

# Steady... Swivel... Swing

By Dr. Lynn McIntosh

**T**ry this: *Step One.* Stand upright. Bend your right knee to a 90 degree angle, standing on your left foot only – as long as possible. Repeat standing on your right foot only.

*Step Two.* Repeat these same exercises with your eyes closed.

*Step Three.* Repeat these same exercises while standing on an uneven surface, first with your eyes open and then with your eyes closed. What happened?

Most of us assume that one's ability to remain steady in varied body positions is simply a matter of balance. We take it for granted. While golfing, we rarely worry about whether or not we will fall over! Balance is critical to our ability to execute a steady, powerful, effective swing. And yet, much more than balance is being required of the body.

Our bodies have the incredible, innate ability to sense and respond to our position in space. We each have an automatic sensitivity mechanism that sends messages throughout the body via the central nervous system. This mechanism, called *proprioception*, collects information through the body's senses and communicates information, such as muscle tension, shifts in weight, and range of motion, with the brain. Balance is the body's ability to right itself in response to proprioceptive feedback. We can learn to be more conscious of our body movement, enhancing our ability to accurately sense position, maintaining balance and stability.

The implications of proprioception for the game of golf are obvious. For example, the golf swing requires rotation of the hips. In the follow through of the swing, the swivel of the body at the waist causes the transfer of weight

from the right hip to the left hip. In addition to the information the body is gathering from this weight transfer, proprioceptors from the soles of the feet, the joints and muscles of the legs and back, and the palms of the hands are relaying to the brain what the body needs to know to make contact between the club and the ball.



Proprioceptive awareness is affected by body movement, tension, strength, flexibility, capacity for rotation, and auditory function. Auditory function is completely dependent upon the function of the inner ear. In order for the body to maintain equilibrium, as determined by the built-in registers of the inner ear, the head and neck must be properly aligned, free of pressure on the spinal nerves, allowing the vertebrae correct biomechanical position and

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motion.

The most profound intersection between the body's sensory mechanisms and the ground on which the golfer stands is the soles of the feet. The feet are not only transferring information about the condition and curvature of the ground, they are also relaying information about alignment and balance of the body itself. If a foot is uneven or unsteady on the ground, that information is part of what the brain must consider in preparing for

the golfer's swing. Correction in an uneven stance, which results in disparity between the weight born on the right and left hips, and distorted posture, is one of the simplest ways the golfer can directly impact performance in the game.

Studies examining the specific effect of placing custom-made, soft, flexible orthotics in the shoes of experienced golfers have shown improved equalizing of balance on the dominant and non-dominant sides of the body. These studies indicate that the capacity for proprioception was also significantly enhanced by the use of orthotics. Improved proprioception was the result of equalizing weight distribution and reducing the fatigue caused by shock to the body's lower limbs. Improved balance and a stable base of support provide the optimal body environment for achieving the golfer's maximum acceleration during the downswing. Maximum performance in the downswing directly translates into increased club head velocity and greater flight distance. The use of custom-fit, flexible orthotics may lead to an increase of up to 5 miles per hour in club head velocity, which translates into a 15 yard increase in driving distance!

Chiropractors are trained to evaluate body symmetry, weight distribution and balance. Specifically trained chiropractors facilitate the measurement and production of custom-made orthotics. I recommend orthotics designed by Foot Levelers, Inc. A variety of flexible, comfortable, full-length or partial orthotics are available through my office.

Imagine improving your golf game through such a simple correction of body imbalance and asymmetry! If the shoe fits.... 