Dynamic Chiropractic

SPORTS DC

Treating LBP in Golfers: Beyond Basic Assessment

Tom LaFountain, DC

Editor's Note: This is the final installment in a four-part series by Dr. LaFountain on evaluation and treatment of golf-specific dysfunctions / injuries.

The drive to master the most efficient swing demands a tremendous amount from the lower back. Maintaining stability in a flexed posture, supporting torso rotation and repetitively supporting the golf swing all put the lower back in a vulnerable position. And for the amateur golfer, whose swing is generally less efficient and whose body is often poorly conditioned, the force of the golf swing on the lower back is magnified.

Other rotational sports such as tennis, baseball, hockey and lacrosse also have a high probability of lower back complaints. From a treatment perspective, that's good news for you; after all, who handles more lower back pain than the chiropractic physician? However, the prevalence of lower back pain in the sports world can be so overwhelming it blinds the chiropractic physician.

What? Did I say *blinds*? Yes. Our critical thinking as to the assessment process, differential diagnosis and specific treatment protocol can become dysfunctional, lazy and ineffective. Every doctor has an exam and treatment format they have found to be efficient and effective. They use it over and over again, and help many people. But is it always the most effective format? Does it consider all the causes of lower back pain?

If the lower back pain is caused by an activity, are you considering the following:

- Was the activity the cause – for example, too much weight lifted or too many repetitions performed?
- Was the activity performed on a weak, unstable or inflexible area of the body?
- Did the activity demand too much from other body parts, forcing the lower back to be recruited to help, overextending its capabilities?

Professional Sports Care estimates that from 2000-2014, 30-35 percent of lower back pain in PGA golfers was not specifically due to lower back dysfunction, but dysfunction in *other areas of the body* that increased demand on the lower back during the golf swing. Thus, a basic assessment and treatment approach would only be effective for 65-70 percent of the lower back pain cases that would come to you. Looking at it another way, one-third of the golfers you treat would leave your care without an effective treatment protocol and relief. This should not sit well with your standards of care.

Injury Profile: Bilateral LBP

Let's look at an injury profile of a left-handed PGA golfer who presents with localized bilateral lower back pain. Pain is more evident on the left than right and periodically is sharp, particularly when arising from a seated position or with twisting movements. Otherwise, pain is of a dull, achy,

constant nature.

History: Lower back pain began three days prior while doing straight-legged deadlifts. To improve hip speed, his trainer implemented the deadlift to increase strength in the gluteus maximus. He has experienced on-and-off lower back pain over the past year. Exercise always seemed to work it out. This time, however, it provoked and intensified his lower back pain.

The golfer also has suffered frequent neck pain the past year. Pain typically has been localized to the lower neck and is bilateral. Stretching exercises and rest usually alleviate his neck pain.

Recent swing changes: This golfer has been addressing the issue of "fast hands" with his instructor for a few months. Although it seems to be improving, it regularly reappears for no apparent reason. Over the past month, greater emphasis has been placed on speeding up his hip turn, with positive, yet inconsistent results. The golfer's new exercise regime was designed to increase left gluteus maximus strength so he could push off his left side and get onto his right side faster. The desired objective was an enhanced sequencing of the hips and hands.

Clinical Assessment:

- Lumbar spine: F(60), E(25), RLF(40), LLF(35 with left LBP), RR(30), LR(30)
- Orthopedic: positive Kemp's, Milgram's and Yeoman's tests for localized left LBP
- Manual muscle tests: left quadratus lumborum, left gluteus medius / maximus +4/+5 to repetitive (five reps) overpressure
- Neurological: unremarkable to motor and sensory assessment
- Tenderness: Left QL and erector spinae 2+/3.
- Cervical spine: F(60), E(55 with central lower cervical pain), RLF (30 with right lower cervical pain), LLF(30 with left lower cervical pain), RR(50 with right lower cervical pain), LR(45 with left lower cervical pain)
- Orthopedic: positive foraminal compression with E, RR, LR in lower cervical region; decreased lower cervical lordosis
- Manual muscle testing: pain with cervical rotation and extension. Flexion, RLF, LLF equal and symmetrical
- Neurological: unremarkable to motor and sensory assessment
- Tenderness: trapezius, levator scapula, scalenes bilaterally, 2/3
- Shoulder: negative bilaterally to ROM and orthopedic testing.

Functional Movement Assessment

- Active cervical flexion: FP (functional, painful); active cervical extension: DP (dysfunctional, painful); cervical rotation / lateral bend: DP; upper extremity pattern 1 and 2: FN (functional, no pain); multi-segmental flexion: FN; multi-segmental extension: DP; multi-segmental rotation: left DP, right FP; single-leg stance: FN; overhead squat: FN; impingement sign / horizontal adduction (shoulder): FN
- Cervical breakout patterns showed active cervical flexion, active supine rotation and supine cervical extension to be FP
- Extension breakout patterns showed lumbar locked active and passive unilateral extension and prone on elbow unilateral extension to be FP

Reviewing Findings

In reviewing the examination findings with the golfer, it was explained that his lower back did show evidence of pain, inflammation and moderate dysfunction. Since his examination findings in the cervical area correlated with significant discomfort, he was advised that his chronic neck pain would have an impact on his golf swing, particularly approaching impact and follow-through. It

could slow his shoulder rotation and cause him to lift his lead shoulder near impact to avoid lower neck pain. To maintain sequencing, he would have to speed up his arms and hands to square the club face at impact. The golfer agreed, admitting he had felt that tendency for several months.

His golf instructor and trainer were correct in focusing on the hip / lower back areas to improve strength, since there was evidence of dysfunction there. However, since that strategy did not provide a progressively consistent response and correction, we concurred that it may not be the primary area of dysfunction. The lower back symptoms may well have originated with the dysfunction in the cervical spine. To avoid shoulder rotation due to cervical pain, the golfer was trying to get more rotation from his lower back.

Built for stability, not mobility, the lower back could not withstand the increased demand and started to breakdown and became a site of pain. To help the limits that existed in the sequencing process, the golfer had no choice but to make up for it with his hands.

Treatment Protocol

- Deep-friction massage and active release technique: left QL, erector spinae, multifidi, cervical paraspinals, levator scapula, trapezius and scalenes
- Spinal manipulation: C4, C5 for restriction in flexion; right 1st rib (elevation); left PI ilium; left rotational malposition at L4, L5
- Muscle activation technique emphasizing lower cervical extensors and rotators, and promoting lower cervical extension; gluteus medius
- Stretching of hip and thoracic spine rotators
- Strengthening of lumbar extensors, lateral flexors, hip extensors, hip abductors and cervical extensors

Incorporating the cervical spine into the assessment and treatment protocol with the lower back symptoms alleviated the PGA golfer's lower back pain and fast hands over a four-week period.

The exciting aspect of this case is that each specialist – golf instructor, trainer and chiropractic physician – contributed and worked together to restore this golfer's performance capability. All challenged their existing knowledge and were not satisfied with applying basic assessment protocols for the lower back. In sports medicine, the *assumption* is to get them to a pain-free state; the *objective* is to enhance their performance.

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