

RACKETS

The tennis racket is perhaps seen as the most important piece of equipment and has traditionally attracted the most attention in terms of technological development.

One reason for this could be that the racket is not shared by the players and can be tailored to the physiology and playing style of the individual. That is, it is seen as having central importance in how the player performs.



Having said that, if used as intended, the racket should never make contact with the ball, it is the strings that do this. This doesn't mean that the racket isn't important. There are many variations in the physical properties across rackets.

The materials used for rackets have changed over the years; beginning with wooden frames, with a brief foray into metal alloys in the 1970s and moving to today's carbon-fibre composites.

Manufacturing methods have evolved accordingly, but there remains a considerable amount of manual labour involved in crafting a racket.

A typical modern racket is likely to be between 25 and 40% lighter than the wooden rackets of yesteryear, despite having a strung area that is around 50-75% larger (which is afforded by the increased strength of modern materials, which means that less material is needed in each racket).

In addition, modern rackets are much stiffer nowadays (that is, they bend less than wooden rackets, as well as vibrating faster). All other things being equal, a stiffer racket will generate greater forces on the player's hand and arm than a less stiff as a result of impact with the ball, and the resulting vibrations will continue for longer.

So, which racket is right for you?

There are many factors to consider, however, all else being equal, larger head sizes are more suited to beginner players, in that there is less chance of missing the ball.

Large-headed rackets are also better at resist twisting in the hand when the ball is hit off-centre, and so the ball will still tend to go in the direction that the player intended.



Lighter rackets can generally be swung more easily, which means they are suited to players who are still developing their strength.

For rackets that weigh the same, ones with more of their mass concentrated at the handle end will be easier to swing (although this may be at the expense of ball speed off the racket).

In general, younger (and shorter) players should use a shorter racket. Rackets should be proportional to body height, which, given that they are lighter, also makes them easier to swing for younger players.

According to *ITF Coaching Beginner and Intermediate Players* (p. 267), the correctly-sized racket will leave a gap of about 5 cm between the tip and ground when held normally with the arm by the player's side.

Players should also make sure that they use a racket with the correct grip size. *ITF Coaching Beginner and Intermediate Players* (p. 264) recommends the following simple methods to measure the appropriateness of the grip size:

- Holding the racket with the forehand grip, the player should be able to fit the index finger of the non-hitting hand into the space between the tips of the fingers and the butt of the thumb. If there is not enough room, the grip is too small. If there is too much room, the grip is too large.
- Measure the distance in inches from the tip of the ring finger to the second (middle) crease in the palm of your hand. The proper grip size is the number of inches from tip to crease.