Using the Quiet Eye to avoid choking
Long gazes can really help you win

In March 2008, I introduced readers to the power and effectiveness of the quiet eye (QE) and the characteristics of elite athlete’s targeting processes. The quiet eye is defined as the length of the gaze time just before the first movement. According to the research, it is increasingly clear that elite athletes take more time on the target and have less eye movement off the target as compared with less proficient athletes.

Intuitively, this might make sense to you. It seems obvious that a skilled athlete will target for a longer period of time with more intent and less eye movement. Less skilled players take less time on the target and have more eye movement. These less skilled athletes perceive that they take more time than they actually do on target lock and that they have a steady gaze on their targets. This perception is not accurate. Fortunately, training can lead to an improvement in quiet eye.

(1) In several studies, training was shown to improve the length of the quiet eye duration leading to significant improvement in performance. In one study of golf putting with highly skilled golfers, improvement in putting success went from approximately 50 percent of putts made to 77 percent of putts made. In an amazing improvement, a collegiate basketball team improved their season-long free throw percentage a staggering 22.6 percent after training, from 54.1 percent completion in year one to 76.7 percent in year two by using the quiet eye.

Choking can be prevented through the optimal management of [quiet eye] duration as physiological arousal increases to maximum. Our results show that at the outset of [high pressure] competition, there is a tendency to reduce [quiet eye] duration on critical external task information….a key to not choking is to increase the duration of [quiet eye] as physiological levels rise.”

- Vickers & Williams, 2007

(2) The powerful effect of the QE on performance is clear. Stress has been shown to erode the quiet eye duration time as well as be a catalyst for more eye movement during targeting. Consequently, the introduction of a stressful situation or environment can erase the effect of the quiet eye. One study of Olympian and national team biathletes found that those who didn’t choke in a high anxiety scenario had increased their quiet eye duration during the highest amount of stress as well as actually improved shooting accuracy.

In this issue of Slowinski at-large, I discuss additional research on the effectiveness of the QE as well as how the QE can be diminished by competitive anxiety. Finally, I provide recommendations on how to increase quiet eye duration during the most important competition events in an effort to reduce the likelihood of choking in competitive tournament settings.

Quiet Eye duration determines success or failure

Janelle et al. (2000) found that expert rifle shooters had a significantly longer quiet eye period as compared with non-experts. Experts took 11.5 seconds to shoot, on average, as compared with an average shot time of 7.6 seconds for non-experts. The expert marksmen also took longer in total aiming time.

Joe Slowinski, a Top 100 coach, is a full time coach at the Kegel Training Center and the Head Coach of the Webber International University bowling program. The Portland Maine native is the former Director of Coaching and Coach Certification for the National Sports Council of Malaysia. Visit his coaching site at www.bowlingknowledge.info and send him questions at joe.slowinski@kegel.net
In a study of billiards players, Williams et al. (2002) found a significant relationship between quiet eye duration and success and failure in elite players. Specifically, highly skilled billiards players had a longer quiet eye duration on successful versus unsuccessful shots (i.e., 270.83 ms versus 157.64 ms). Interestingly, the quiet eye duration was 2.6 times longer on successful shots: 310.42 ms versus 118.06 ms. As the complexity of the shot increased, the duration of the quiet eye also increased.

Panchuk & Vickers (in Vickers, 2007) conducted a study of eight elite hockey goalkeepers to examine quiet eye duration in successful saves versus goals surrendered. In the study, all of the keepers had a longer quiet eye duration on saves compared to when they gave up a goal. For shots at five meters, the average duration was 935.83 ms for successful saves and 774.17 ms for goals. At ten meters, the average duration was 968.75 ms compared with 878.13 ms. There was also less standard deviation of quiet eye times between all goalkeepers on successful saves.

### Competition stress erodes Quiet Eye duration

Highly skilled athletes have a significantly longer quiet eye duration when they are successful as compared to when they are not. An extended quiet eye duration time allows athletes to gather critical information while minimizing distractibility from outside information.

Competitive stress can lead to an unintended reduction in the quiet eye duration period. In a high stress situation, Janelle (2002) found that eye gaze became erratic, with fixations and eye movements directed to peripheral locations and areas away from main targets. In the same study, during extremely complex shots, highly skilled billiards players took three times more time on successful shots as compared with unsuccessful shots.

Behan & Wilson (2008) also studied the impact of anxiety on quiet eye duration. In a simulated archery activity, successful hits were associated with a longer quiet eye duration as compared with misses. Specifically, quiet eye time was 63 percent of the alignment phase for a successful shot whereas misses had a quiet eye period of 50 percent of alignment. When stress was introduced, the average quiet eye time period was 50 percent of the alignment phase. In the low stress test, the average quiet eye period was 62 percent of the alignment time.

Athletes who experience an increase in physiological arousal due to cognitive anxiety are prone to choking. In a study of ten senior and junior Canadian national biathletes six weeks before the Olympics, Vickers & Williams (2007) found that only the athletes who increased their quiet eye duration period under a stressful situation were able to overcome the debilitating effects of anxiety. For those athletes whose quiet eye duration remained at a similar baseline level or decreased during the high stress scenario, accuracy declined. Most importantly for the group that did not choke in the activity, accuracy increased under the presence of stress. The quiet eye helped them to not choke and their accuracy improved.

### Discussion

The research has demonstrated that expert elite athletes have a longer quiet eye period. It is also clear from these findings that elite performers have a longer quiet eye duration when successful as compared to when they fail.

Anxiety has been demonstrated to have a debilitating impact on an athlete’s performance. Consequently, elite athletes are prone to choking if they can’t control the quiet eye duration. When encountering a highly
stressful competitive situation or environment, athletes have many responses including cognitive and physiological. Without proactive measures, nearly all athletes will choke or underperform. For example, the Catastrophe Model of Anxiety and Performance posits that high levels of cognitive stress impact performance negatively and are only detrimental to performance when accompanied by strong physiological arousal.

As the Vickers & Williams (2007) research reveals, those athletes who increased their quiet eye time under stress avoided a choke and actually increased their performance over normal conditions. This finding provides us with promising guidance on what to do in a highly stressful situation such as an important competition.

The utilization of the quiet eye can assist you in being more accurate as well as helping to reduce the likelihood of choking. If the quiet eye duration is purposefully longer, independent of physiological arousal, performance can be enhanced.

How to implement the Quiet Eye process to avoid choking

With a purposeful increased quiet eye duration, you will be more accurate. Nearly all of the clients to whom I introduce the quiet eye process also describe a reduction of external distraction. The quiet eye also quiets their mind and helps them get into a performance flow. Here is a recommended process to implement a quiet eye in bowling:

**Step 1:** Start your targeting with where you want the ball to go. This will provide your mind with a conscious direction for the target line. I strongly recommend using a focal point. Think of the pin as having five specific spots: center, right, bottom right, left, and bottom left. Choosing a specific spot will help control the launch angle and exact direction you want the ball to go. Having a precise spot at the end of the lane will promote a quiet eye.

**Step 2:** After setting up in the stance, look at the precise spot to which you want the ball to go. For this target, take two full seconds. I recommend saying “one thousand one – one thousand two” in your mind.

**Step 3:** Next, move your eyes smoothly to your front target. Take two seconds to look at the precise spot of your close target (arrows, dots, or foul line spot). Once again, I like the use of saying “one thousand one – one thousand two” in your mind.

In an important tournament competition or at a critical moment during a regular event, take three seconds on the focal point. Think “one thousand one – one thousand two - one thousand three” in your mind. The goal is to ensure that you take longer with the directional intent of where you want the bowl to go. The extra time on the focal point and the visual target will help you overcome the stress of a high anxiety situation and avoid choking in a tournament or key moment.

Conclusion

The quiet eye is defined as the final eye gaze fixation prior to the first movement. Having a longer time on the target just before engaging in the approach will help you increase your accuracy significantly. This is most important when anxiety occurs in competition. By taking extra time on your targets, you will increase your quiet eye duration and prevent choking at critical moments.

References


