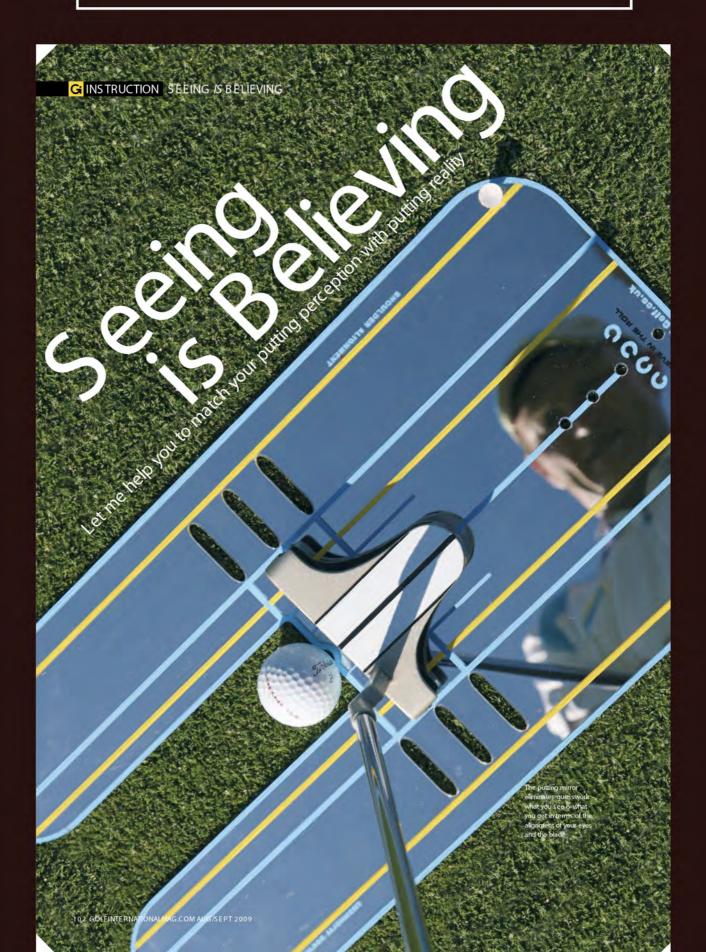
SEEING IS BELIEVING



I have been in the world of putting biomechanics and research for over 10 years, working scientifically to biomechanically analyse the putting stroke. I work with many PGA Tour Professional golfers and I am constantly using additional input to scientifically reassess principles and push the boundaries in the field of 'putting Biomechanics'.

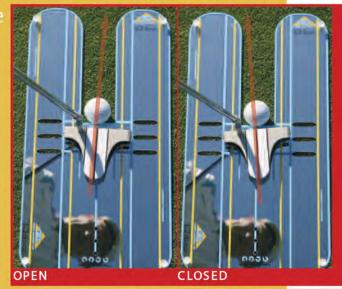
The GEL Putting
Alignment Mirror is one
result – a simple yet
extremely effective training
tool, enabling golfers at all
levels to improve their putting stroke. The drills that I'm
about to demonstrate will
help you to go out and correctly use such the mirriror
to its best to ensure perfect
alignment, promote consistency and – ultimately – help
you to make more putts.





Is the face of your putter square to your intended line at the set-up? You would be surprised at the number of golfers who fail to get this most fundamental of basics right. And if your putter face isn't aimed correctly you will (subconciously) be forced into a series of manipulations in the stroke in an attempt to get it square for impact.

So it's key that you regard this as the first key detail. Use the blue and yellow transverse lines that you see located directly behind the ball location as your reference point to square the putter-face to the target line. You should be able to see the line directly in front of the putter blade, which is 90 degrees to the target. Laying the putter face open (right) or closed (far right) to the target line will necessitate some sort of manipulation in the stroke itself in order to square the blade for impact. And that will never be consistent.



Perception v Reality Try this simple test...

Before you can seriously work on the details of your setup and stroke (and so maximise the benefit of the drills highlighted within this feature) it's vital that you first have the ability to 'see' and relate to a perfectly straight line to the hole (you'd be amazed at the variation in the perception of 'straight' that I find with leading tour players).

So the first thing I do with a new student is challenge his or her perception of a straight line with this simple test from up to six or 8 feet. This is something you can do yourself on a putting green (or at home on the carpet indoors) and it will very quickly reveal how closely your perception of a straight line matches up with reality.

The first thing you have to do is find a straight putt of six feet or so and then create this dead-straight line of balls, placing one last ball directly behind the hole. To do this it's a good idea to use a chalk line on the green (indoors I use a builder's laser - you can pick up both of these products at a good hardware store).

Once the balls are in place, set yourself up to the object ball (ideally within a putting mirror) and take dead aim at the nearest ball to you in the line to the hole. Focus on squaring the putter-face to that near ball and then, once you are satisfied with your aim, look up to view the line to the hole. What do you see? Does the line of balls still appear straight into the middle of the

It's no exaggeration to say that nine times out of 10 the answer is 'no' (and, yes, I'm including tour players in that analysis). The line of balls will either appear to curve either gently left to right or right to left into the hole - and if that's your experience then clearly your perception of what is 'straight' is at odds with the reality of the situation (because we know for a fact

that the line of balls is dead straight). To correct this most fundamental of alignment issues, you will need to adjust your posture - and, most critically, your eye line - until you see that line of balls as running true into the middle of the hole. Once you have adjusted your posture it is highly likely you will need to tweak the length and/or lie of your putter - a critical element in the custom-fit process on all GEL Golf putters at our fitting centres around the country - and then using the putting mirror to assist you in checking this detail every time you practice.



Once you have the correct parallel alignment of the eyes, it is equally important that your eye position reflects reality when scanning the line towards the target. For some of you this will occur when the eyes are directly over the ball. However, the majority of players I coach have to move their eye position typically to the inside of the ball-to-target line, but occasionally outside - in order to match their perception of a straight line to the target. This initially could take some adjustment but will ensure correct perception and reduce any tendency to manipulate the course of the putter during the stroke.

As a result of running through this very test with Rory McIlroy recently we found that he needed to add an inch to the length of his putter to accommodate for the fact that he needed to stand a little taller and bring his eve-line just inside the line to the hole for him to match perception with reality. That's where he saw the line of balls as being straight. Before, his eyes were too much over the ball, and he felt that he had to pull the ball back on line.

We are all different. Some of you, like Rory, will need to adjust your eye line inside the target line to see straight, others will need to move closer to it or even slightly outside. To do that you may need to adjust your posture and the length and/or lie of your putter. But one thing's for sure: matching perception with reality is one of the crucial first steps to becoming a better putter.

> What is your perception of reality? Here's the test: having lined up a straight row of balls into the hole, when you remove all but the middle ball and the one directly behind the hole, do you still see this as a straight putt? For the majority of golfers, some adjustment to posture and the position of the eye-line is necessary to see a straight line





Use the Tee



I am a big believer in the fact that making a stroke of equal distance back and through serves to optimise the acceleration of the putter into the back of the ball – and so helps you to impart a consistent 'roll' and control the pace of your putts. By utilising one of the four different holes along the blue centre line in the mirror (right), or even placing a tee directly behind that centre line in the putting green for a longer stroke (above), you restrict the length of your backswing and can easily monitor (and match) the length of your follow-through. Remember, equal distance back and through = good pace control.



The symmetry of the set-up: feet, knees, hips and shoulders all agree on a line that is *parallel* to the target line. Note that the left forearm and the putter shaft are also in agreement

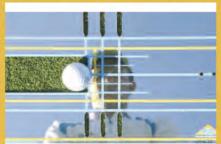
Shoulder alignment at the set up

What do you see?

My methodology dictates that the putting stroke is controlled by the gentle rocking of the shoulders (i.e. the shoulders generate the momentum and direction of the stroke, the hands, arms and putter responding to their motion).

For that to produce a stroke that runs in tune with the target line, it follows that the shoulders must be lined up to the target line at the set up. Again, the mirror is your friend. Look at the lines on the bottom of the mirror nearest your feet. You should be able to see the tops of both shoulders. If your back shoulder is dominant in the mirror, you are set up with your shoulders open to the target line. If your front shoulder is dominant, then you are standing closed. In both of these cases adjustment is necessary until the shoulders are square with the graphics on the mirror.

This is another vital element in developing a good repeating technique, so keep an eye on the bahaviour of your shoulders as you set up and make a stroke. You want to see them move only up and down the line (and not turn to the inside or the outside).



S QUARE: as you see above, the shoulders are squarely aligned to the direction of the putt – from here they are able to gently 'rock' to create a consistent path of stroke



CLOSED: if your forward shoulder appears to be dominant (i.e. pushed forward), then your are standing 'closed' to the target line (which typically results in a stroke that loops from in-to-out)



OPE N: If your rear shoulder appears dominant in the mirror, then you are standing with your upper body in an open position – which most like results in a stroke that loops from out-to-in SUBSCRIB TODAY...G

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PLAY A BETTER BALL

PLAY A BETTER BALL

DRILL 6

Toe & Heel Tee drill

Improve your putter path, eliminate heel/toe strikes for more accurate and consistent putting

Tiger Woods is renowned for the way he can stand on a practice putting green and hole out from six feet or so, running the putter-head through a 'gate' of tee-pegs. I have watched him stand and hole putts like this for half an hour and not miss a single one. He favours using jus his right hand/arm, and it's like watching a machine. Apart from anything else, it's an incredible feat of strength – which putting is to a much greater degree than you might imagine.

Here is my own take on that particular drill. As I advocate the right hand low putter grip, I encourage my students to practice with the left hand only, as this engenders a terrific sense of feel for pulling the left hand/arm and the putter through the ball and down the target line. Placing the right hand gently on the upper part of the left arm reminds you that the stroke is created with the

gentle rocking of the shoulders, the left shoulder moving down to create the backswing and then up to return the putter to impact and through to the finish.

To start, square your putter face to the target line, and then place a couple of tees just outside the toe and the heel of the putter (there are slots in the mirror specifically for this purpose). Thus you create a 'gate' to test the accuracy of your stroke (you can narrow it as you become more proficient). The aim of the drill is to make a full stroke without touching either of the tees on the through-swing. Keep your eyes fixed on the back of the ball, your right hand comfortably on the upper part of the left arm, and gently rock the shoulders to create momentum. The left arm and the putter work in tandem.

Gradually bring the tees closer together to







Eye position after the stroke Have you moved?

After a few minutes rehearsing this drill through the gate with just the left hand, revert to a normal grip and continue to hole putts, running the putter through the gate without touching the tees on either side. As you do this, pay attention to your eye position after the stroke is complete - i.e. hold your finish and check your reflection in the mirror. Has it moved from your address position? If NO then great, you have good stability. However, if the answer is YES, then your body is moving during the stroke. This will result in minor manipulations during the stroke (which will more than likely cause you to strike the gate!). If that is the case, widen the gate of tees and start over again, eliminating unwanted body motion to increase the accuracy and consistency of your action.









This sequence above shows a good backswing, the putter nice and low, but it then rises too steeply into the follow through, causing the putter to miss the two forward balls. This type of stroke is often the result of a player believing that stroking 'up' on the object ball imparts extra topspin to give a better roll on the green – a common misconception that only distorts the overall shape of the putting stroke



Correct putter 'rise' Low to the target for a solid, consistent strike

Take your normal address position and square the putter to the target. As well as the ball you are hitting, place two additional balls at the end of the mirror, as you see above. According to the symmetry of a good stroke the putter should just clip the top of those two balls as it swings through to the finish. If your putter head passes up and over the two forward balls, you have too much of an upswing or 'rise angle' in your stroke (this often occurs in the mistaken belief this type of action enhances topspin). As you rehearse this drill, make sure that you maintain the 'connection' in your stroke, the arms and the body working together and maintaining their shape. Your eye position must also remain in the same position – and remember equal distance back and through equal's good pace control....



GET ON A ROLL...

Online now!

Visit our website today to watch Dr Paul Hurrion run through each of these drills step-by-step in a series of video lessons – The Paul Hurrion Putting Studio. With commentary and further invaluable insight from one of the world's leading putting experts, this is an opportunity too good to miss. For more information on the Paul Hurrion Signature range of putters from GEL Golf, and details of your nearest GEL fitting centre, visit www.GELGolf.co.uk

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