

EFFICIENCY *in motion*

"Warming up with the baseball drill is good for me because I don't have to think about what I am doing in the swing – all I am thinking about is timing the strike and trying to hit it solid."
LYDIA KO

World No.1 Lydia Ko enjoyed several weeks off over the holiday season before knocking the rust off with her swing coach David Leadbetter and biomechanics guru Jean-Jacques Rivet. Gi was invited behind the scenes at Champions Gate...

PHOTOGRAPHY BY MARK NEWCOMBE

IMPROVE SWING DYNAMICS...BASEBALL STYLE! **A NATURAL, INSTINCTIVE MOTION WITHOUT YOU THINKING ABOUT IT**

First up, here's a drill that can be a lot of fun for both student and coach alike. It may surprise you to discover that the No.1 ranked player in the women's game uses a baseball bat for a few minutes' warm-up before hitting [golf] balls, but that's exactly how our sessions here at the DLGA Academy headquarters at Champions Gate, Orlando, have started in Lydia's pre-season prep.

The thing both Jean-Jacques Rivet ('JJ') and I both like about this drill is that it places immediate emphasis on what is the vital aspect of every golf swing – the transition. As I make to toss the tennis ball into the air Lydia's overriding instinct is to engage her body as she steps into the strike (which, to her lasting frustration, she does even when I feign a

throw and keep hold of the ball!).

Obviously when you are teaching and spending a lot of time on the range you want to make things as much fun as possible, and this sort of thing keeps it all light-hearted and breaks the sometime monotony of a typical lesson. So I recommend this drill to all golfers but especially to all you coaches out there working with youngsters and looking for ways to hold their attention. We are appealing to a player's natural instinct. This drill has greatly improved Lydia's reaction and the quality of her body action; without thinking at all about technique, the lower body displays a nice look of 'separation' in a more dynamic change of direction.

What's interesting is that first couple of days we started doing this

after the holidays she just stayed planted to the ground, reluctant to move. But with each repetition I could see the athlete in her reacting and engaging with the ground, literally stepping into the shot in preparation for the strike – the bat shallows out and BANG!

Sure, there's an element of fun to this. But the main thing here is that this exercise (subconsciously) focuses a player on the transition to strike. Lydia takes up a starting position with the bat cocked in a three-quarter backswing, waiting to be ignited. As I release the ball, her instinct is to step into the strike, to engage with the turf and unwind from the ground up; simultaneously, the upper body, arms and shoulders complete their backswing rotation before unwinding into the downswing movement.

To me this is fascinating chain of events, as it reveals the vital role of the lower body in the transition; for a split second the swing is going in two directions – as you reach the top so the lower body moves toward the target and you are at the same time starting to unwind.

What a good backswing does is actually give you the time to unwind in sequence – that's why it's so important to *complete* your backswing with a rhythm that allows you to 'settle' and ease your way into a downswing. There's no sharp movement, no jumping at the ball.

It is this process of 'loading' the spring and shifting via transition that is so vital in terms of storing and releasing energy. (Otherwise why would you even need a backswing? You might just as well start at the top and hit it from there!)

Still photos never do justice to the rhythm and flow in a golf swing and this is one of Lydia's strengths. She swings every club in the bag with pure grace, never rushes a shot, and as a result – more often than not – flushes it right out of the middle.

Hey, and what are the drills for? To teach through *feel*. You can't always think your way to better golf – but you can certainly speed things up when you feel your way forwards.

TREADING ON EGGSHELLS... DRIVER-IN-THE-SAND DRILL PLACES EMPHASIS ON BALANCE

Driver from the sand – not something you see every day!

Where the baseball drill places the emphasis on engaging with the turf and improving the kinetic chain through the transition, here we are turning our attention to pure balance and efficiency of motion. Lydia, on occasion, has a tendency to rush too quickly into the downswing, to jump off the right foot a little too early and spin out of the shot. So the key here is that in taking her set-up she is standing gingerly on top of the sand – a delicate footing that heightens your awareness of balance and the lower body action as you wind and unwind the swing.

Rehearsing this drill immediately takes any violence out of the transition and so can help to cure a host of problems that can and do occur in the change of direction. *Feel your way* through the swing and you really get to appreciate the way in which the sequence unwinds from the ground up. That's the beauty of this type of drill. Hitting full shots with irons in a bunker is something we see quite often (and it's a terrific ball-striking drill), but pegging up a few balls and hitting driver is great,

too. It really gives you a sensation of smooth acceleration and 'collecting' the ball as you then unwind and release the clubhead.

Driving accuracy is something we are looking to improve in 2016. Last season Lydia was around 74% in fairways hit – good but there's room for improvement. Some of the girls are up there in the high 80% range. Of course, it's a balance of improving distance with accuracy. Over the last couple of years Lydia has picked up 20 yards or so with a driver, which may not sound a lot but is a pretty big deal when you hit the ball as straight as she does. But more important than hitting the fairway is hitting it in the right part of the fairway, and so accuracy is every bit as important as distance – which is where this drill comes in. Not every practice facility has a bunker where you can do this but if you can occasionally get the opportunity give it a go. At the end of a practice session we have a routine now where we go back to the range, define a target area and hit 10 drives. If you hit eight of 10 that's 80% of fairways hit – and that places you up near the top of the ranking.

"All of these exercises are helping me to calm my lower body, eliminating a tendency to spin out of the shot. For me, hitting driver from the sand is a great way of learning how to control ground pressure and balance – it really makes me aware of staying on the right foot a little longer (not spinning off it) and that improves my sequence through the ball."

LYDIA KO



After a few minutes hitting balls in the bunker, when you return to the range you might be surprised at the difference in the tempo and quality of your transition...





Comfortable posture, inner biceps pinched against the upper torso



Arms/club and belly/core working together. As the left arm works across, the right forearm stays above the left



Beautifully compact backswing, three-quarter arms with a fully rotated torso. Notice how 'quiet' the legs are as Lydia loads into her right side



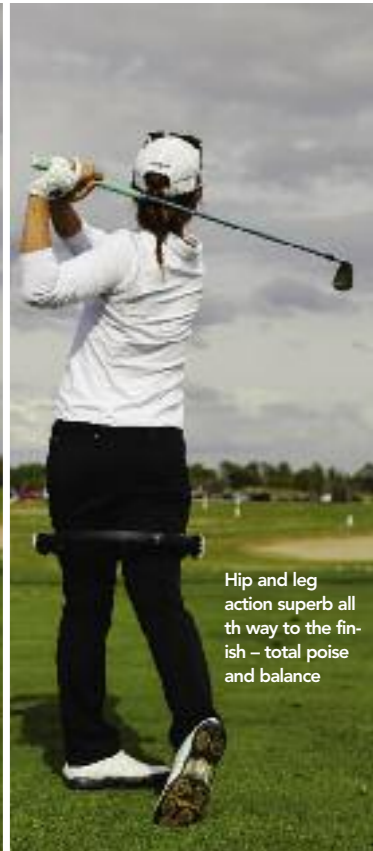
The angle of the Pilates ring gives an indication as to the quality of transition in the lower body allowing the arms to fall while club shallows into this great hitting position



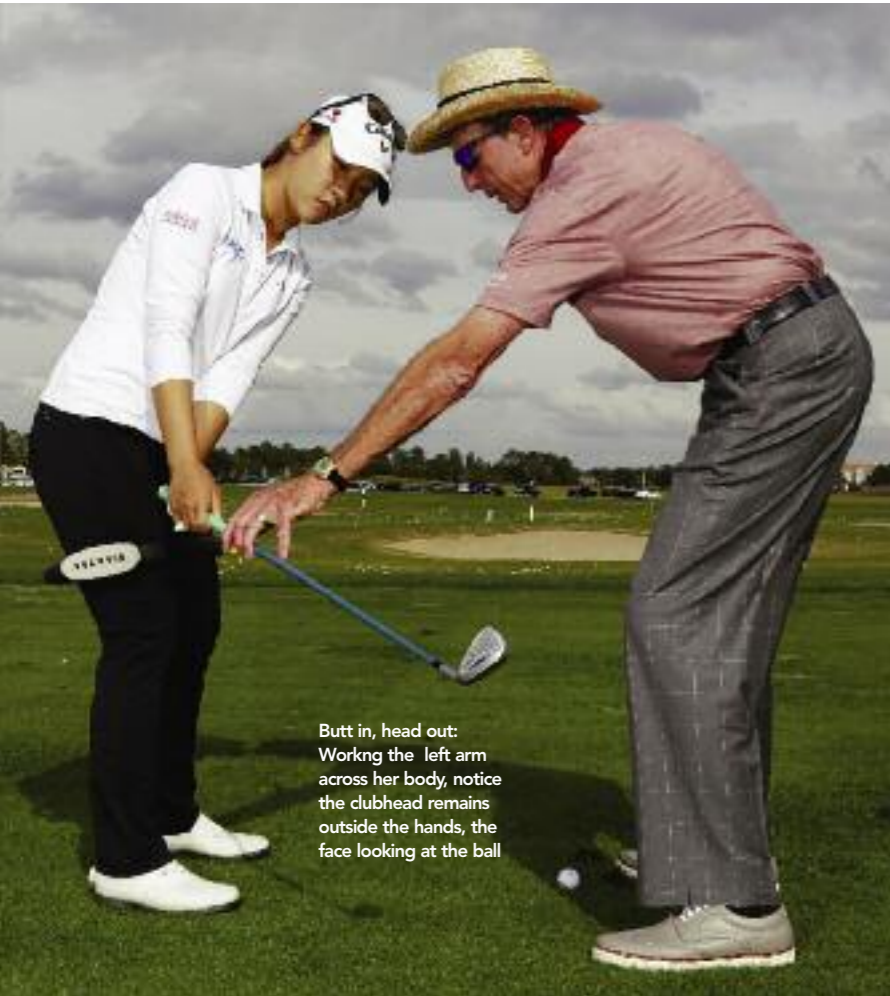
Head still, eyes focused on the ball as she collects it...



Lydia enjoys the freedom to release fully with her right hand



Hip and leg action superb all the way to the finish – total poise and balance



Butt in, head out: Working the left arm across her body, notice the clubhead remains outside the hands, the face looking at the ball

RHYTHM & TEMPO THE LEGS HOLD THE KEY TO A SEQUENCED, CO-ORDINATED SWING

The one thing all of these exercises have in common is that they help Lydia to calm her lower body action, to fully engage with the ground through the feet and to transfer her weight efficiently. The biomechanics of using ground pressure to maximise energy in the swing is very current in the coaching world and my great friend Jean-Jacques Rivet provides an essential part of Lydia's team when it comes to designing specific exercises that help her in this regard.

After spending a few minutes having fun with the baseball drill and then hitting a few drivers in the bunker we return to the range and focus a little more on the way the arms and body work *together* and the efficiency of the overall motion. We will do this in a number of ways – using a pilates ring (as pictured here), the split-hands drill, right-arm-only and a push-resistance drill (pictured right) that simply reminds Lydia of the width she is looking for at the top of her backswing.

Splitting the hands on the grip is a favourite exercise of mine (and one we featured on Gi issue 128). I really like the way this encourages the left arm to swing deep across the chest while the clubhead stays outside the hands as it works back – all tied in to the principles of The 'A' Swing. The key in the first few feet is that the clubface remains looking at the ball – no rotation of the forearms or fanning open the face.

There's a real feeling here of swinging 'in then up', which is how the arms correlate so closely to the body. In slow motion, Lydia will rehearse this move from set-up to this first checkpoint (left) and then continue on up, getting the shaft into an inverted position before arriving slightly across the line at the top. At the same time, the pilates ring you see Lydia holding around her legs reminds her of the importance of maintaining a good, athletic leg action, creating a sound foundation and feeling that ground force. This helps going back, as it encourages her to make what JJ would describe as a dynamic lateral weight shift. The ring



As Lydia reaches the top of her backswing, I am simply pushing the butt-end of the grip, applying some pressure. In return, Lydia pushes back, and in this way feels she is loading into the corner of a door – a great feeling for width

reminds her to maintain pressure on the quads, and as these images reveal her swing is looking very compact and synchronised.

Finally, what we now term the 'Evian Drill' since Lydia's first major win last summer. We used this a lot in France. The idea is that as I stand to the side and push against the butt of the club as Lydia reaches the top of her backswing – in pushing back, she is reminded of the importance of creating and maintaining width in her swing (great for those of you who have a tendency to collapse the arms as you near the top).

At the Evian tournament last year we focused on the idea of loading the club into the corner of a door frame. When she gets a little 'twisty' the arm-swing gets long. To better synchronise the arm-swing with the body rotation, holding the thought that you are standing in a doorway and then stretching to push your hands into the top corner of the doorway will give you this quality.

Again, it all comes back to the basic biomechanics principles, using ground forces to generate power as you load your backswing, pulling and resisting – the *yin* and the *yang* of the golf swing – while synchronising the movement of the arms and the club.

Remember, the real power in the golf swing happens as you change direction – the lower body moves toward the target just as the upper body and club are still completing the backswing (hence the value of the baseball drill). This is where the kinetic chain really kicks in. As you wind up you are starting to go forward – that's the power move in the swing. Good players can make anything work with recovery of the hands, but if you make the movement of your body more efficient you will hit the ball more solidly, and increase your speed.





