

Dynamic Techniques for Clinical Assessment of the Athlete



Alex Kor, DPM, MS*

KEYWORDS

- Ankle and foot • Physical examination • Ankle syndesmosis • Lateral ankle sprain
- Achilles tendon • Range of motion • Return to play • Stress fracture

KEY POINTS

- As the emphasis on controlling health care costs intensifies, the sports medicine provider needs to be equipped to minimize unnecessary tests.
- Reproducible clinical diagnostic tools can reduce imaging costs for athletes with foot and ankle conditions.
- Physical examination techniques should allow the athlete's medical team a thorough evaluation before the season, after an injury occurs, and on considering return-to-play scenarios.

INTRODUCTION

For a sports medicine provider, proper evaluation of the athlete who is experiencing (or has had) foot and ankle pain is essential in determining management and treatment. Whether the athlete is being screened before the season, needs to return to play after an injury, or needs to be cleared to play (or practice) after surgery or an injury, the provider must have access to a systematic and reproducible process for such an evaluation. As health care costs continue to rise, sports medicine providers must be cognizant that unnecessary use of resources can be avoided.¹ Therefore, it is imperative that a thorough history be obtained from the athlete, trainer, family member, and so forth. Gomez and colleagues² estimated that 92% of all musculoskeletal conditions can be detected by history alone. After that history is completed, a sports-specific

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* c/o Elaine P. Henze, BJ, ELS, Medical Editor and Director, Editorial Services, Department of Orthopaedic Surgery, Johns Hopkins Bayview Medical Center, The Johns Hopkins University, 4940 Eastern Avenue, #A665, Baltimore, MD 21224-2780.
E-mail address: akor1@jhmi.edu

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and joint-specific examination (correlated with the history) should secure the correct diagnosis in an even higher percentage of athletes.³

PHYSICAL EXAMINATION OF THE LOWER EXTREMITY

Because the cause of most foot and ankle conditions is local, a thorough physical examination will focus primarily on the ankle and foot. However, in recent years, there has been more of a global approach to diagnosing and managing these lower extremity injuries.⁴ This shift in evaluating musculoskeletal conditions emphasizes the identification of proximal (seemingly unrelated) and/or distal regions that may or may not be causative. Developed in 2007 and known as the regional interdependence model (Fig. 1), it allows the sports medicine team to provide a comprehensive approach to assessment, management, and return-to-play criteria. After the primary foot and ankle condition is examined, regions proximal and distal are also examined. As sports medicine podiatrists and members of the sports medicine team, foot and ankle specialists can request input from other providers regarding these proximal areas (eg, lower back, hip, or knee) that may be contributing to the foot and ankle condition. For example, if an athlete presents with forefoot pain that is localized to the third interspace of the affected foot, the diagnosis may be a Morton neuroma. Using the regional interdependence model, the examination would not be localized to the foot and ankle. Knowing that the forefoot is subject to overuse and that most athletes function in a closed kinetic chain, examination of the knee, hip, lower back, and their soft-tissue attachments should be included. David Craig, ATC, former trainer of the National Basketball Association's Indiana Pacers, has found a high correlation between overuse conditions of the foot and ankle and sacroiliac joint dysfunction (David Craig, personal communication, August 31, 2014). Renaming this concept "regional interdependence," Craig and others, including Swartzlander⁵ and Hesch,⁶ have been examining and successfully treating proximal regions for more distal pain.

When used in concert with this comprehensive approach, functional movement assessment provides better analysis and prediction of deficits that may result in injury or reinjury than when it is used alone. Known as the Functional Movement Screen, it uses 7 clinical and reproducible tests that challenge the athlete⁷ (tests are available at: <http://www.befittherapy.com/pdf/functional-movement-screen.pdf>). Using a scoring system (eg, 0–3 for a total score of 21), the athlete is tested on a deep squat, hurdle step, in-line lunge,

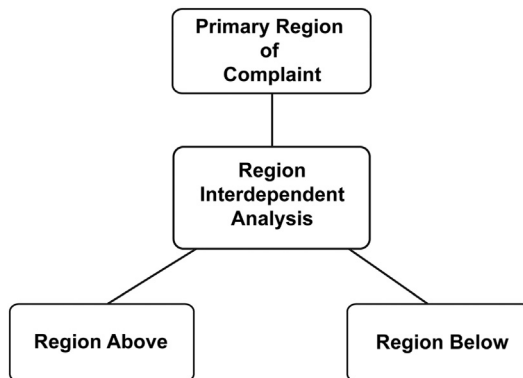


Fig. 1. The regional interdependence model. (From Cheatham S, Kreiswirth E. The regional interdependence model: a clinical examination concept. *Int J Athl Ther Train* 2014;19(3):9. Fig. 1; with permission.)

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