Know the head balance of your paddle

Our paddle weight video generated a lot of thoughtful follow up questions and suggestions. It is such an important topic that we thought it made sense to provide additional clarification on the concept and its impact on your game.

Swingweight is not a concept that is commonly spoken of in pickleball but is well-defined in other sports.

The DIYGolfer.com defines it as follows:

> In the simplest way I can say it, swing-weight is how the club “feels” in your hand.

In an article on Tennis Warehouse University, **Crawford Lindsey defines it more technically as follows:**

> Swingweight is a measurement of a racquet's resistance to being rotated about an axis going through your hand. A low swingweight makes it easy for the player to swing the racquet (maneuverable). But it also makes it easy for the ball to move the racquet, resulting in loss of power.

The author then suggests an approach to understand the concept:

1. Swing your paddle normally (holding it from the grip)
2. Turn the paddle around (hold it from the top of the paddle) and swing it.

You should be able to tell a difference in the weight of the paddle each time.

Swingweight is derived from three factors:

1. the total weight of the paddle;. Obviously the heavier the paddle the harder it will be to swing (think of a 12 oz wood paddle vs a 7.5 oz honeycomb paddle).
2. the paddle’s head balance (how much of the paddle’s weight is shifted towards the top as opposed to the bottom). Think of paddle balance like this: your paddle measures 16 inches long, making the middle of the paddle 8 inches from either top or bottom. If your paddle was evenly balanced you could lay the middle line of your paddle(the 8 in. mark) on the edge of another paddle you were holding and it would balance in place. A head heavy paddle will balance at a point that is closer to the head than the bottom. And a head light paddle (which we have not yet come across) will balance at a point that is closer to the bottom than the head. Below we discuss how you can calculate your own paddle’s head balance; and
3. total paddle length. The longer the paddle the higher the swing weight. Think of trying to whip around a 30 inch paddle even if it is evenly balanced.

We did our own in-house analysis of the balance of a few paddles we had on hand. Here is the methodology (in case you want to do your own):

1. Measure total paddle length. Multiply times 1/2 . This is your balance point if your paddle were evenly balanced – neutral head weight.

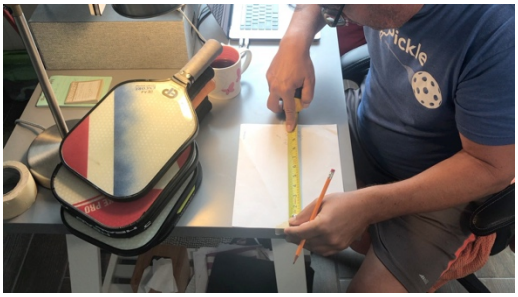
2. Take a piece of paper and line it up on the edge of a table (make sure the edge of the paper is on the edge of the table – a piece of tape can help keep it in place).

3. Place your paddle on the table with the top (head) of the paddle towards the edge.

4. Push the paddle off the table until the bottom (butt) of the paddle barely starts to lift off the table.

5. Make a mark. This is your point of neutral balance.

6. Measure distance.



7. Subtract 6 from the calculation in 1. A positive number means head heavy (all paddles we have tested to date are some degree of head heavy).

8. We will use the same methodology as in tennis: each 1/8th of an inch is 1 point. Thus, divide 7 by 1/8 and the result is the points head heavy for your paddle.

I will give you an actual paddle calculation example below. But before that, understand that this figure alone is not a paddle's swingweight. It is a factor that will affect swingweight but alone will not give you swing weight.

Think of it this way, an 8 oz paddle with a 7 on the head heavy scale (its point of neutral balance is 7/8th of an inch away from its point of even balance) may have the same swing weight as a 7.4 oz paddle that is head heavier (say, 12 on the scale).

Here is the calculation for the ProKennex Kinetic Pro Speed (pictured above):

1. Paddle Length: 15 3/8"
2. ½ of 15 3/8" (the neutral head balance mark): 7 11/16"

3. Distance to mark of actual head balance: 9 1/16”
4. Subtract 2 from 3: 9 1/16” – 7 11/16” = 22/16
5. Convert 4 to 1/8ths: 11/8
6. Head balance number: 11

Thus, the ProKennex Kinetic Pro Speed has a head balance score of +11. This translates to the actual balance point being 1 3/8” closer to the head than the even balance point. This means that more of the paddle’s total weight is concentrated closed to the top than to the bottom of the paddle. The weight concentration increases the swingweight of the paddle.

This is not a good or bad result. It is just a result. It allows us to compare paddles with each other.

Take another paddle that is 15 3/8” long (same as the Pro Kennex) and has the same gross weight (8.1 oz). But this paddle has a head balance score of 14. We would expect the swingweight of this second paddle to be higher (heavier feeling) than the Pro Kennex. If the score of the second paddle was 7, we would expect it to be feel much lighter.

The paddle characteristic we are really interest in is swingweight. Head balance is one factor that determines a paddle’s swingweight.

One last note, you can use lead tape to move the actual balance point of your paddle, either closer to the top (heavier) or grip (lighter). Curiously, you can lower the swingweight of your paddle by making the overall paddle weight heavier.

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