

"Of all the movements required in sports, visual concentration is the last to be achieved. It's also difficult to develop and hold on to. But to succeed, visual concentration must be mastered."

-Dr. Wayne F. Martin



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VISION

Golf's Missing Link?

Once vision is understood, its application can improve any golfer's performance. "Vision is more than just looking. It's a basic sports ingredient that every golfer must understand. A champion is one who understands vision and how it's used."

-Dr. Wayne F. Martin.

*Dr. Wayne F. Martin is a graduate of the University of Washington and Illinois College of Ophthalmology in Chicago. Dr. Martin pioneered research to determine if top athletes had different visual skills than those of the general public. He has received many awards from his professional peers, including the Silver Certificate for his contributions to the field of sports vision. What follows is based on his and other expert findings found in his book *An Insight To Sports*.*

FLINCHING, CHOKING, OR LOSS OF CONCENTRATION can be any athlete's greatest fear. The most significant reason for target rejection, flinching, or head movement is faulty eye movement (i.e., poor visual perception, centering, or reaction time).

"Like other skills, vision can be trained and improved. But much will depend on how we learn to use vision. Most mistakes and missed shots in golf are triggered through faulty visual movements. As with computers, garbage in-garbage out." -Dr. Martin

VISION

Our body and its muscle movements are centered around signals from our vision. Once we become aware of what workable vision is, (for any skill) learning begins. Vision is simply the process of reacting to what we see. Golfers often see poor concepts, and misconceptions, leading to poor results. Understanding vision (and golf swings)

requires learning about a few technical components. To be accurate this cannot be avoided. Every effort will be made to make information about these components readable. Do we need to talk technical? Yes, to a degree. Accurate terms and concepts reveal accurate insights about what must be learned. While information can seem technical at first glance, this impression often shifts quickly into a deeper understanding, causing people to say: "Yes, why didn't I see that sooner."

ViSion is a "motor-muscular movement" that responds to the stimulus of light. While we are quick to recognize faulty body motions in sports, we rarely recognize the faulty eye movements that have caused unwanted body motions. See vision as the hub of a wheel whose spokes are the components that make up a top athlete. Vision tells the athlete's components the what, the where, the why, and when to act. Vision is the net stim of many components, needed to provide efficient body motion. The primary concern of most athletes seems to be 20/20 vision.

"While 20/20 vision is a component of vision, it is only a small part of the visual process, and secondary to performance." -Dr. Martin

Maximum light must be permitted to enter the eyes of an athlete. Every effort must be made to eliminate squinting. "Some people are light sensitive, so there may be a need for outdoor sun wear. But oily with the amount of tint that will provide comfort, without preventing maximum light stimulus from entering." -Dr. Martin

Top athletes, few as they are, have put forth the effort required to master visual concentration. Robert Rigor, one of the sports world's great photographers, said, "I've found the greatest athletes have the greatest eyes. I'm always fascinated and taking pictures of their eyes."

Ted Williams: "In the game, you are not concerned with mechanics, it's now time to apply visual concentration."

Chris Evert: "The eyes manage the mechanics of the game."

Bob Charles: After success on the PGA Tour, when playing poorly on the Senior PGA Tour, said, "It wasn't the greens, it was my eyes. The eyes are the game, and mine are gone."

Their visual centering, visual concentration, and visual control began to slow. Even though many athletes still have 20/20-vision, their eye reflexes which tell them the what, why, where, and when began to stutter." -Dr. Martin

Yes, 20/20 vision is nice to have, but if hyperopia (stress) is needed to maintain good vision, it will interfere with the efficiency of the athlete's performance.

Convergence is directing two eyes by voluntary muscles to maintain visual focus on a single image (point of impact). One way of explaining convergence of our two eyes on a single image is to say there is a primary zone of vision, and a secondary zone. The primary zone is where your convergence must be centered, and the secondary zone is the surrounding non-specific area around any sports point of impact. Any stress, lack of concentration, or insecurity of performance can cause a shift back to our secondary zone, causing confusing, indecisions, and missed shots.

"Zeroing in on the point of impact of any target in sports is important, and is referred to as the primary zone. Yes, we are aware of the total field of vision (secondary zones), but, at the same time, we must be centered exactly on our point of impact." -Dr. Martin

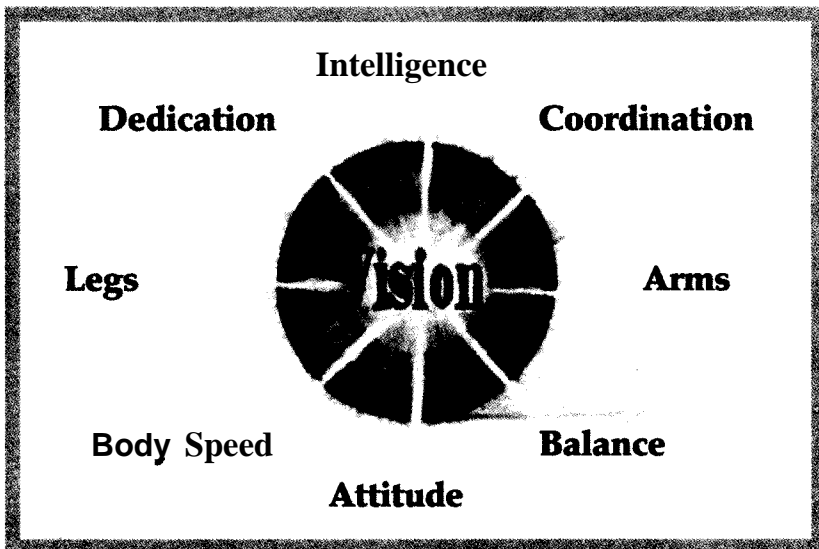
When stress is present, (in an effort to maintain clear vision), convergence and divergence are affected. Vision now pays more attention to the total field of vision (secondary zone) than the exact point of impact (primary zone). Whenever our vision is allowed (mostly through stress) to expand beyond impact point, (paying attention to background information) skill performance is lowered.

EXAMPLE: Look at the word "convergence." We see a group of letters. Now switch your total attention to just a letter. The other letters now become background information. Under stress both the single letter and letters that were once in the background start to be equally important in our visual field. This loss of total focus on point of impact (primary zone) affects our ability to perform at our highest level. When golfers are distracted (by nerves, noise, swing thoughts, weather) they lose their focus of the primary zone! (i.e., point of impact).

VISUAUZATION

"Visualization is a visual-mental plan. It's an inner approach to successfully completing any body motions. Most top athletes visualize before performing. Vision is our trigger mechanism. It directs the muscles of the body. The eyes lead the muscles." -Dr. Martin

Visualization is a tool best used with our eyes closed. Visualize the entire procedure with your eyes closed. There have been several studies done that point to the



The eyes could be seen as a quarterback that tells the body what to do. It's often assumed eyes that no longer have 20/20 vision are a problem for athletes. But it's the lack of visual centering that is the main problem, according to Dr. Martin, and other experts.

COMPONENTS OF VISION

Accommodation, the changing of focus to maintain clear vision, is classified into three primary areas: (1) Myopia, inability to see distance clearly, (2) Hyperopia, the ability to see distance clearly (20/20) through stress and effort, (3) Astigmatism, (distortions) may be in combination with either myopia or hyperopia.

Hyperopia is what Dr. Martin calls, "The fool hen of vision." This condition may be unknown to its victim. This person is often unaware of the degrees of tension and hyper vision activity they undergo to obtain 20/20 vision. This tension and stress causes nervousness and fatigue, (among other symptoms) that lower the performance capabilities of any athlete. These athletes often blame anyone or anything for their poor performance, (while at times showing flashes of excellent ability). It's the hyper activity of their vision that causes the stress and poor performances. (It's not vision that is no longer 20/20).

"It is my feeling the Willie Mayses, the Joe DiMaggios, and the Arnold Palmers of the world did not slow down at first because of their bodies or minds. What happened?

value of visualization. In one study, three groups of basketball players practiced their free-throw shots. Group A practiced every day for 20 days and improved 24 percent. Group B practiced only the first and last day and showed no improvement. Group C practiced on the first and last day, but spent 20 minutes a day visualizing sinking baskets, and correcting their alignment when they missed a shot. They improved 23 percent. Visualization is one method of practicing and learning visual concentration.

It will help your golf to visualize unworkable alignments and the poor body motions they cause. It's useful to go back and forth between workable and unworkable visualizations. Seeing and feeling the differences tells your eyes what to see, and our bodies what to do. The eyes are learning what visualizations work. Vision isn't automatic, it must be learned. We must act to see. Learn to center your vision on the primary zone, (point of impact). "The hands will follow the eyes to impact point." -Dr. Martin

GOLF

"Concentration on visual skills is often neglected. Swing and stroke only when visually ready." -Dr. Martin

The transition from the secondary zone to the primary zone is a thin line. Many golfers never cross over from secondary to the primary zone, swinging before they complete the act of visual readiness. Once the ball is addressed and you are ready to swing, the thought process should be restricted to striking the ball through the precise point of impact (with no "how-to direction" in the mind). Eyes of course on the primary zone (impact point), with no drifting to the secondary zone.

"Any variation in centering will cause inconsistency in striking." -Dr. Martin

After the swing, your eyes should be on-plane and looking at the target.

"The body will perform to the point of its visual attention." -Fili Le Anderson, University of Washington coach

"Once we address the ball, vision is the priority. See the precise point of impact as the club returns through the ball. Around the green, make contact where your vision is focused, point of impact." -Dr. Martin

EXPERIMENTS: we look down at the ball, let's visualize numbers on a clock, with 3 o'clock on the back center of the ball.

Now, with no swing thoughts, using an 8-iron to make little chip shots, focus on 4 o'clock as your primary zone, or point of impact. Do this several times. Each time, only focusing on 4 o'clock as your primary visual zone, or point of impact.

Next, do the same exercise, using one o'clock as your primary zone or point of impact. Note the difference.

I have done the exercise with many golfers. They soon learn they need few if any swing thoughts when they focus on the point of impact, 4 o'clock. When 4 o'clock is the primary zone for vision, the club returns to the impact point from inside the target line. When 4 o'clock is the primary visual zone (impact point) the club returns to the ball on-plane.

"Inconsistencies are the result of responding and acting within the secondary zone of generalities." -Dr. Martin

When the computer is confused, almost anything can happen. Never start motion until you are visually ready, and in position to act. You must be centering your vision with precision.

"The information the eyes gathers must stay ahead of the body movement. The hand being quicker than the eye, the eye will never catch up with any premature body movement." -Dr. Martin

The golf swing wants to return the clubhead to the player's point of visual attention. Any thoughts in the direction of

"how-to advice" lowers a golfer's success rate. Being overly involved with mechanical thoughts moves golfers in the direction of secondary zones, and away from visual attention on the point of impact.

SECRET Any visual generalities about point of impact will not help long-term learning. Practice centering on primary zones or points of impact. It will make a difference.

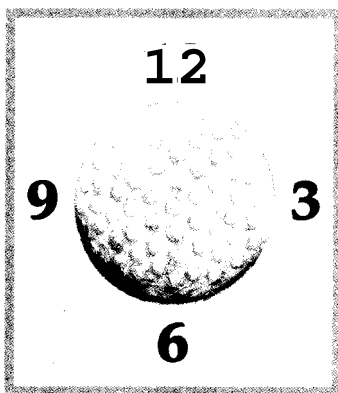
HEAD The head holds the optical system, and aids in controlling balance.

When the head moves, interference with convergence and alignment takes place and this can cause switching from primary to secondary zone. When we have control over head motion it results in a smooth fluent motion with the body.

"The visual act must be completed before the rest of the body makes any movement to hit the ball. Golfers must be visually committed to the point of impact. Completion of this visual act is the minute difference between average performers and top performers." - Dr. Martin

The eyes must work as a team. Any focus strain, or hyper effort to maintain clear 20/20 vision, even if minor, should be corrected by a competent doctor.

"For most acts of looking, our eyes have been trained to look eye level and below eye level in a convergence pattern. Due to our work habits, the converging muscles of the eyes have been developed to take abuse and withstand fatigue as they work efficiently to look eye level and lower. The divergence muscles, used to look up and away, are used sparingly and are not as strong." -Dr. Martin



EXPERIMENT Look across the room at the bottom of the wall, now look from side to side, corner to corner. Note the speed and ease of your vision.

Now look up to the top of the wall. Look from side to side across the top of the wall. You will note that your eyes work slower and may feel uncomfortable, requiring more effort to track the edge of the ceiling than the edge of the floor. Golfers who may be comfortable looking down at the ball may have difficulty looking up at targets farther down the fairway (have your eyes checked).

TRAINING SUGGESTION Looking across a room now, let your eyes work from one corner of the ceiling to the other corner for several minutes a day. This will use and strengthen eye muscles that are normally not used very often, (except when playing golf). You can also look across the room at a clock, just focusing on one number. Now go back to focusing on the whole clock, look at just one number. This will improve your ability to focus on your primary zone or impact point."-Dr. Martin

Any golfer who wants to improve must not overlook the importance of visual concentration and primary zones of vision. 0

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