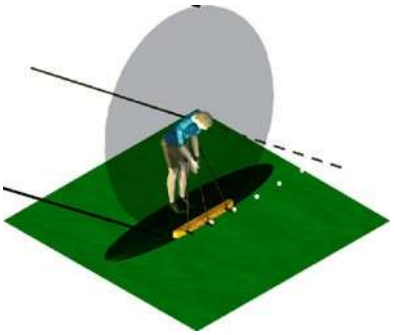
# The Fundamentals of Putting

## Episode 5 – Putter face rotation

Controlling putter face rotation is crucial to hit the ball with exactly the intended face angle and thus the most important dynamic aspect of putting to control the direction of a putt. Since Dave Pelz promoted in his Putting Bible the "straight-back and straight-through" stroke to reduce or even exclude face rotation from the putting stroke an ongoing discussion started about the “correct” amount of face rotation. Dave Pelz’s theory suggested that less face rotation is advantageous because the sources of face angle errors at impact are reduced. However, many players failed in applying the straight back and straight through stroke as it felt unnatural and often resulted in a manipulated type of stroke. Nowadays it is widely accepted that some amount of face rotation is a natural consequence of swinging in a tilted plane. Instead, the ability to bring the putter face consistently square through impact is seen as relevant factor to control the direction of a putt.



***Picture** is courtesy of Putting Arc*

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## Background

### *Natural absolute face rotation*

Face rotation against the target line is a consequence of moving the putter back and forth on a tilted swing plane. The pivot of the swing plane is located approximately at the upper part of the spine above the neck. Consequently, there will be more rotation for an upright stance as the swing plane will be more tilted. If instead the posture is more bended (if using a shorter putter) then the swing plane will be steeper and the amount of face rotation will be reduced. It has to be noted that despite of absolute rotation against target line the putter will always be square relative to path direction for natural rotation.

Consequently face rotation is NOT necessarily a consequence of forearm or wrist action as often supposed. In contrast to the intention of Dave Pelz, to produce a straight back and straight through stroke in a tilted swing plane the forearms need to be activated to suppress natural rotation. The consequence of this manipulation is reduced consistency of face angle at impact.

### *Relative face rotation*

If the putter face is rotated against the path direction then we talk about relative face rotation. Relative face rotation is not a consequence of the tilted swing plane rather than uncoupling the forearms and hands from the rotation of the shoulders around the neck. In many amateurs we find hand and forearm action ("breaking wrists") which results in additional amount of face rotation. On the other hand, a lot of the skilled players tend to reduce rotation by blocking the putter face through impact. Activating the forearms and hands always tends to reduce consistency of face angle at impact and should be avoided in amateurs.

## Frequent errors and consequences

### *Setup*

Many golfers play a putter which has not been properly fitted in length. The standard length of a putter in the retail shops is still 35" which has proven to be too long for most of the golfers, in particular for women. If the putter is too long more rotation than necessary is created. Because the arms cannot naturally hang down the swing will also be affected. Additionally, for a too long putter the eye position will be inside of the ball making aiming more difficult.

### *Over-rotation*

Amateurs often do not properly move the putter back and forth on a neutral swing plane. They activate their hands and forearms which results in increased and inconsistent face rotation. This is often combined with a follow-through which is too long and excessive rotation at the end of the swing. Inconsistent and increased face rotation is a problem in particular on short putts where the direction of the putt is crucial.

### *Blocking*

Sometimes skilled players tend to block the putter face through impact to reduce natural rotation. Reduced rotation seems to suggest better control of the putter face at impact. However manipulating the face angle, also if reducing rotation, is always destroying the bio-mechanical coupling of proper setup, balance, and rotating around a stable pivot. In consequence, face at impact will often be less consistent and less predictable.

## *Yips*

Yips is a common problem in many golfers. Most studies found Yips problems in 20-30% of the golfers. Yips affects face rotation and is an involuntary jerking of the hands around impact resulting in a loss of control of the ball direction in particular on short putts. The origin of Yips is still unclear but Yips seems directly connected to over-controlling the putt as a consequence of stress, pressure or lack of tolerance to failure. A simple test for Yips is to play some putts with the right had only and to check if the inconsistency increases.

# How to improve a face rotation behavior

## *Fit length of the putter*

The correct length of the putter played is crucial for a neutral, consistent and stable setup. In most cases we find the putter being too long, which results in looping in the backswing and in steering of the putter through impact. How to fit setup and posture to determine the correct length of a putter:

- Use a mirror or a video camera to control setup and eye position
- Get into a comfortable position, back spine not too upright or too bended
- Walk back/forth to set the eyes over the ball
- The arms are hanging down relaxed, hands below the shoulders
- Position a fitting putter into the hands to adjust the length of the putter

***Check the 3 lines:***

*- Eye down to the ball*

*- Shoulders, hands, tip of the toes*

*- Putter shaft and forearms / elbow*

## *The shaft drill*

To stay in plane during a putting stroke the shaft drill might help. Position a club shaft horizontally under your upper arms before you set up to the ball. Then to hit the putt rock your shoulders around your neck without activating the forearms or hands. Move the shoulders, arms, hand and the putter as one unit in a stable triangle. Although this type of stroke is more mechanical a light grip helps to still feel the putter head and ball contact. By only rocking the shoulders you minimize interferences with the swing motion and most likely hit the exactly with the same angle as you addressed the ball. In case of missing the putts to one side correct the shoulder alignment accordingly.

# Training Aids

There are a couple of training aids available which help you to stay in plane during the putting stroke. The swing plane is only indirectly linked to face rotation, but if the swing plane is guided it is very likely that also the putter face is rotated more smoothly. The theory behind these aids is that a neutral stroke should move inside of a tilted swing plane.

## *Putting Arc*

***The Putting Arc*** *helps the putter moving neutrally on an ellipse which corresponds to an intermediate tilted swing plane. The ellipse is the result of a projection of the tilted swing plane down to the ground.* ***www.theputtingarc.com***

## *YES Trueplane*

***The YES Trueplane** putting trainer follows the same idea. If the putter is moved inside of a tilted plane then the putter head also moves on a titled plane. The heel of the putter is then simply slided along the tilted plane of the tool.*
***www.trueplane.com***

## *PerfectStroke putting aid*

***The PerfectStroke** putting aid also promotes the concept of a slightly tilted swing plane. The shaft of the putter moves on plane on a straight suspended rail, supporting a putting stroke that has a slight arc with a putterhead moving slightly inside / inside rather than a straight back and through stroke. At the same time the putterface opens and closes slightly relative to the target line but always stays square relative to path direction.*
***www.perfectstroke.org***

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We hope you also enjoyed our fifth episode of 'The Fundamentals of Putting' and could give you some ideas on how to improve your training.

New episodes will follow soon. Follow our Facebook page and Twitter to stay up to date…

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