

STEP 3:
**MEET THE MAN
 WHO WILL CHANGE
 THE WAY YOU
 PUTT FOR GOOD**

The Tour's new putting guru has easy fixes for your most damaging putting flaws

BY *David DeNunzio* PHOTOGRAPHY BY *Angus Murray*

THE WORLD-CLASS STROKES OF ELS, WOODS, IMMELMAN, KIM, SINGH, YANG, MAHAN, APPLEBY AND 40 OTHER TOUR PROS HAVE ONE THING IN COMMON: **MARIUS FILMALTER**

Q

quietly, right under our noses, putting scientist and instructor Marius Filmlalter has studied, analyzed and picked apart more than 50,000 putting strokes, and he did it using state-of-the-art and industry-standard technology that he helped invent. What he has found over the past two decades challenges many long- and tightly held beliefs about how to best roll that little white ball into that little hole. The data is convincing enough to have successfully lured more than 40 PGA Tour converts to his camp, and it's allowed him to begin laying the foundation for a nationwide network of schools. Here's how you can apply his discoveries to your own motion and improve your putting in every conceivable way.

5 NEW RULES FOR YOUR STROKE

How to apply Marius's findings and stop making the errors that consistently cause you to miss

1: STROKE SPEED

THE OLD WAY: Accelerate into the ball for the best possible strike.
THE MARIUS WAY: Never accelerate into the ball—maintain constant speed.

According to Filmler, your putting stroke is a pendulum, which reaches top speed at the bottom of its arc and then slows down. If you accelerate into the ball when you putt that means you're reaching top speed *after* the bottom of your arc (i.e., past the ball). "This is a bad thing," says Filmler. "Your brain is wired to instinctively square the putterface at the moment it reaches top speed. If you're not at top speed at impact—if you're still accelerating—then you have to make a last-ditch effort to square the putterface. Enter the yip."

Filmler's research shows that the best putters certainly accelerate, but that they do it earlier in their forward-strokes, they do it gradually (they don't "floor the gas pedal") and then they maintain constant speed. "At impact you shouldn't be accelerating or decelerating—just 'celerating.'"

"If I asked you to hit 60 mph in your car at exactly one mile, you wouldn't gradually increase your speed and try to time it perfectly so that you reached 60 mph right at the marker. Instead, you'd ease on the pedal until you got to 60, then *maintain* that speed. This is how your stroke should work."

MY PROOF Stats for all charts computed from Marius Golf's database of 50,000 strokes. They compare the top 25 putters on the PGA Tour against 100 randomly selected amateurs of varying handicaps (high of 24.0).

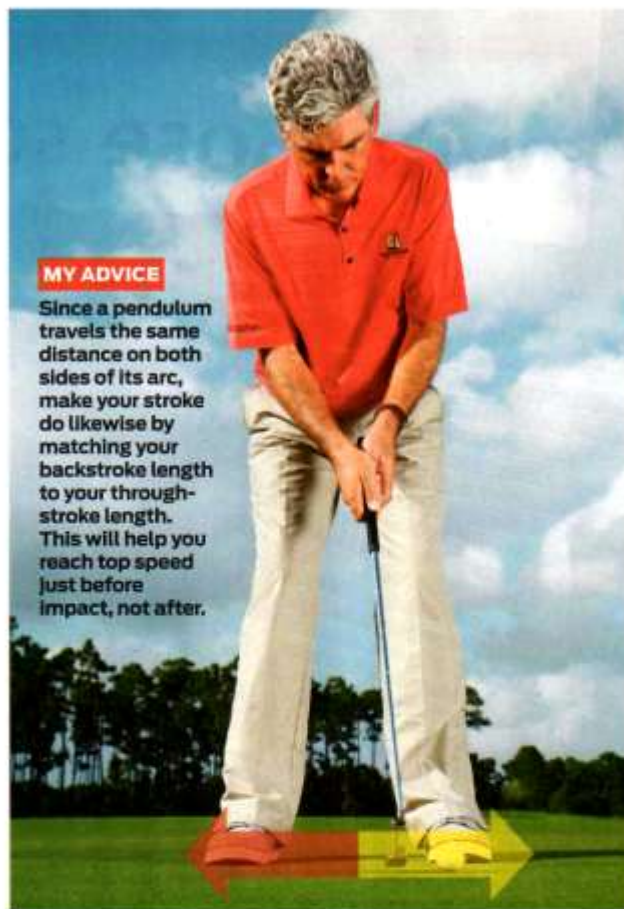
Golfers who reach top speed just before impact:



Golfers who make the same length stroke on both sides of the ball:

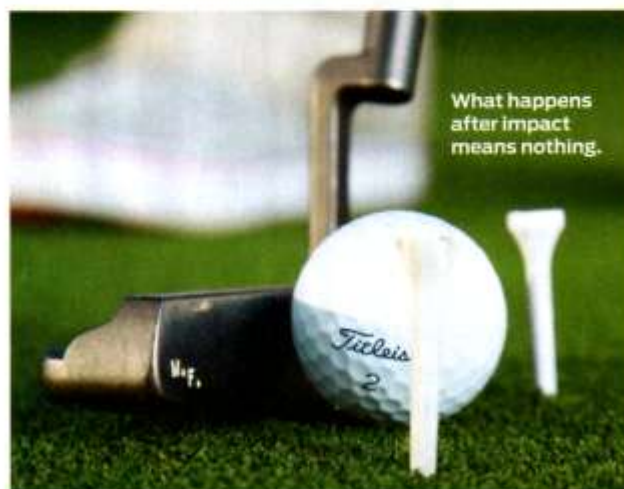


The secret to avoiding acceleration at impact is to maintain constant speed and make your through-stroke as long as your backstroke.



MY ADVICE

Since a pendulum travels the same distance on both sides of its arc, make your stroke do likewise by matching your backstroke length to your through-stroke length. This will help you reach top speed just before impact, not after.



What happens after impact means nothing.

HOW TO PRACTICE CONSTANT SPEED

Prove to yourself how little putterhead speed past the ball affects the quality of your putts. Set two tees in the green far enough apart for a ball to pass through, but not your putter. Place a ball just behind the tees and make your stroke. Notice that even though your putterhead can't move past impact, the ball still goes where you want it to if you correctly reach top speed just before the strike.

2: ALIGNMENT

THE OLD WAY: Align your body square to your line.
THE MARIUS WAY: Set your body how you want. It's far more important to align your forearms to your line.

“If you look at the best putters on any Tour you’ll notice that some of them set their feet parallel to the line, while others are open and some are closed,” Filmler says. The lesson? How you set your feet and lower body has almost zero to do with your ability to start your putts on line. “There are two reasons for this,” he adds. “One is that your lower body doesn’t move when you hit a putt, so it can’t influence direction. The other is that the motors of your stroke—your shoulders, arms and torso—do influence direction. If you set your forearms in line with one another and parallel to your target line, then you’re in a very good alignment to hit the ball where you want it to go.”

MY PROOF

Golfers who cut across the ball by more than 1 degree:



Your putter doesn't care how you set up, only that your forearms are square.

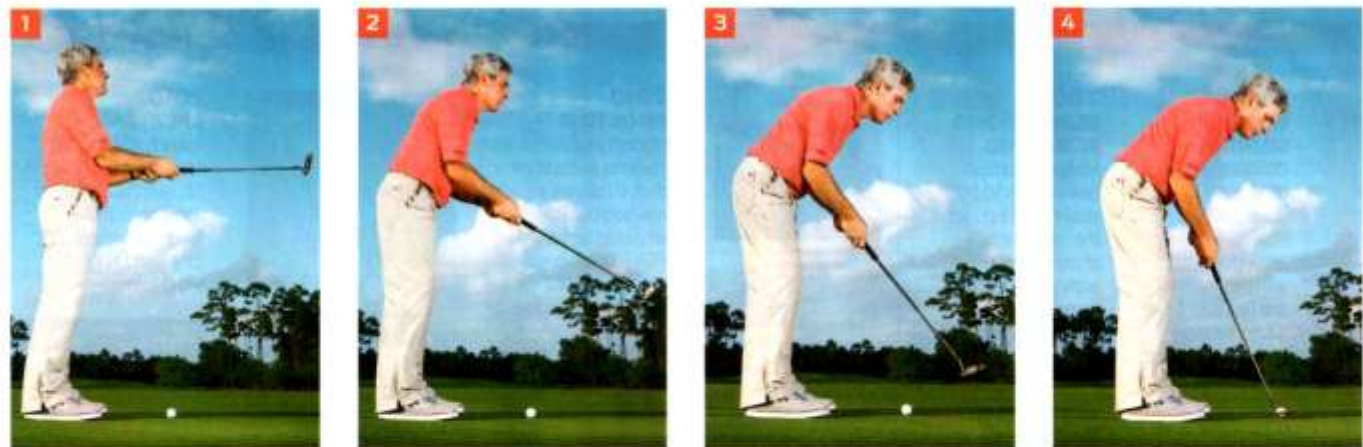
MY ADVICE

Because your right hand is lower than your left on the handle, your right forearm naturally sits farther away from your body and misaligned from your left [photo]. Good putters offset this by bringing their right elbow in close to the right side of their torso at address. Notice as you do this how your right shoulder drops and magically lines up your forearms. You'll know you're doing it correctly when you feel your spine tilt ever so slightly away from the target.



NO! You can't align your forearms unless you set your right elbow against your side.

HOW TO PRACTICE PERFECT ALIGNMENT



Here's a good way to get your forearms in line like you should. Stand up square to your target line with your putter horizontal to the ground and your elbows resting lightly against both sides of your rib cage. Without disturbing this arrangement, slowly bend from your hips while

simultaneously unlocking your knees, and lower your putter down to the ground. The whole process should take about four seconds. From here you can open your stance or close it. Doesn't matter—your putter will follow your forearms down the line when you make your stroke.

Who is Marius?

A fast look at the fast-rising career of the most prolific putting coach on today's Tour

1990 EARLY RESEARCH

At the University of Munich, Marius teams with neuroscientist Dr. Ernst Poeppel to research yipping in amateurs. After preliminary studies, the two professors add involuntary muscle contraction specialist Dr. Christian Marquardt and construct an early iteration of the SAM (Science and Motion) PuttLab.



1998

CO-INVENTS SAM
The current industry-standard method for measuring, analyzing and training putting strokes is born. The ultrasound-driven device is capable of tracking the 28 most important stroke parameters, displaying the results in easy-to-interpret graphic reports.

2001 BUILDS SUPERTEE

Based on conclusions that golfers only yip when there's a ball on the ground, Marius constructs Supertee, a full-swing training device that removes the ball (or tees it up) at such speed that the student stops worrying about impact and simply swings. Featured on *The Haney Project: Charles Barkley* in 2009.



2003 GOLF EUROPE TALK

Presents a decade of research at the European PGA expo in Munich, and is subsequently lured by many top American teaching professionals to work at their schools. A year later Marius opts for Hank Haney and his access to Tiger Woods ("I need to study the best").



2005 FIX THE YIPS FOREVER

Much of Marius's research is featured in the popular book on yipping by Hank Haney.

2005 INVENTS TOMI

Based on feedback that SAM is too complicated (and costly) for most teachers, Marius constructs a simplified, geared-back version called TOMI ("The Optimal Motion Instructor") that features real-time analysis. TOMI instantly tells golfers what's right and what's wrong while they're making their strokes.



2005 FIRST TRAINING SESSION WITH TIGER WOODS

Gets the No. 1 player in the world on SAM. Over the years Tiger revisits the collected data if and when his stroke goes awry. Marius is impressed: "Tiger is one of the finest putters I've seen."

2004 WORK ON THE HANEY RANCH

Marius arrives in the U.S. and collaborates with Hank Haney, Oklahoma Sports Science and Orthopedics and putting researcher Pierre Noiset to study motor strategy disturbances (aka, the yips.) The study sheds serious new light on the movement disorders that golfers suffer when plagued with this phenomenon.



2008 WORLD SCIENTIFIC CONGRESS OF GOLF V

Speaks at the Phoenix-held research summit with Debbie Cruz and Dr. Chuck Adler: "Motor Strategy Disturbances in Golf: The Effect of Yips on the Movement of the Putterhead." Marius becomes the authority on yipping.

2008 50,000 STROKES RESEARCHED

Marius's data block now exceeds 50,000 strokes, and includes the movements of more than 700 professional golfers. Completes work on the Haney Ranch and launches Marius Golf and mariusgolf.com.

50K



**2009
GOLF MAGAZINE
INNOVATOR AWARD**
Receives long-overdue credit in our December 2009 issue.

2010 BIG ON TOUR

Marius's pool of PGA Tour students swells to more than 40 players, including new addition Ernie Els, who picks up his first PGA Tour win in two years at the WGC-CA Championship in Miami.



**2010
MARIUS GOLF
AUTOMATIC
PUTTING PACKAGE**
DVD-based learning program hits stores and online retailers.

2010 A NEW HOME

Opens first Marius Golf Academy at Old American G.C., near Dallas. Follows with schools in Miami, Austin, Washington, D.C., Long Island, Nantucket and Orlando.



WORKS: DAVID HALL/BRUNNEN; SCOTT HALL/BRUNNEN; MARCUS/GETTY IMAGES/DAVID HALL/BRUNNEN

3: STROKE PATH

THE OLD WAY: Move your putter straight back and through the ball or along a perfect arc.

THE MARIUS WAY: Take your putter back on an arc, return it to the ball on the same path, but then putt down your target line.

The two most commonly taught stroke types have merit, but according to Filmalter, they fall short of perfection. "It's impossible to take the putterhead straight back without lifting it off the ground or letting your right elbow fly," he explains. "Test it by putting against a wall and watch how the putterhead must rise in order for you to keep the toe in contact with the baseboard as you move it straight back." Lifting the putter in your backstroke is bad because it results in a downward angle of attack—the exact opposite of what you need to create proper roll after impact. "So yes," Filmalter advises, "your backstroke—and subsequent path back to the ball—must arc."

What about impact? "While it's true that your putter will eventually arc back to the inside at some point in your through-stroke," Filmalter explains, "it's critical that you work straight down the line for at least the first 4 inches past the ball. This straight-line impact—paired with an inside delivery—ensures that you won't cut across the ball and promotes a full release of the putterhead."

The best putters in the world arc going back, but then putt straight down the line through the impact zone.



PUTTERS (ABOVE AND BELOW): SCHLECTER LEE

MY ADVICE

Take your regular setup and putt with your right arm only. With both hands on the handle, you're more likely to steer the club. With only one hand on the handle, however, you'll make a freer stroke and feel how your putterhead naturally wants to move inside on the backstroke and down the line going through.



DON'T DO THIS!

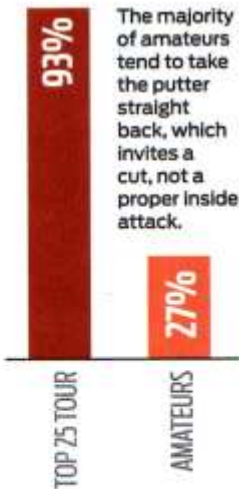


In a pure arc stroke the face points at the target for a very brief instant, leaving you with very little margin for error.

A straight-back-and-through stroke sounds good, but you can't make one without lifting your putter off the ground.

MY PROOF

Golfers who deliver the putter from the inside:



The majority of amateurs tend to take the putter straight back, which invites a cut, not a proper inside attack.



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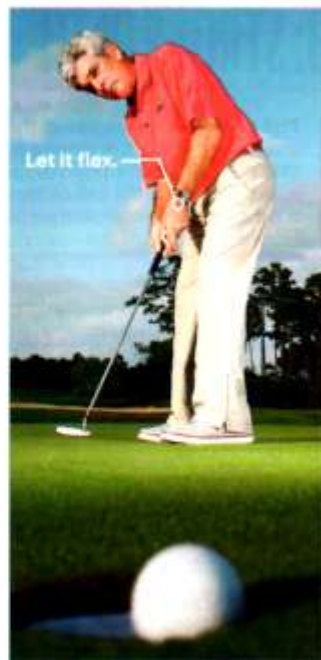
4: CONTACT

THE OLD WAY: Keep your left wrist as flat as possible when you strike the ball.

THE MARIUS WAY: Let it flex so you can properly release the putterhead and add loft at impact.

“My research shows that the best putters allow their left wrist to unhinge through the ball, or better yet, to respond to the weight of the putterhead,” says Marius. “What they don’t do is keep their left wrist flat, as is so often taught. Anytime you hold something rigid in your stroke, you add tension and reduce feel. That’s the last thing a Tour player needs on today’s slick greens.”

Filmalter doesn’t recommend flipping the putterhead past your hands, but sees a benefit in a slight vertical release. “All good putters add loft at impact [chart below], and letting the putterhead creep ahead of the shaft through the ball is a good way to do it.”



MY PROOF

Golfers who add loft at impact:



Here’s where amateurs get closest to what the pros do, probably because reducing loft at impact is so disastrous. Adding it, on the other hand, is what gets the ball out of the depression it’s sitting in on the green (a real phenomenon caused by gravity) and causes it to hug the green as it rolls.

Tour players optimize loft in three ways [graphic, right]:

- 1) They hit up.
- 2) They allow the head to softly pass the shaft through impact.
- 3) They use all of the loft built into the face.



MY ADVICE

Stroke and hold your finish. If you’ve mistakenly kept your left wrist flat, the handle will point away from your body. If you’ve allowed your left wrist to react correctly, it will point at your body.

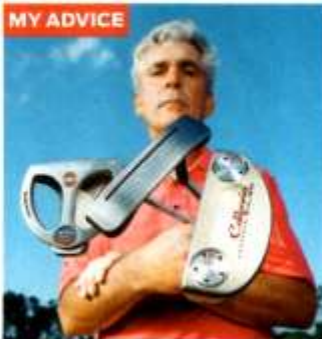


5: PUTTER CHOICE

THE OLD WAY: Opt for a face-balanced model if you're over-rotating the putterhead.

THE MARIUS WAY: Use any putter you want. If you're over-rotating, it's your fault, not your putter's.

According to Filmlalter, if your putter is rotating out of control, switching to one designed to twist less—like most people believe face-balanced mallets are designed to do—won't help. He explains, "Putter designs differ in the ease with which they're able to rotate in relation to your path, not around themselves. A putter can't rotate around its own axis unless you cause it to by turning your wrists. Unduly opening or closing the putterface is all on you—placing something different in your hands won't help."



If you suffer from over-rotation, then maintaining constant speed is the best thing you can do to remedy it. As far as choosing what putter is right for you, go with your instincts. I find that most people choose the right putter automatically. It's like buying a car. Sure, you peek under the hood, but what really draws you to it are its looks.

MY PROOF

100

The percentage of golfers in my 50,000-stroke database who rotate the putterhead. It doesn't matter if you're a pro using a heel-toe putter [below, top] or an amateur [below, bottom] with a face-balanced mallet—rotation happens.

End of Forward-stroke

6.7° CLOSED



Impact

0.1° CLOSED



Start of Forward-stroke

5.8° OPEN



SAM-generated rotation profiles show that closing through impact is universal. A different style of putter won't help you buck the trend.

7.6° CLOSED



0.5° OPEN



4.9° OPEN



PUTT THE LIGHTS OUT

Take your putting to a new level with a series of video lessons featuring Marius Filmlalter at golf.com/putting.

PUTTERS: THE IMAGE AND OPTIMUS; SCHRIBELLE



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