

**LAST MONTH** I described how to use the GEL Putting Mirror for basic alignment and stroke mechanics. If you've started to practice with the mirror, you'll have begun to develop the sense of feeling for what constitutes a good stroke – and, in addition, a feel for what is a pull or a push.

I also mentioned that the mirror can help you read putts. Once you had developed the skill of holing the straight ones, I recommended you use the mirror on all types of putts – breaking, uphill, downhill and of different lengths.

Being able to read greens correctly is a very important part of improving your game and your score. There are many different factors that you need to consider before you hit the putt. However, I work on the theory, and strongly advise, that you have to know the difference between a good putt and a bad one if you ever hope to read greens correctly.

Why? Because if you don't know the difference, and the ball misses left edge, did you pull it or misread the putt? You need to do the drills using the mirror and develop kinesthetic feelings when putting. You need feedback in order to associate the correct feelings with the correct result.

You will remember from my last article that golfers will often push a putt, but a subtle misread will result in them still holing it. If they remain unaware of the basic fault they will be let down later, either by a correct stroke or a correct line and they still won't have learned anything. Learn from using your mirror.

In this article I am outlining the number of factors and steps you can take to enable you to read greens more consistently and hole more putts. Importantly, the golf ball and grass surface interaction is critical.

To be consistently successful at putting, you must continually adjust your game to anticipate how the ball will respond to the prevailing conditions of the surface of the green.

The ball to surface interaction on golf greens can be sub-divided into two areas: firstly, ball roll (this will be covered in a later edition of *Asian Golf Monthly*); and secondly, ball impact on the green or the effect of the green on the ball, which I cover here.

#### What is reading a putt?

Reading a green or putt is imagining, visualising, picturing, guessing, or calculating the line or path the ball will follow when it leaves the putter. Remember, the hole is not your target. The target should always be the 12 to 18 inches past the hole where the ball would finish if the hole was not there!

#### What factors go into reading a putt?

Judging a putt is a combination of speed – how fast or slow the ball will roll and,



Tiger Woods and Padraig Harrington are expert green-readers, looking at their putts from all angles. Picture by Getty Images.

# How to Read Greens

Is it a magical ability to be able to read greens ... or a black art? Or is there any science to it? In the latest instalment of his exclusive series for *Asian Golf Monthly*, putting guru **Dr Paul Hurrion** explains how you can become an expert at reading greens.

therefore, how far it will travel – and line, or direction. However, speed determines line and must be the first point to address when reading a putt. Is the green level, uphill or downhill?

My Paul Hurrion Signature Range of GEL Putters has a multi-layer aluminium insert technology which enables weight to be positioned around the perimeter of

the putter head, creating a high moment of inertia (MOI) for an increased sweet spot. It is because speed is so important that I sought to develop the putters in this way.

The low torque shaft also counters clubface twist resulting from off centre hits. Nobody, even the best players in the world, hit the ball out of the same spot each time.

I am trying to create a consistent energy transfer from club to ball for that half-a-millisecond when the two collide.

After the ball has left the putter face, the roll characteristics imparted by the putter gradually subside and gravity and friction act on the ball increasingly. So the more it slows, the more it will break.

#### What factors affecting speed and line can be considered?

► **Slope:** Is the putt uphill, downhill, left or right?

► **Grass length:** What's the reading on the Stimp meter (the device used for measuring the pace of the greens)?

► **Moisture:** What's the moisture level in, and on, the grass?

► **Base:** How's the firmness of the green?

► **Wind:** The wind plays a subtle effect on your putt. If the wind is blowing in your face at 20 miles per hour or faster, your putt will be a foot short of the hole.

► **Grain:** Applicable only on coarse-bladed grasses.

#### The effect of grain

When playing in warm-weather climates, such as Asia, the majority of grass will have grain (blades growing in the same direction) that will considerably affect the way the ball rolls – even giving the impression that the ball moves uphill!

It more noticeably affects the ball as it slows down. The ball will be influenced in the direction that the grain grows. It

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usually grows toward the setting sun or toward the closest body of water.

You can usually see the grain either by the shine of the grass – if the grass is shiny it means the grain is going away from you; if the grass is dull, it means the grain is coming toward you – or by looking at the cup after the greenkeeper has cut the hole. Brown or dead-looking side of the cup is the direction the grain is going.

#### General points to consider when reading a green

Green reading should start before you play, especially if you are playing a new course for the first time. Ask the professional which way putts tend to break – 'towards the sea; away from the hill'. It's within the rules. In addition, look out for the drainage slopes that funnel rainwater. They can be more important to you than the overall lie of the land.

#### The first opportunity to read a green is as you are walking up to it

Take note of the slopes as you approach the green. Pay attention to any drainage areas. Is your ball above or below the hole? Start thinking about the line of the putt as you walk to the green. The best view of the green's slope (whether it slopes to the right or left) is from 20 yards or so away. Standing on the green can't always tell you this.

If the terrain surrounding the green slopes to the right, then the green probably slopes to the right. If a green slopes in the opposite direction, it creates an identifiable basin where water collects.

#### Get any information you can from approaching chips and putts

Whether it's your shot or that of another player in your group, pay attention ... especially if it's on a similar line to your forthcoming putt. Don't be confused by the initial path of a ball as different stroke mechanics impart different spins and, hence, different lines of travel. So focus on how the ball behaves as it slows down and rolls, particularly around the hole.

Check from the side of the green if you have an uphill or downhill putt.

How low can you go? Camilo Villegas and Jim Furyk have their own distinctive styles of reading putts. Pictures by Getty Images



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You can't always make this judgment by standing behind the putt. The side view provides the best perspective for this, and for determining the speed of the ball. Also, especially for downhill putts, the low side of the green offers the best perspective to see the slope of the terrain.

#### Stand behind the hole to judge the area around the hole

This area is crucial because a ball loses most of its speed by the time it gets to the hole. Here, the terrain will really influence the ball's direction. Visualise the ball rolling across the green and travelling towards the hole. Imagine your putts rolling into the hole with the correct speed to travel between 12 and 18 inches past and trust your instincts to reproduce that pace for you.

#### Read the green with your feet

Use your sense of balance to determine the green's slope. It will also give you clues about the necessary speed. To assist in this assessment, imagine pouring a bucket of water on the green between your ball and the hole. Which way would the water run?

#### Stand behind the ball to make a final decision on the putt's direction and speed

When you stand above the ball, your perspective changes, as does your impression of the line. Behind the ball is the best place to take a final look. Get your eyes down lower. That's why everybody is squatting down to read the putts – the closer your eyes get to the level of the plane you're trying to see, the better your perspective. An exaggerated version of this is lying down **Camilo Villegas** style.

#### Pick precise targets to putt to

If you can see it, then putt to a blade of grass as your target. Putt to a slight disfiguration at the back of the cup if you cannot make out a blade of grass. The rule is pick the smallest possible target you can without straining to see it.

#### Once you've made the decision, don't change it

You've done your homework, now put the best stroke on the ball that you can!

#### I always like to have two or three practice putts next to the ball

This should be done standing in the same

orientation as the putt stance required (watch **Padraig Harrington**). This mimics your desired putt for real and gives your brain a chance to 'feel' what you need to do to get the ball into the hole. With Quintic Software, I like to film the last practice stroke and compare to the actual stroke. I synchronise both strokes and look for the similarities, tempo, length of backswing, transition time, hand position at impact and length of follow through.

#### Make sure that you are fully focused on your target while making these practice putts

Finally, watch the ball if it goes by the hole. Don't turn away in anger. There's little feedback during the putting action itself, so you can't check your reading accuracy until after you hit the ball. Key questions you need to ask yourself are: Did the ball start on my intended line?



(Club face alignment?) Did it have the right speed? (Centre hit?). The answers to these two simple questions are crucial to improving your ability to read greens and sink more putts.

So now you can apply some science to your green reading to help you to make better decisions. However, I strongly believe that you first need to know what straight is. And know the difference between a good and a bad putt. Train yourself to use the above drills and suggestions for a period of six months and you will get great rewards.

Green reading requires an instinctive feel and your ability will get stronger with time as you build a database of information. You can be sure that the more time you spend practising putting, the faster your progress will be.

Dr Paul Hurron is among the world's foremost putting coaches. His passion for golf has led to a specialism in putting analysis and advice, assisting European Tour professionals and holding PGA accredited Putting Clinics. Through his work with Padraig Harrington, he advised Hi-Tec on the bio-mechanical design dynamics of their new CDT Golf Shoe. For further information, visit [http://www.quintic.com/quintic\\_putting\\_laboratory.htm](http://www.quintic.com/quintic_putting_laboratory.htm) or [www.paulhurron.com](http://www.paulhurron.com)

Paul has recently designed a signature range of putters for GEL Golf. For further details on the GEL Putting Alignment Mirror, visit [www.gelgolf.com](http://www.gelgolf.com)