

# Using a Quiet Eye Is the Key To Improving Targeting Accuracy

A great deal of information is emerging from the world of sport science research that can inform bowlers and bowling coaches. These findings have important implications in providing critical guidance on improving our methods and practices in an effort to increase performance levels and promote more consistent repeatability in shot-making. Unfortunately, at this time, we must borrow from research conducted on other sports and extrapolate the finding to bowling. But, these research studies that reveal similar findings over and over from a variety of sports is reliable to adapt to our needs.

One of the most exciting areas of research currently being conducted is the relationship of eye gaze time, targeting and performance levels. Dr. Joan Vickers, Director of the Neuro-Motor Psychology Laboratory at the University of Calgary, is conducting research on targeting in sports that is revealing intriguing secrets of how elite athletes utilize their eyes to target in a number of sports including golf, hockey and tennis. Specifically, this research informs us where to best target with our eyes and how long to actually fix our gaze on our target. And, the research is providing insight in targeting proficiency that will allow more novice players to alter their targeting to improve performance. Accordingly, it can inform the global tenpin bowling community on the most effective targeting methods.

In her research, Vickers uses a head mounted digital eye tracker. This device literally tracks all movement of the eyes and provides insight into where athletes are looking. Through a study of several sports, Vickers discovered that there are significant differences between how elite athletes use their eyes for targeting as compared to less skilled players. Specifically, elite athletes have far less eye movements in their targeting and have a longer sustained gaze on their targets.

In simple terms, a skilled athlete focuses more on their target and maintains a lock on their target for a longer period of time. Intuitively, this is not surprising. Yet, less skilled athletes do not realize that they are actually not looking at their target as long or that they are looking all around rather than on their target. When asked, they respond believing they have maintained their target gaze. But, when a review of the video showing where they are actually locking is revealed, their gaze is more scattered around the target and not actually on the target.

In this installment of Slowinski at-large, I provide readers with detailed insight into skilled targeting through a research summary on the importance of “quiet eye” as well as provide a method of implementing “quiet eye” into a targeting on the lanes to greatly improve your accuracy. With this

foundation and an improved targeting method, bowlers will be provided with a tool to increase consistency.

### **The Research Findings On Quiet Eye From Other Sports**

Vickers conducted research on golfers to compare differences in eye movement and gaze length, between experts and novices. Professionals had more efficient eye movements with less variation. Elite golfers focused only on targeting at a specific small point, the breakpoint, and then back to a spot on the back of the ball, the contact point. This was a very straight scan path. Novices' eye movements were far more varied and were in many various directions and locations around the intended target. This led their scan path to be all over the place. In other words, novice players had a scattered targeting compared to the elite players. Their eyes were looking all around without realizing it.

In addition to less eye movements, the expert putters held their gaze longer on both the breakpoint of the putt and on the contact point of the ball. In fact, the experts kept their eye on the contact of the ball after the ball was gone. If you are a golfer, try this method. Focus on the cup or the breakpoint for 2 seconds. Smoothly return to the contact point of the ball, the back of the ball. Hold this gaze for 2 seconds. After striking the ball, keep your eye on what was the contact point for 1 second. This keeps your head down.

And, these findings were found in other sports as well. Research on expert marksmanship revealed that expert shooters gazed at the target longer than less accurate shooters. Specifically, the better shooters averaged 12 seconds of target gaze while the novices 8 seconds on target. In other studies, of billiards and archery, similar findings were revealed. The longer the period of quiet eye, the more proficient the players were. In one study in billiards, in which the gaze of each player was altered from short, medium to longer gaze, all participants, independent of their ability, had more success with a longer gaze. Similar to the research on shooters, the same billiards study revealed that more skilled players had a longer gaze than less skilled players.

As mentioned earlier, what was most revealing was the fact that most athletes believe they were looking longer at the target. With the eye tracker it was clear that many athletes were actually looking around and not aware that they were actually doing this. In essence, this is as simple as implementing a focus and pause process in your targeting. As one researcher stated, "It isn't about aiming, it is

about dwelling.” This requires a purposeful focus on increasing your gaze time on your target and reducing your unconscious tendency of just looking around without awareness.

Research has also shown that skilled athletes achieve a state of harmonious brain waves due to the utilization of the quiet eye. In golfing, less capable putters have a brain that has to process more chaotic brain waves. In short, since the skilled athletes are targeting more quietly, their brain waves are more calm and in harmony whereas the less skilled players are looking all around. This causes the brain waves of these players to become disconcerted or chaotic. These findings were particularly true for the parts of the brain that control vision. When golfers were successful putting they took less time with less gazes compared to when they were less successful or compared to less successful golfers. Specifically, when a putt was made they used about 8 seconds and 10 gazes taking 10 seconds with far gazes when they missed. So, in essence, successful targeting evolves a steadier and more efficient approach. And, this can be mastered with a focused approach.

Dr. Vickers has been training teams to promote improved quiet eye. With a training application to promote the quiet eye in basketball, a free-throw improvement of 22%, from 54% in season 1 to 76% conversion percentage rate in the following season. The quiet eye training led to a season improvement of nearly 25%. With less eye movements and longer target gaze times, the process of targeting utilized by experts in all sports revealed that quiet eye also contributed to keeping the athletes calmer. Specifically, in a number of studies, athletes who held their gaze longer also were calmer mentally and physically. In one study, increased alpha waves were released in the left hemisphere, reducing the analytical side of the brain.

### **Improving Your Targeting: Implementing A Quieter Eye On The Lanes**

With such strong findings from the research, quiet eye certainly has implications for improving bowlers targeting and subsequent performance at all levels. Here is a process that will help you develop a quiet eye on the lanes. Use this after you have established your set-up on the approach.

[Step 1: Focus Where You Want the Ball To Go.](#) Begin with a target down the lane. This is exactly where you want the ball to go. Hold your gaze on this point for a 2 full seconds. I recommend utilizing the exit point because it informs us where research states we should target. To find the exit point use the following formula  $\text{Pattern Length} - 31 = \text{the actual target board at the end of the pattern at this distance}$ . Try saying “exit-point site, exit-point locked” to ensure you are looking for an adequate

amount of time. But, many readers will continue to use a break point. If so, say “break point site, break point locked.”

[Step 2: Bring your eyes immediately smoothly back to your visual target.](#) At this point, do not look anywhere other than the visual target. You need to train yourself to move from the target down the lane to a visual target that is closer without looking around. Specifically, move smoothly from the exit point to your visual target. Keep your eye on this visual target for 2 full seconds before you enter into the approach. If you need, make the following statement, “target-on” + pause + “target-lock” which will be approximate two seconds. .

[Step 3: Keep your eye on the visual target after the ball passes through it.](#) From the beginning of your approach until the ball passes through your target, keep your eye on the visual target. This will take practice as you will want to immediately watch the ball. Work to keep your eye remaining on your visual target after the ball has gone past it. This will also help you improve your finish position and leverage at the line.

Note: You can incorporate the 3-point targeting system with quiet eye as well. Simply hold the gaze on the focal point for 2 seconds, then the exit point for 2 seconds and finally the visual target for 2 seconds before starting your approach.

If you think this is a long-time, then look to the bowler who was fastest ever to 10 titles. From the time he steps on the approach until starting the approach, Tommy Jones takes a full 11 seconds on each shot. This includes set-up, pre-shot routine, etc. Perhaps, you are not taking adequate time to lock your target gaze.

### **Final Note**

This article illustrates the importance of a purposeful mental game to elevate your performance to the next level. Purposefulness will yield improved performance no matter what level of your current performance, from Top 10 on the PBA points list to a once-a-week league bowler. Quiet eye is proven to improve performance and is found in the athlete at the highest levels of all sports. With a focused approach to implementing quiet eye into your pre-shot routine, your game will take a big leap in regard to consistency.

## **3-POINT TARGET SYSTEM FOR ADVANCED LANE PLAY**

Try the following targeting system to improve your ability to play any lane condition as well as create better angles.

### **Step # 1: Determine the Exit Point Based on the Pattern Length(PL - 31)**

The exit point is not the break point. This is the ideal location, based on research, that the ball should leave the end of the oil pattern to maximize your margin of error. For example, a 40 foot pattern has an exit point of board 9 @ 40 feet (i.e.,  $40 - 31 = 9$ ). And, a 35 foot pattern has an exit point of board 4 @ 35 feet (i.e.,  $35 - 31 = 4$ ).

### **Step # 2: Determine a Focal Point Based on the Desired Launch Angle**

Project a line from the exit point to the pin deck. Target closer to the headpin for longer patterns. Target further from the headpin for shorter patterns.

### **Step # 3: Choose a Visual Target**

With the line creating from the Exit Point and Focal Point, you now can choose a visual target. Bring the local from the Focal Point through the Exit Point to where you want to target. This also will provide you with guidance on where to stand for the angle of the target line created. In general, as a starting point, Target closer to the exit point on shorter patterns. Target closer to the arrows on longer patterns. Target past the exit point if you need.

### **Step # 4: Draw an Imaginary Line: Focal through Exit to Visual Target**

Actually draw a trajectory line in your mind by concentrating for 2 full seconds at each point. Using a Quiet Eye with the three targets will improve your accuracy and increase repeatability.

### **Step # 5:**

Breath-In, Exhale, Go. Breathing also helps to calm your mind increasing your ability to repeat a good shot.