Golf and Your Spine:
Preventing Injury and Improving Performance

For many of us, the Fall Season is the best time of year to reinvigorate our golf game. Mild temperatures, calm winds, and very little precipitation make it a wonderful time of the year for serious and recreational golfers. Everyone wants to improve their game, but maintaining a healthy and pain-free spine is also very important for all golfers.

In a recent survey of recreational golfers, the most common medical problem directly related to the sport was low back pain, and in a study of PGA golfers, almost a third had experienced lower back problems of greater than two weeks duration in the past year.

Most of the back injuries suffered by golfers are simple muscle or ligament strains that usually get better in a few weeks, but some injuries are more serious and can require treatment by a physical therapist or other health professional. Some of these more serious back injuries occur in older golfers such as osteoporotic fractures and spinal stenosis, but many spinal injuries are more common in younger golfers (30-40 year olds) such as degenerative disc disease or spondylolisthesis.

There are several keys to avoiding these injuries. The first and arguably best way to avoid back injury during golf is by use of proper technique. This includes proper technique while performing the golf swing and proper technique while performing more mundane tasks such as transporting your golf bag and picking up the ball.

The modern golf swing emphasizes maximum power generation by forming a tightly coiled body during the back-swing and utilizing maximum spinal rotation and less hip turn during the forward swing. Club-head acceleration is maximized but at the cost of increased stress in the back.

Most golfers outside of the PGA will concede that while maximizing power during the drive might be nice, their handicap would improve more with a less powerful, but more accurate swing. This can be accomplished by utilizing a more rhythmic, flowing swing that consists of the hips, spine, and shoulders rotating together to share the load.

Club-head acceleration can be generated by rotating the shoulders and hips together and by adding wrist snap. The added benefit to a more rhythmic swing is much less stress concentrated on the back and less chance for injury.

Interestingly enough, the main cause of back pain in golf might not be the golf swing, but rather all the repetitive bending that occurs while playing 18 holes. Back injuries are almost always cumulative in nature, and that ligament sprain that occurred when you "shanked" the drive off the 13th tee was probably preceded by a hundred "mini-sprains" that occurred when you tee'd up the ball on holes 1 through 12. If you'd used proper biomechanics while bending down on holes 1 through 12, you would have never hurt yourself on that 13th tee drive.

The proper way to bend down to tee up or retrieve a ball is by utilizing the full squat as shown in the figure. If you lack the thigh strength to perform a full squat you can use the golf club as a cane while you perform the full squat.

The other maneuver in golf that can place unhealthy stresses on the back is transporting the golf bag. If walking the course, your golf bag should have an integrated

golf bag stand that opens when the bag is set on the ground. This eliminates having to bend over to pick up the bag.

If simply lifting the golf bag out of the back of the golf cart or the car trunk, remember to hold the golf bag close to the body, lift with the legs, and avoid doing a lot of trunk twisting while holding the golf bag. If you must twist your body while holding the golf bag, turn your whole body (hips and spine), instead of just your spine.

In addition to proper technique, good spinal range of motion is essential to prevent injury during golf. Many of us may think we have good flexibility in our spines, but in reality we have one or two vertebrae that are hyper-flexible and the remaining vertebra are very stiff. This scenario is an injury waiting to happen because all the stresses in the spine are concentrated on those few vertebrae that are hyper-flexible.

Another common scenario is the golfer than has good flexibility in the spine with forward bending, but poor flexibility with backwards bending (called spinal extension). Spinal extension is arguably more important that spinal flexion during the golf swing.

In order to maintain and improve range of motion in the spine, we must perform range of motion exercises on a regular basis. For those of us attempting to gain flexibility, we must perform the exercises every day and for those of us trying to maintain the flexibility we already have, we must perform the exercises at least 3 times per week.

The following 5 exercises will improve spinal range of motion. The first 4 exercises are designed to maximize your spinal range of motion during the golf swing and the final exercise, the hamstring stretch, is designed to allow the hips to turn freely during the golf swing.

Finally, a good warm-up is essential before hitting the golf ball. This includes hitting a golf ball off the first tee or hitting golf balls at the driving range. Could you imagine Roger Clemens throwing a 90 mph fast ball without a proper warm-up?

Ligaments and muscles need increased temperature and blood flow in order to have the elasticity necessary to perform during the golf swing. A proper warm-up doesn't have to take long. At the end of this article is a 10 minute warm-up routine that includes a "sweat breaking" activity to increase blood flow and generate body heat, a couple spine flexibility exercises designed to get all the vertebra in your spine moving, and some club swinging exercises.

Hopefully these exercises and technique tips will help keep you on the greens and out of the ruff for years to come.

On the Course Pre-golf Warm-up (10 min.):

1. A quick aerobic activity that causes you to break into a light sweat. Walking up a small hill at a moderate pace would be ideal (5 min.)
2. 2 sets of STANDING EXTENSIONS followed by 2 sets of SEATED EXTENSIONS (2 min.)
4. Progressive swinging (practice swing with golf clubs, start with shorter irons and work to longer woods) (3 min.)

Range of Motion Exercises (15 min.):

1. 3 sets of STANDING EXTENSIONS
2. 3 sets of SEATED EXTENSIONS
3. 3 sets of TRUNK ROTATIONS
4. 3 sets of SIDE GLIDES
5. 1 set of HAMSTRING STRETCHES

THEEXERCISES:

THE FULL SQUAT

When bending down to retrieve or tee up a golf ball, stand directly over the ball and bend your knees while keeping your lower back and upper body straight as shown in the figure.

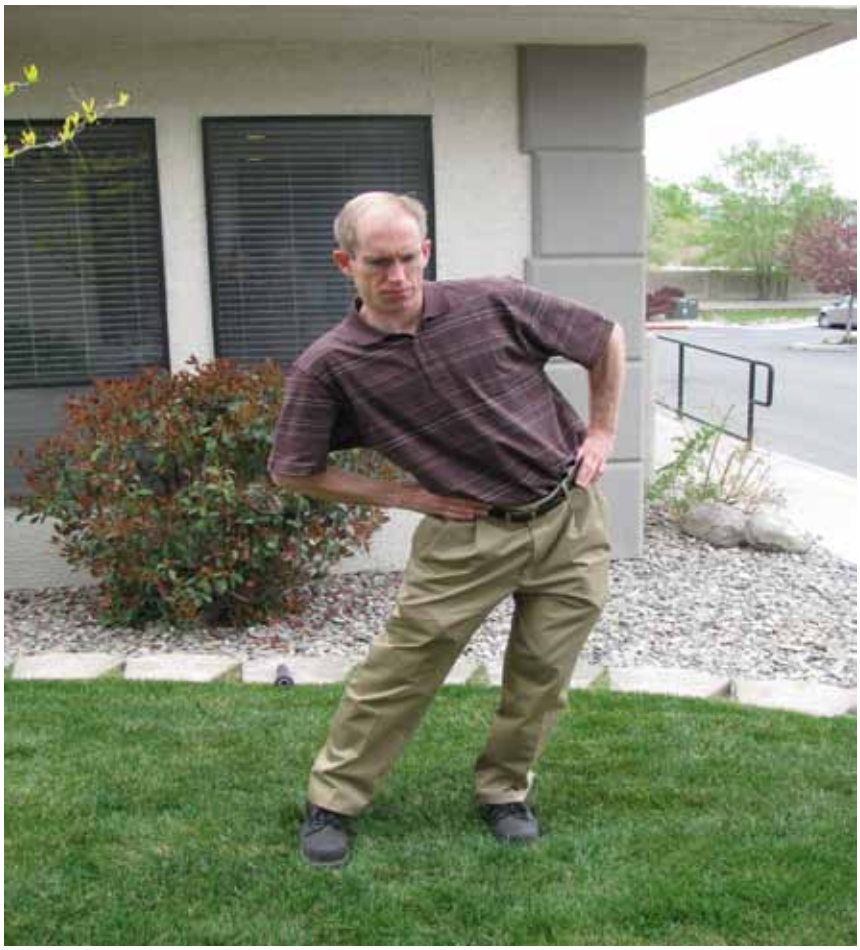
STANDING EXTENSIONS
Stand in front of a waist high counter with your knees locked and your feet shoulder width apart. Slowly bend backwards using the counter as a pivot until a good stretch is felt in your lower back. Return to standing. 1 set consists of 5 repetitions.

SEATED EXTENSIONS
Sit in a mid-backed chair with your feet flat on the floor and your hands touching your shoulders as shown. Slowly bend backwards using the top of the chair back as a pivot until a good stretch is felt in your middle back. Return to neutral. 1 set consists of 5 repetitions.

TRUNK ROTATIONS

Hold a golf club behind your back as shown with both feet planted on the ground a little wider than shoulder width. Without twisting the hips, gently turn your trunk to one side until a stretch is felt in the middle of the back. Return to neutral and turn to the other side. 1 set consists of 5 turns to each side.

SIDE GLIDES
Stand with both feet planted on the ground shoulder width apart and your hands on your hips as shown. Slowly glide your hips to one side until a stretch is felt in your buttocks and lower back. Return to neutral and glide your hips to the other side. 1 set consists of 5 glides to each side.



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