to set the ball to on the other three rotations. This system allows the setter to set any possible set he or she wants to depending on whether he or she is front row or back row. Many coaches prefer this system, having one setter as the team leader. It also helps having only one setter so that the setting does not change. One setter may set the ball differently from another giving a different feel for the attackers. It helps when the attackers are used to one setter in particular. The negative points of this offense are that the setter needs to transition from defense to set the ball. This creates situations where the setter has the first contact and someone else has to set the ball.

### 6-2[[edit](https://en.wikipedia.org/w/index.php?title=Volleyball_offensive_systems&action=edit&section=8)]

A 6-2 is similar to a 4-2, but has 6 attackers and 2 setters. This is possible by having the back row setter always set the ball, making the setter only a hitter when he or she is front row. This formation allows any possible set to be made not including a dump by the setter because he or she is always back row when setting the ball. This formation is good for a team in which the setters are also very good attackers where coach does not want to waste that talent. Some young teams also use it so that the player can increase a broad range of skills and not be sentenced to being a setter for his or her career. Unfortunately, this formation has the problems of 5-1 and 4-2. Having two setters, and always having one of them be back row. The setter always has to transition from defense and the leadership is lacking. Most teams at the highest level, including the USA [Olympic](https://en.wikipedia.org/wiki/Olympic_Games) team use the 5-1 rather than this for leadership purposes. A 6-2 offense is very common when a team has two setters of equal ability and at a younger age.