



Photography by Tony Roberts

# The Case For The Shorter Backswing

New research shows a shorter backswing will provide equal distance and greater accuracy. Here's how to develop it

By Don Trahan  
with Nick Mastroni

**I**n the 25 years I've spent investigating what makes a golf swing work, I've always sought to find a provable scientific basis for anything I ask my students to do. It's taken some time, but I have found something that will be of tremendous help to all golfers, and to seniors in particular: You will play better with a compact, relatively short backswing than by trying to make as long a backswing as possible with a big turn.

This statement may go against the grain of everything you have heard. Everyone is telling you to make a huge turn and get the club back as far as possible. But it might be time to change your outlook.

First, some background. During the mid-1980s, I was a leading player in the Georgia PGA Section, and I had what most experts would call a relatively full swing. From constant practice, though, I developed a severe pain in the lower right portion of my back. At the top of the

backswing it felt like someone was stabbing me with a knife. I tried various exercises and saw a chiropractor frequently, but the pain never went away. It forced me to change my swing. I learned to stop my backswing at a point just before the pain would really jolt me. After a week or two of playing and practicing with this shortened swing, I noticed that I felt a whole lot better on and off the course.

I was also intrigued by the fact that I was hitting the ball very solidly and straight with this shorter swing. So I conducted an impromptu experiment. I went out to a good driving hole with 60 new balls, 30 with odd numbers (which I'd use for my "long" swing) and 30 with even numbers (for my "short" swing). I

hit 10 drivers with my normal long swing and full turn, followed by 10 with my short backswing, and so on.

When I'd finished, I had a big bunch of balls in the center, with a few short, a few long and a few off-line to either side. Every one of the balls that were either shorter or off-line, were balls I'd hit with my normal "long" swing. And every ball in the middle of the fairway, plus the longest and straightest few, were the ones I'd hit with my experimental short swing.

You might be saying, well, that experiment must have been a fluke. It's not: Shorter really is better. Let me prove it to you.



## An Intriguing Study

A few years ago, I was giving a talk on the shorter backswing at a teaching seminar. Afterward I met Trevor Neighbors, a biomechanics graduate student who was keenly interested in the lesson. Together we ended up conducting a study, used for his Masters thesis in biomechanics at Cal State-Fullerton, that indicates beyond a doubt that most golfers should shorten their backswings.

We recruited 45 golfers as potential subjects. Eventually, a total of 24 met all requirements and were included in the study. They were all right-handed, had handicaps of 35 or less, and had long golf swings. We defined “long” as a swing in which the clubhead moved at least

270 degrees from its starting position, as in a swing that brings the clubshaft to the so-called “classic parallel position” (Figure 1). With a very compact backswing in which the clubshaft is pointing straight up, the clubhead travels only 180 degrees (Figure 2).

With their normal swings, all 24 golfers swung the clubhead more than 270 degrees from the takeaway to the end of the backswing, somewhat past the parallel position, even with a 7-iron as used in this test. We recorded the precise swing speed that each player’s “long” swing produced at the point of impact. (The swing speeds that appear in the table may seem relatively low, but keep in mind again that they

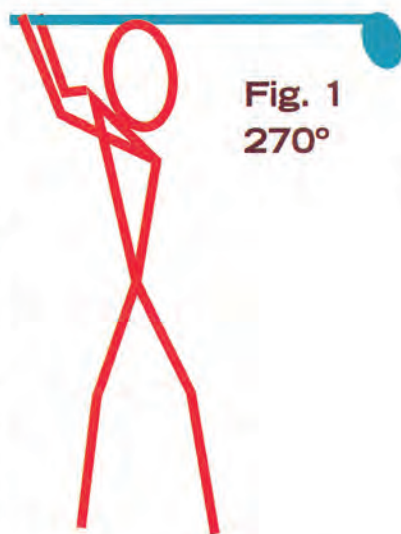


Fig. 1  
270°

were obtained using a 7-iron, not a driver.)

After the subjects’ swing lengths and speeds were measured, I gave them a 45-minute verbal lesson and a few minutes of swing practice. Then we again filmed and timed each player’s swing. This time, however, I asked them to make a conscious effort to shorten their backswings. In order to be included, the player had to demonstrate a backswing at least 15 degrees shorter than previously. As the chart shows, the average amount that the 24 subjects shortened their backswings was 34 degrees.

You’d think that if a golfer shortened the arc of the swing by 34 degrees, which translates to a swing that’s approximately 12 percent shorter, that swing would generate commensurately less clubhead speed. But here was the shocking result: The

average swing speed at impact for all 24 golfers was less than 1 percent slower with their short swings.

To be accurate, the long swing actually did provide a noticeably higher rate of acceleration and clubhead speed than the short swing did. However, this higher rate of acceleration and higher speed occurred earlier in the downswing. At the point of impact, which is the only point that matters, the long swing had begun to decelerate, with the result being that the speeds at impact were virtually equal.

Keep in mind that prior to recording their shortened swings, the golfers were

Fig. 2  
180°



## What The Swing-Length Study Showed

Following are the key points of the study performed by researcher Trevor Neighbors in conjunction with instructor Don Trahan, in which golfers were measured using a long backswing followed by a shorter backswing:

<b>Number of players tested:</b>	24	(23 male, 1 female)
<b>Average Age:</b>	37.3	(range: 14 to 63)
<b>Average Handicap:</b>	17.4	
<b>Average Length of Long Backswing (7-iron):</b>	287.3 degrees from address	
<b>Average Length of Short Backswing:</b>	253.3 degrees from address	
<b>Average Difference in Backswing Length:</b>	34.0 degrees	
<b>Average Clubhead Speed at Impact, Long Backswing:</b>	70.38 mph	
<b>Average Clubhead Speed at Impact, Short Backswing:</b>	69.71 mph	

coached for just a few minutes. The action was brand-new to them, yet they picked it up and obtained comparable results in terms of swing speed immediately. And remember, these results do not take into account any improvement in contact that players made with the shorter backswing.

Why doesn’t the clubhead that travels farther pick up a lot more speed? In a nutshell, the reason is this: Gravity has a great effect on the arc of the swing. Going back, the clubhead is moving “up” until the 180-degree mark (when the shaft is perpendicular to the ground). Beyond this point, the clubhead is moving down again. As it moves down, it will be

## Find Your Maximum Backswing



pulled down even farther by the force of gravity. So, from this longer backswing position there is much more gravitational force to overcome in order to get the club moving to begin the downswing, than there is if you shorten your backswing.

This may sound theoretical, but let me add one important point that's very real: The shorter swing will be extremely simple to learn and execute compared to the longer swing you have been striving so hard to make. Even if you don't generate quite as much speed with the shorter backswing, you'll still hit much better shots because your swing will have fewer moving parts, and contact will be much more solid and consistent. Let's look at just how simple it is.

## The Backswing: A Little Turn And A Lot Of Lift

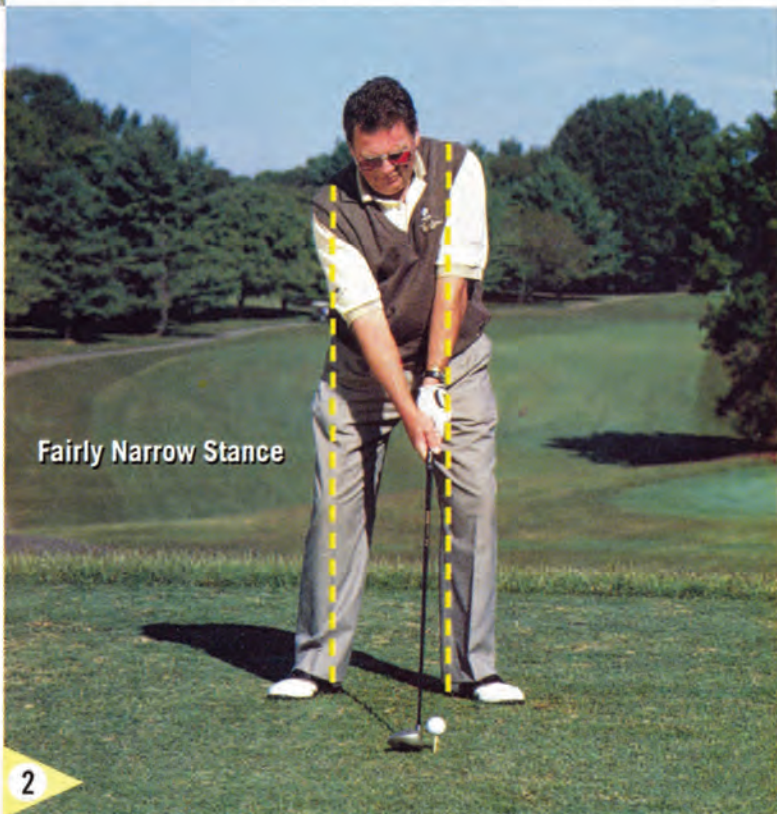
Here's an easy way to find the top of your backswing. Set up to the ball without holding a club. Now take your right hand and put it under your left elbow. Pull your left arm back to the right as far as you can with no body movement, keeping your spine and head perfectly still. How far back did your left arm go? To a position with your arm just above parallel to the ground, correct? (see Photo 1 above) That's as far as you need to go on the backswing. Believe me, this is a case where trying to "do more" is definitely not better.

Let me give you some keys to help you build a controlled and dependable backswing.

First, play all your full shots from a slightly narrower stance than most teachers recommend. The insides of your heels should be slightly narrower than your shoulders, even with the driver (see Photo 2 at right). I recommend a narrower stance because it makes it easier for you to stay centered rather than swaying off the ball on the backswing.

In addition, I firmly believe that all golfers will hit their squarest, most accurate shots by developing as upright a backswing plane as possible. I don't care if you're short, tall, fat or thin—the closer you can keep the clubhead to moving directly along the target line throughout the swing, the better your chances of hitting the ball straight. Jack Nicklaus in his prime and Greg Norman in the mid-1980s had two of the most upright backswing planes in golf, and during those times they were two of the most accurate long drivers in the game.

Of course, because you must stand to one side of the ball rather than on the target line itself, it's impossible to make a perfectly vertical golf swing. The clubhead must to some degree move inside the target line as you swing it back. However, you'll develop greater clubhead speed when the clubhead is moving as vertically as possible. Why? Well, we could write a book about this, but suffice it to say that when the clubhead is moving in a vertical circle, gravity will be adding speed to it on the downswing much more than if the clubhead were mov-



Fairly Narrow Stance

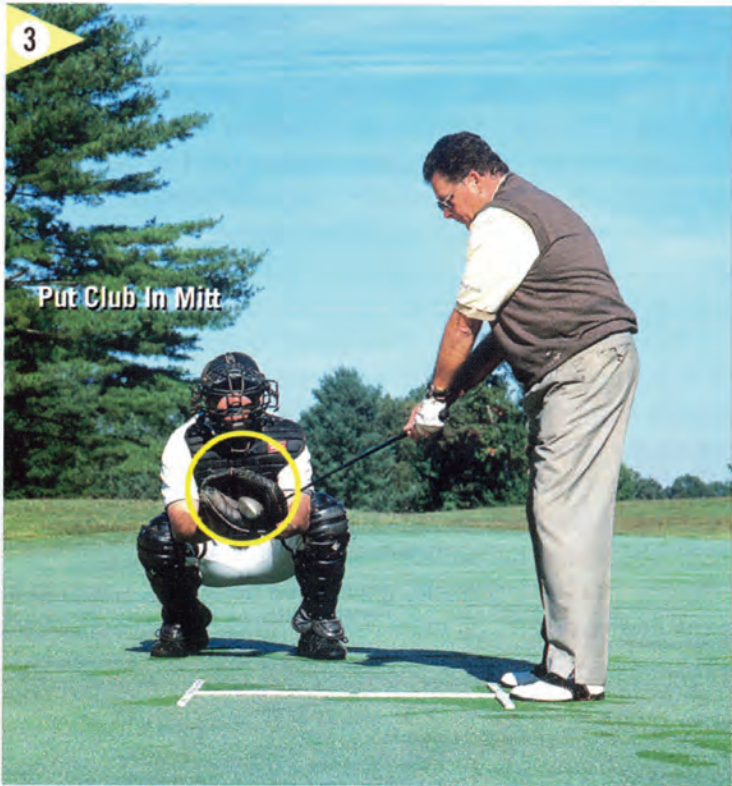
ing on a flatter or more horizontal plane.

Your first step is to move the clubhead straight back along the target line for approximately three feet. A great image is to put the clubhead into a catcher's mitt, toe up (see Photo 3, next page). Imagine that a catcher has his glove three feet behind the golf ball, poised to catch a knee-high fastball, and you're going to place that clubhead right into his mitt.

From this point, the rest of the backswing is a lift—that's right, a lift—of your arms upward. Your image should be to swing your arms and the club directly up a tree trunk, keeping the club on the target line (see Photo 4 bottom next page). In reality this

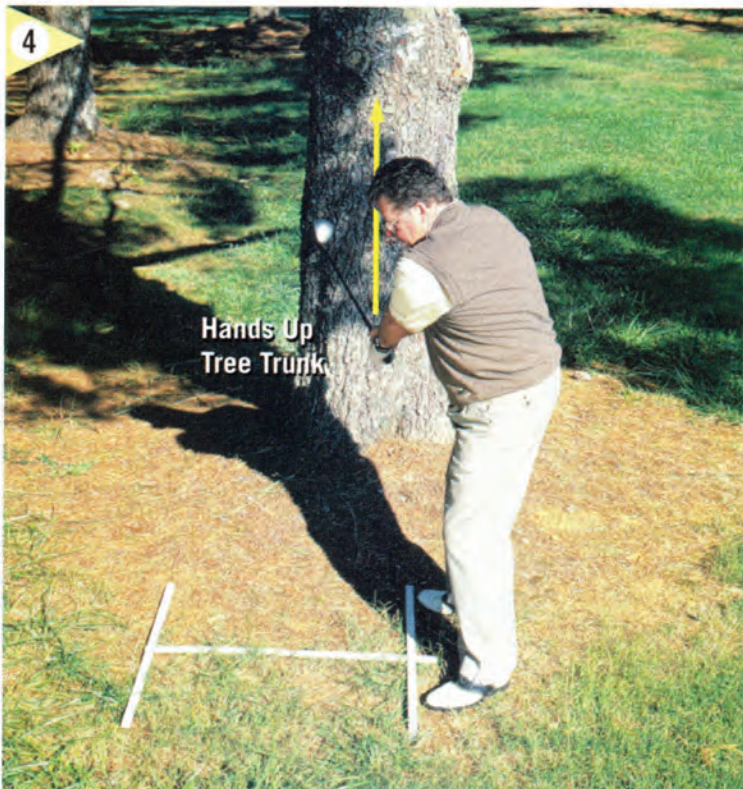
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Put Club In Mitt

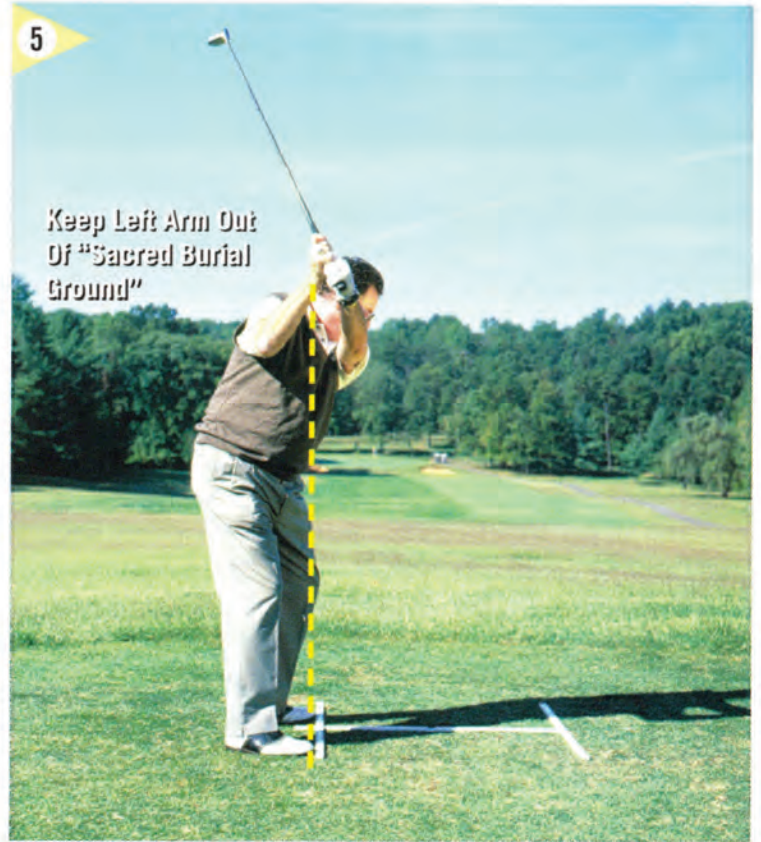


won't happen, but it's the feeling you should be striving for. The actuality is that your hands and the clubhead will gradually move to the inside of the target line, but they should still be on a much more upright plane than they normally are. Here's a great check-point: Your left arm should never move to a point inside a line along your toes (see Photo 5 at right). I like to call the space inside your toe line the "sacred burial ground": It's okay to stand in it, but if you swing into this area, you're dead.

4

Hands Up  
Tree Trunk

5

Keep Left Arm Out  
Of "Sacred Burial  
Ground"

You're probably thinking, "When I swing back to this position, I really haven't made much of a body turn." You're thinking you have to do more because you've been inundated with instruction that says you have to turn your back to the target or make a 90-degree shoulder turn.

Well, I've got good news, especially for seniors who have been struggling to recreate the swings of their youth. The top-of-swing position you see above is all you need to make. When you get to the position shown with your left arm over your toe line, you will have turned your shoulders 70 degrees at maximum. That is more than enough. Actually, seniors should have an advantage in learning this compact position. Junior golfers and women will have to drill themselves to keep to this position because they have greater flexibility.

Remember, golfers who switched to a shorter, more upright

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**Steady Head Throughout Backswing**

backswing achieved clubhead speed nearly identical to that of the longer swingers. You lose nothing here. Meanwhile, your chances of delivering the club squarely to the ball are much greater. Not only will you be more accurate, but because your impact will be squarer you'll find, as I did with my driver experiment, that you end up gaining distance on average. It's a myth that power is directly proportional to the length of your backswing. If that were true then Tiger Woods, who has shortened his swing noticeably in the last two or three years, would not be the longest hitter in the game. Power is generated by the speed of your transition from the top of the backswing to impact.

Study the information and photos provided, then go out to the practice tee and learn the feel of it. If possible, have a friend watch to make sure you're keeping your upper body from swaying and that you're not trying to do more with your backswing than you need to. As you begin to get the feel of this compact and upright motion, I think you'll see consistently solid and straight shots that go surprisingly far. 🐾

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## AVOIDING THE DREADED "EBRT"



You've heard of the term "reverse tilt" or "reverse weight shift." This refers to a move on the backswing in which, instead of shifting the weight onto the right side (for a right-handed player) at the top of the backswing, the player leaves the weight on the left side throughout the backswing. The result of a reverse tilt is that the player has nowhere to go with his/her weight on the downswing except to the right, away from the target. Weak, mis-hit shots usually result.

Actually, the mistake I see most amateurs make today is what I call the End of Backswing Reverse Tilt, or "EBRT" for short. What happens is the player gets the club into a good compact position on the backswing (photo at left). However, in striving to turn farther, he reaches beyond this good position, to the point where the clubhead travels so far that it helps the body weight to sag back to the left, into a droopy, non-powerful position (photo at right). From here, much more energy will be wasted getting the clubhead back down to the ball.

Don't try to go so far on the backswing that you become a model for the EBRT position.

