

Newsletter

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Birdies, Bogies, and Back Pain: Mid-Thoracic Back Problems in Golfers Confound Expectations

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The golf season begins abruptly in Michigan. "In Michigan, springtime is a day in May where the temperature goes from 37 degrees to 98 degrees," notes sports medicine specialist Sami Rifat, MD. "That's our springtime, and everybody hits the golf course." Many golfers go from complete inactivity to playing several rounds a week. In addition, they often hit a couple buckets of balls at the local driving range on intervening days. The result is often a rash of musculoskeletal injuries, including back pain.

At the recent annual meeting of the American Medical Society for sports medicine in Orlando, Florida, Rifat described a case of mid-thoracic back pain that wouldn't go away. The patient was an athletic 35-year-old woman who first developed symptoms two weeks after enrolling in golf lessons. "She tried to play through the pain," said Rifat, "but after one week, worsening symptoms forced her to stop."

Non-Radiating Pain in the Thoracic Area

She had her back pain and tenderness in the lower half of the left thoracic spine. She had normal range of motion in the thoracic spine, lumbar spine, and the shoulder.

The back pain eventually localized to the posterior aspects of the ribs. Results of radiographs of the thoracic spine and ribs were normal. But when Rifat learned that the woman had once been amenorrheic for seven years, he ordered a bone scan. The posterior aspects of ribs 6-10 lit up like a Christmas tree, suggesting several rib stress fractures.

A subsequent bone density evaluation revealed osteopenia in the spine and an elevated spinal fracture risk. Rifat ended up counseling the woman about her exercise-associated amenorrhea and offered her hormone therapy, and her bone density eventually returned to normal.

Although the connection to exercise-associated amenorrhea is unusual in a golfer, the presentation of back related to a rib stress fracture in this case is fairly typical. It would appear that these are not unusual injuries, especially in the areas where golf is popular.

"Stress fractures of the ribs in golfers may be more common than previously realized and may be incorrectly diagnosed as recalcitrant back strains," note Michael J. Lord, MD, and colleagues in a study of rib stress fractures in golfers. (See *American Journal of Sports Medicine*, 1996; 24(1): 118-122.) One study of athletic stress fractures found that the rib is the third most commonly injured bone, and golf is the fifth most common sport involved in stress fractures. (See *Orthopedics*, 1991; 14:1081-1095.)

Lord et al. described stress fracture of the ribs in 19 golfers, including 13 men and six women. Fifteen golfers experienced their injuries on the leading arm side of the trunk, and one experienced bilateral stress fractures.

All reported a sudden increase in training levels before injury. "Eighteen golfers were beginners, and the one experienced golfer had dramatically increased his practice time on the driving range before injury," according to Lord et al. Ribs 4-6 were the most commonly injured bones.

The rib injuries were visible on radiographs in 16 patients, whereas bone scintigraphy was necessary in three patients. In two patients, there was a delay in diagnosis of six to eight months because the treating physicians misdiagnosed the injuries as stubborn back strains.

Lord et al. believe that the most likely mechanism of injury in rib stress fractures is an imbalance in muscle forces created by fatigue of the serratus anterior muscle. They suggest strengthening this muscle during rehabilitation and as a preventive conditioning exercise.

Duffers Beware!

Because many stress fractures of the ribs occur in beginners, poor golfing technique may also be implicated. In a 1974 study, S. Rasad, MD, noted how often beginners strike the ground during their swing, taking large divots, which no doubt puts the ribs of the leading side of the trunk under tremendous stress. (See *Amer J of Roentgenology, Radium Therapy and Nuclear Medicine*, 1974; 120:901-903.)

Stress fractures of the ribs have been reported in a number of other sports as well, including baseball (in batters), rowing, rugby, weightlifting, volleyball, gymnastics, judo, tennis, table tennis, basketball, and surfing. In other sports, unlike golf, the most commonly injured bone is the first rib.

Lord et al. recommend that clinicians thoroughly investigate rib fractures because of the frequency of metastatic tumors in the ribs. In most patients, however, relative rest and lay-off from golf usually result in an uneventful recovery.

Beginners, however, might be reminded that the goal in golf is to hit the ball and not the ground.