

# DANCER HEALTH TIPS FROM UAB SPORTS & EXERCISE MEDICINE

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## Dancer's Fracture: Understanding the 5<sup>th</sup> Metatarsal Shaft Fracture

Dr. Steven T. Brown, Chief, Sports & Exercise Medicine - Family and Community Medicine

Is there a dancer health-related topic you want to learn more about? Or maybe you have a specific question? Send those to us via email ([rachel@alabamadancecouncil.org](mailto:rachel@alabamadancecouncil.org)), and we will try to answer them in future articles.



A Dancer's Fracture refers to a specific type of injury involving the 5th metatarsal shaft, which is the bone connecting the little toe to the midfoot. Let's delve into the details of this fracture, its clinical presentation, and treatment options.

### 1. What Causes Dancer's Fracture?

A Dancer's Fracture typically occurs due to a twisting injury to the ankle and foot. The mechanism involves a strong force that twists the

5th metatarsal, resulting in a long oblique fracture. This injury is sometimes called a Dancer's Fracture because it was initially described in ballet dancers. The symptoms include localized pain, swelling, and difficulty walking<sup>1</sup>.

### 2. Risk Factors for Dancer's Fracture

1. Weak, Injured, or Fatigued Peroneal Muscles: The peroneal muscles play a crucial role in maintaining foot stability. Weakness, injury, or fatigue in these muscles can increase the risk of fractures<sup>2,3</sup>.
2. Poor Performance of Single Leg Raises (relevés/elevés): Ballet dancers, especially those who perform pointework, should be able to do 20+ single-leg calf raises (relevés/elevés) without signs of tiring. Poor performance in this area may contribute to the risk of fractures<sup>2,3</sup>.

3. Poor Foot and Ankle Balance or Hypermobility: When combined with an inappropriate flooring choice (such as hard surfaces like concrete or steel), poor balance or hypermobility can further increase the risk of a Dancer's Fracture<sup>3,4</sup>.

4. Other factors associated with stress fractures in dancers include: low energy availability, low bone mineral density, abnormal lower extremity biomechanics, genetic factors, and high training loads<sup>3,4</sup>.

### **3. Clinical Presentation**

Dancers with a 5th metatarsal shaft fracture often report a history of acute twisting or rolling of the ankle while in the demi-pointe position or landing a jump. Immediate pain over the outside aspect of the foot near the toes is common, along with significant swellings. The injured foot may be difficult to bear weight on due to pain and discomfort<sup>1</sup>.

### **4. Physical Examination and Imaging Studies**

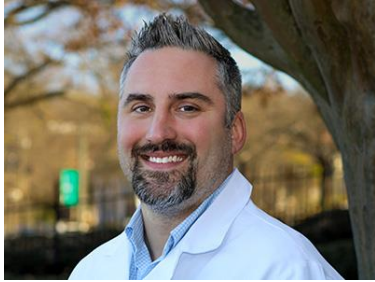
During physical examination, tenderness over the 5th metatarsal is evident, especially just before the base of the fifth toe. X-rays reveal a long oblique fracture of the 5th metatarsal shaft, with variations in the size of the fracture.

### **5. Treatment Options**

Fortunately, most 5th metatarsal shaft fractures can be treated non-operatively. The high rate of healing with non-operative treatment makes this approach effective. Treatment involves relative rest and time to allow the fracture to heal. Patients are often placed in a walking boot to facilitate healing. Proper identification and correction of underlying risk factors are vitally important to prevent the recurrence of a Dancer's fracture. Adequate bone healing typically occurs within about 6 weeks, but full recovery may take 4 months or more<sup>1</sup>.

In summary, a Dancer's Fracture involves a specific type of 5th metatarsal shaft fracture caused by twisting forces. Early diagnosis, appropriate treatment, and patient education are crucial for optimal outcomes.

### **About the Author:**



**Dr. Steven T. Brown** is a fellowship-trained, double board-certified sports medicine physician and the Chief of Sports & Exercise Medicine in the Department of Family and Community Medicine at the University of Alabama at Birmingham. Dr. Brown specializes in the non-surgical treatment of orthopedic and sports medicine conditions for patients of all ages and activity levels. Dr. Brown has a special interest in performing arts medicine and previously served as team physician for the 16-time National Champion University of Memphis Pom Squad and as a company physician for Ballet Memphis.

For an appointment with Dr. Brown or anyone on the UAB Sports and Exercise Medicine team, please call us at 205-930-8339 or visit us online at [uabmedicine.org/sports](http://uabmedicine.org/sports).

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