

Performance Point

Eye Tracking and the Quiet Eye

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Performing various motor skills requires athletes to focus their attention and gaze on specific cues within their visual field. Whether it is visualizing the field, a player's next move, or tracking an object, athletes must always be aware of their environment. With new equipment and research we are able to track where athletes are looking and relate their gaze to athletic performance.

Applied Laboratories Systems has designed a portable Mobile Eye Tracker that calculates the exact location an athlete is looking within their visual field. With two video cameras (eye and scene camera) attached to goggles the software is able to compare the angle and distance between the pupil and cornea (eye camera, left) and relate the angle that the eye is pointed to the specific location within their visual field (scene camera, right).



Dr. Joan Vickers of the University of Calgary has studied eye tracking and constructed the theory of The Quiet Eye. The quiet eye is the final fixation or tracking gaze located on a specific place or object in the athlete's field of vision for a specific duration (quieteyesolutions.com, 2007). The quiet eye has four distinct characteristics:

1. Gaze Location

The actual location of gaze varies between athletes, but once the location is set, the athlete must hold this position.

2. Gaze Onset

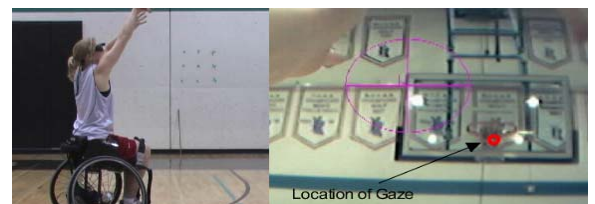
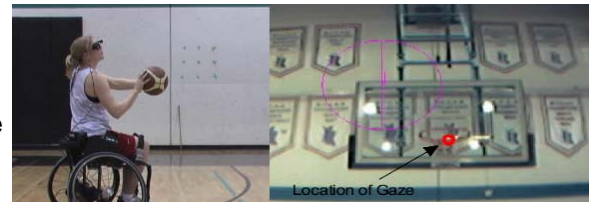
The gaze onset must be set prior to the final movement of the task.

3. Gaze Offset

The offset occurs once the athlete's gaze deviates from their specific location.

4. Gaze Duration

Gaze duration should be held for 100ms (1s).



The quiet eye is a characteristic commonly found in elite athletic performances promoting consistency and accuracy within a skill. The ability to hold one's focus on a specific location can separate the elite from the near-elite.

For more information on the Mobile Eye Tracker and/or research on The Quiet Eye please visit quieteyesolutions.com or email mwyngaarden@cscpacific.ca.

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