

SPORTS VISION

Get the Visual Edge



IS VISION STANDING IN YOUR WAY?

Symptoms:

- Consistently hitting ball long/short
- Consistently hitting too early/late
- Incorrect body positioning in relation to the ball
- Poor strategy/"lack of vision"
- Loosing track of the ball
- Poor anticipation
- Poor timing
- Inconsistent performance
- Performance deterioration over time
- Drop in performance in critical situations
- Squinting
- Slow setup to the ball
- Poor spin and serve reading



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What does it take to win? To make the catch, hit the fastball, or nail the shot?
Your eyes are the answer.

To excel in sports, considerable attention is paid to modifiable factors such as coaching, nutrition, and fitness, but one key element often overlooked is **VISION**.

Vision is the signal that directs the muscles of the body to respond

Studies have shown that Elite athletes have superior vision compared to other athletes. They see better, their peripheral vision is wider, their depth perception is better, they have an ability to change focus faster, their eye-hand/foot/body coordination is better, and they anticipate better. One thing is clear:

Better vision = Better performance.

Perfect eyesight is NOT enough

What does it mean to be 20/20? It means that a STATIONARY object with perfect contrast is seen clearly. It doesn't mean that the person can tell where the object is in space, how fast it's traveling, or whether it's changing direction. It also doesn't measure processing accuracy, speed, or decision making ability.

There are over 20 visual skills that an athlete needs to perform at their peak. Here are some examples:

Visual Acuity

•**Static:** The ability to see a non moving target at a fixed distance

•**Dynamic:** The ability to see a target that is moving

Contrast sensitivity: The visual systems ability to process information about objects under varying lighting conditions; The ability to pick up subtle differences

**80% of
input
in sports
is visual**

**"The eyes
lead
the body"**

– Blanton Collier,
Cleveland Browns

Accommodation: The ability to quickly change focus for different distances without momentary blur or processing delays.

Eye Movements

•**Fixation:** the ability to steadily maintain visual gaze on a single location

•**Pursuits:** The ability to accurately maintain fixation on a moving object

•**Saccades:** The ability to change fixation from one location to another rapidly and accurately

Binocularity (eye teaming): The ability to use both eyes together, smoothly, equally, simultaneously and accurately.

Depth perception: The ability to accurately localize objects in space and understand spatial relationships relating to oneself and objects around oneself.

Reaction Time: The total time required by the visual system to process a stimulus plus the time needed to complete the motor response

Speed of recognition and processing: How fast the player can recognize what they see and make decisions around that recognition

Peripheral awareness: The entire portion of the external space that can be seen without a change in fixation. Processing of information from the peripheral field is extremely beneficial in successful

performance.

Visualization: The act of constructing mental images of an event that resembles the actual event. Studies have shown that visualization helps prepare elite athletes for top performance

Filtering of visual noise/distraction: The ability to process useful information and ignore what does not aid in performance

Balance: The ability to maintain balance while processing complex, fast-action, visual information

Sports Vision Training

Much like squats increase your leg muscles and endurance – **vision training causes visual skills to become stronger, sharper, and quicker.**

Vision training should be done by a doctor specializing in the visual system, as the neurology associated is complex. Sports vision training and assessment should:

- Determine deficient or less efficient skills
- Be sport specific and designed for the precise visual skills necessary for in-game performance
- Guide athlete to learn accurate, fast and sensitive visual skills
- Train until automaticity attained while maintaining peripheral awareness
- Increase load – movement, balance, gaze, timing, until performance maintained at stress level of game performance
- Combine visual input, processing and visuomotor output, while loaded, with peripheral awareness until automatic
- Maximize on field or on court transfer

Brain injury in Sports

With 4 to 5 million concussions occurring annually, it is of vital importance to athletes to have head injury or severe body blows evaluated.

Because 2/3 of neural connections within the brain involve some aspect of vision, 90% of diagnosed concussions involve vision problems -proving just how intimately the brain and visual system are related.

With **on-field or in-locker room specialized equipment, we can collect baseline scores or screen for brain health issues, such as concussion, stroke or any other acquired brain injury, and monitor recovery from treatment.** Our series of tests quickly measures and analyzes eye movements from post injury problems such as eye teaming, tracking and processing, and provides real-time reports and recommendations to improve care and outcomes.

Furthermore, if vision problems do arise from head injury, the visual system can be rehabilitated through neuro-optometric rehabilitative vision training. This type of vision training enables the athlete to return to both the game and the classroom more quickly and more comfortably.