

Keep Athletes Active to Heal Stress Fractures Fast

BY JEFF EVANS
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AUSTIN, TEX. — Athletes with a low-grade stress fracture in a lower extremity can return to play successfully within the same season when managed with activities below the pain threshold, Elizabeth A. Arendt, M.D., said at the annual meeting of the American Medical Society for Sports Medicine.

Her experience during the past 10 years at the University of Minnesota, Minneapolis, suggests that pain-free activities that gradually progress from non-weight-bearing to nonpounding, weight-bearing exercises and then to sport-specific training

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may help an athlete return to play sooner than with complete rest.

"I don't find that this is always that easy to use in a clinical practice where you may be finding people trying to go back to work or mothers who are having pressures from home," said Dr. Arendt, medical director of varsity athletics at the university. But "if you have a patient who you believe is intelligent enough to understand the negative consequences of noncompliance, then I think you could use this."

She and her colleagues conducted a 10-year review of stress fractures in athletes at the university. During that period, 73 of about 6,000 athletes had symptoms of a stress fracture. Of those 73 athletes, 67 were positive for a stress fracture, according to MRI scans or radiographs (Am. J. Sports Med. 2003;31:959-68).

Of all stress fractures, most occurred in distance runners (35%), track athletes (16%), and gymnasts (16%). The tibia was the bone most commonly afflicted with a stress fracture (36%), but the foot was the most common anatomical region (44%). Distance runners suffered 8 of the 9 femur stress fractures overall, while track-and-field athletes and gymnasts developed 11 of the 17 total midfoot stress fractures.

About 44% of the stress fractures occurred in freshmen or transfer students who were new to the program or in athletes who had a new coach.

Stress fractures were always managed the same way during the 10-year period. In the first phase of rehabilitation, athletes controlled pain by reducing their activities and applying ice; no medications other than acetaminophen were allowed. They were allowed to do any activity that could be done pain free for about 3-5 days. Athletes would use crutches to avoid bearing weight on the injured leg until they could walk pain free. Every other day would include a trial of walking. Athletes could perform non-weight-bearing cross-training exercises such as swimming, stationary biking, or flotation running, unless they had pain during the activity.

During the second phase, athletes performed nonpounding, weight-bearing exercises with equipment such as a stair climber, ski machine, or elliptical trainer. Muscles specific to the athlete's sport were strengthened and stretched, while anatomic and training factors associated with the injury were discussed and modified if possible.

Athletes most often get a stress fracture because of a training error rather than an anatomic problem, Dr. Arendt said.

The final phase of rehabilitation for runners involved gradual reentry into running on alternate days or 10 minutes of play for athletes competing in team sports.

"After the first year or two of using this theory, we got the athletes back so much faster than when we didn't put them on crutches that the athletes themselves were widely compliant with our program," she said.

This management strategy "does take some discussion with the athlete," she

noted. "But the reason I think this works with the division I athletes is that they're highly motivated to get better."

One of the most important things to teach patients is that a stress fracture is the end result of the continuum of a biologic response to stress placed on bone, she said. Because of this, some clinicians have suggested that another term such as a stress nodule in bone or a bone strain should replace the overarching term of stress fracture. ■

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