



Optometric Approach to Sports Vision Training

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It is generally accepted that athletes need to have good vision and an efficient visual system in order to perceive and interpret their games in a complex sporting environment.

Eye movement for athletes needs to be immensely accurate as they visually track the trajectory of moving objects. Whilst investigating an athlete's visual efficiency, it is a routine for sports optometrists to clinically investigate how an athlete uses their two eyes together as a team. This is broadly termed as binocular vision or orthoptics.

Scientifically, skilled eye movements in sports can be related as a sequence of complicated processes in the brain. It can be argued that vision is the signal that directs muscles of the body to respond and this can be explained in terms of eye-hand coordination – a skill which is of paramount importance for an athlete whilst delivering their best performance in sports. This can be translated into improved visual reaction time and proaction time.

The objective in sports vision training is to improve an athlete's visual efficiency and eye-hand coordination (and also eye-body balancing and eye-foot coordination) during their specific sporting activities. This may require multidisciplinary clinical work and typically in collaboration with the sports physiotherapist, coach and the team.

Athletes who use their vision effectively see things more quickly, evaluate relative position more accurately, tire less and demonstrate enhanced overall in-field performance during sports.

SPORTS VISION

Golf Putting & Depth Perception

in Sports Physio Eye Development

Golf Putting

Stand directly behind the ball and hold the club up on a line to the hole.

This helps to establish the imaginary target line whilst using your two eyes to achieve 'binocular vision'.

In this way, you will be able to aim by aligning the line visually and accurately perceive the target line with the help of depth perception.



Sports Physio Eye Development

Yap Tiong Peng, Optometrist

Eye Movement & Vestibular Balancing

Visual Performance

Vestibulo-ocular movements help to coordinate the eyes with head motion and assist in balancing.



Sports Physio Eye Development

Eye Movement, Focusing & Vergence

Visual Performance

'Vergence' during eye movement allows the eyes to turn (in or out) towards the ball at various distances, whilst the eyes 'accommodate' to keep its focus on the ball.



eye-teaming (binocularity) skills



Sports Physio Eye Development

Yap Tiong Peng, Optometrist

Eye Movement: Oculomotor Skills

Visual Performance



eye movements are immensely accurate and quick to visually track the trajectory of a moving ball



saccadic eye movement is used for rapid visual scanning during sports

pursuit eye movement is used to visually track the trajectory of a slow moving ball and this must continuously match the relative motion of the ball

visual search pattern or strategy



Sports Physio Eye Development

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