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CORR Insights®: Is Pes Cavus Alignment Associated With Lisfranc Injuries of the Foot?

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Where We Are Now?

The study by Podolnick and colleagues speculated that pes cavus deformity (an acquired deformity characterized by an inverted hindfoot, a high arch, forefoot supination, and a plantar flexed first ray) may result in abnormal forces in the tarsal-metatarsal joint by virtue of a locked hindfoot, resulting in a potentially increased risk of Lisfranc injury. This notion was supported by rigorous analysis of known radiographic

measurements characteristic of pes cavus deformity observed in individuals with Lisfranc injuries in excess of that expected in patients with “normal feet.” Despite the retrospective nature and inherent biases of the study, the presumed connection between the pes cavus deformity and Lisfranc injury [1, 3] is compelling and supported by the altered biomechanics of the foot.

Where We Are Going?

Lisfranc injuries are relatively rare [4] and often misdiagnosed as simple sprains or contusions, particularly when they are milder ligamentous injuries [2, 4]. The bigger question is who is most culpable for not recognizing this injury and how does the recognition of pes cavus as a risk factor, diminish delayed or misdiagnosis? Generally, patients are

initially seen by nonorthopaedic healthcare providers, and if Lisfranc injury is not front-and-center in the differential diagnosis, it is unlikely that the recognition of pes cavus deformity will lead to more accurate discovery. Moreover, the assessment of weight bearing foot alignment is especially difficult when swelling and pain supervenes in the acute setting.

The importance of the finding, however, should be validated by future investigators in prospective studies because in a small subset of patients in whom the diagnosis is unclear, the presence of a cavus foot may compel further investigation to rule out a Lisfranc injury. Additionally, since the injury is common in competitive athletes, future studies might consider whether patients with a cavus foot may benefit from special or adaptive footwear to reduce or mitigate injury. Prospective studies should be aimed at validating the connection between pes cavus and Lisfranc injuries so that recruiters and scouts do not make this assumption unless it is warranted.

This CORR Insights® is a commentary on the article “Is Pes Cavus Alignment Associated With Lisfranc Injuries of the Foot?” by Podolnick and colleagues available at: DOI: 10.1007/s11999-016-5131-6.

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How Do We Get There?

The relationship between certain foot deformities or any other

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musculoskeletal conditions and injury susceptibility needs to be clear and scientifically verified before general acceptance. For example, a prospective controlled study that examines at risk populations such as military recruits may lead to a better understanding of the connection between pes cavus and Lisfranc injury. Without these types of studies, uncorroborated data and information that has not been scientifically verified can be used by

insurers or potential employers to deny or exclude participation in certain athletic activities and occupations. “Savoir c’est pouvoir”—knowledge is power!

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