

President's Letter

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Summer is here! This season is a great time for planning. The Performing Arts SIG leadership will be meeting this summer for strategic planning. Stay tuned for upcoming news as a result of this work together.

We had a very good Emergency Medical Responder (EMR) course, led by Tara Jo Manal. We netted over \$750 towards our encumbered funds from this course. Thank you, Tara Jo, for teaching and collaborating with the PASIG. We hope to do this again. If you are interested in a future EMR course, contact Rosie Canizares.

Please remember to renew your APTA and Orthopaedic Section membership, and when you do, renew your PASIG membership too. PASIG membership is free to all members. We need you to help move our profession forward!

<https://www.orthopt.org/content/special-interest-groups/performing-arts/become-a-pasig-member>

One of the great joys we have experienced in the PASIG is the validation of the Description of Fellowship Practice (DFP) from the American Board of Physical Therapy Fellowship and Residency Education (ABPTRFE). Please enjoy the following reflection and case report by the first Performing Arts Fellow in the United States, Tessa Kasmar.

From the Inside of the Performing Arts Fellowship

*Tessa Kasmar, PT, DPT
Performing Arts Fellow-in-Training
The Ohio State University Wexner Medical Center*

My name is Tessa Kasmar and I am the country's first Performing Arts Physical Therapy Fellow-in-Training at The Ohio State University (OSU) Wexner Medical Center. This program is one that very much aligns with my passion for working with dancers in combination with the guided mentorship from experts in the field. For those of you interested in a similar path, I will give you a background on how I got here and my experience in the Performing Arts Fellowship.

My interest in working with dancers stems from my long history as a pre-professional dancer – the initial spark that led me to the physical therapy profession. Throughout my education and professional training at Marquette University, I sought experiences and opportunities that allowed me to incorporate my interest and passion for dance into my physical therapy practice. As a physical therapy student, dance medicine experiences were both rare and competitive. This inspired me to establish the Marquette University Dance Medicine Clinic, which allowed me to work under the

mentorship of a faculty member with 20 years of dance medicine experience. I was able to perform injury evaluations, biomechanics assessments, workshops that underlined injury prevention and strengthening, develop a pointe readiness assessment for young dancers, and create a journal club interest group. This helped me secure a spot as a Sports Medicine Intern with the Milwaukee Ballet for further hands-on experience in treating dancers. For my final clinical affiliation I secured placement at Body Dynamics, Inc. in Falls Church, VA allowing me exposure to the Washington Ballet, an integrative approach to patient management, and the incorporation of Pilates-based methods.

While all of these experiences reinforced my area of interest, I was not really sure where to go from there. I wanted to learn from experienced clinicians and have guidance in working with this unique population. I pursued an Orthopaedic Residency Program at OSU due to my desire to further refine my orthopedic clinical skills and become a well-rounded clinician with improved clinical reasoning and diversified experiences. I was intrigued by OSU's residency program due to the incorporation of teaching and research into the curriculum, as well as the presence of an established Performing Arts Medicine Team. Although time to incorporate my interest in working with dancers was scarce throughout my residency, the team presented opportunities for me to become involved.

Fortunately, the Performing Arts Fellowship at OSU was granted candidacy status and looking to start their first fellow around the time that I would be completing my residency. I was attracted to the fellowship because it was the exact experience I had been searching for. It would allow me the mentorship I wanted while I managed the needs of a dancer while also incorporating the management of other performing artists, including figure skaters, gymnasts, and musicians. I applied to the program without hesitation and was thrilled when I was offered the position as the first Performing Arts Fellow-in-Training.

The Performing Arts Fellowship is a 12-month program incorporating mentored clinical practice, weekly didactic curriculum in the form of lecture and lab, and outreach participation for various performing artists. These 3 components make up the heart of the fellowship and foster a more intentional pathway to pursuing a position in the field. Tiffany Marulli, PT, DPT, OCS, is the Fellowship Director as well as my primary mentor in the clinic. Tiffany has a strong background in classical ballet herself and has had the opportunity as a clinician to work with Broadway dancers among others in New York City.

As my primary mentor, Tiffany typically spends 1 to 3 hours with me in the clinic each week mentoring me while I manage the care of performing artists. She fosters and challenges my clinical reasoning and motion analysis skills required for the performing artist. Her job is to provide constructive feedback and stimulating discussion on movement impairments and treatment techniques specific to the unique needs of dancers and how best to return them to performance. We typically share a caseload, which presents us with more opportunities to discuss the management and progression of these patients. I have learned other important considerations for the dancer throughout this process, including nutrition,

sports psychology programs, and management of the adolescent dancer. With Tiffany's mentorship, my evaluation and treatment of the dancer has evolved significantly since beginning the program.

While my clinical work is primarily dance-focused, the didactic curriculum helps to fill in the gaps of the performing artists I do not see as frequently in the clinic. Faculty members assist in leading labs and lectures with video and written supplements from the Harkness Center for Dance Injuries, APTA, and other evidence-based material crucial for the treatment of the performing artist. Didactic material is offered during 2-hour weekly lectures providing information on different types of dancers, musicians, figure skaters, and gymnasts. I am also expected to present two of these didactic lectures. My recent presentation on the evaluation and management of the instrumental musician's elbow, wrist, and hand was a great learning experience to better understand the specific demands of their art, challenging me to understand topics with which I am less comfortable.

One component of the fellowship which I am most excited about is the ability to perform outreach for performing artists. For dancers, this includes weekly coverage with BalletMet at the company and the theater for performances, weekly injury checks at OSU's Department of Dance for the collegiate dancers, and presentations on injury prevention and self-care for other Columbus-area groups. Acute management at BalletMet has been an eye-opening way to learn that as prepared as you may think you are for an acute injury, there are always things you wish to improve upon moving forward. This outreach is also what best helps me to familiarize myself with the demands and needs of our musicians, figure skaters, and gymnasts. I am expected to find and market to at least one group for each of these performing artist subsets and present a lecture or workshop to the artists based on what each program's director and I decide is most beneficial for the group. I am still in the beginning phases for most of these presentations, but I can not think of a better way to introduce these artists to what physical therapists have to offer than to go out into the community and educate them.

As the first soon-to-be-accredited Performing Arts Physical Therapy Fellowship in the country, this has been a learning experience for everyone involved in the process. It has been very collaborative in nature in that my feedback is important for the program's growth and to further strengthen areas of improvement for our future fellows. The faculty consists of expert, dedicated, and passionate clinicians who strive for the growth of this fellowship program as well as performing arts physical therapy, and I am honored to be a part of the process. I hope to carry forward everything I have learned and continue my growth as a sub-specialized clinician with a professional ballet company or in an area with a strong performing arts prevalence.

A Unique Cause of Lisfranc Instability: A Descriptive Case Report

Tessa Kasmar, PT, DPT

Performing Arts Fellow-in-Training

The Ohio State University Wexner Medical Center

This report describes the progression of a dancer's stress fracture into a Lisfranc injury. The goal of this report is to present conservative treatment and indications for potential surgery for this dancer.

CASE HISTORY

The patient is a 19-year-old female professional ballet dancer. She started having pain between the 1st and 2nd metatarsals of her right foot that was aggravated with jumping, relevé, and full pointe. The pain was sharp at times with jumping and a dull ache or soreness following dancing. The dancer tried Tylenol, ice, and massage to manage her symptoms without significant relief. Believing that her pain was muscular in nature, she continued to dance and experienced increased foot pain and difficulty weightbearing following the landing of a jump. The dancer was evaluated by a physician who diagnosed her with a minimally displaced fracture at the base of the 2nd metatarsal following imaging. She was taken out of dance and placed in a CAM boot for 8 weeks. She was also referred for a nutritional consult, DEXA scan, and physical therapy. The dancer was released to barre two weeks prior to initiating physical therapy and denied pain during or after dance or with other weight-bearing activities. Continued limitations included jumping, pointe-work, and partnering. The patient's medical history included secondary amenorrhea, female athlete triad syndrome, and history of stress fracture.

IMAGING

X-ray report: "There is a stable minimally displaced second metatarsal base fracture" (Figure 1).

MRI report: "Mildly displaced intraarticular fracture of the second metatarsal base consistent with Lisfranc type injury although the ligament fibers are grossly intact. No evidence of Lisfranc subluxation" (Figure 2).

PHYSICAL THERAPY EVALUATION

At evaluation, the patient demonstrated 5/5 hip and knee strength bilaterally and full ankle ROM and strength, with exception of right ankle plantar flexion 4/5. The patient demonstrated impaired proprioception of the right foot and ankle in relevé position with eversion and increased medial and lateral ankle movements noted. No tenderness to palpation throughout the foot or midfoot region was noted, including the 2nd metatarsal. The patient denied numbness and tingling. Eversion-abduction test and squeeze test were negative. On observation, the patient demonstrated increased interdigital space between the 1st and 2nd digits of the right foot compared to the left in weight-bearing (Figure 3), which she reported was not present prior to injury. The patient's goal was to return to dance participation and performance fully.



Figure 1. Nonweight-bearing anterior-to-posterior oblique radiograph of the right foot with minimally displaced fracture at base of the 2nd metatarsal (arrow).

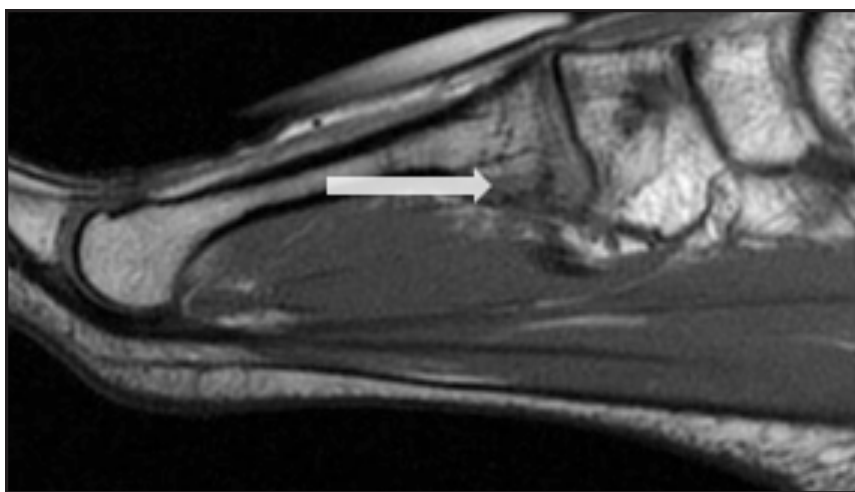


Figure 2. T1-weighted sagittal MRI of right foot with minimally displaced fracture at base of the 2nd metatarsal (arrow).



Figure 3. Visible widening of the interdigital space of the right foot between the 1st and 2nd digits in weight bearing.

RETURN TO DANCE

The patient attended 9 visits for 9 weeks to address ankle weakness and proprioceptive deficits in end-range positions (*relevé*), hip and core strengthening, and return to dance with plyometric and *pointe* progressions. A general outline of physical therapy progression is highlighted in Table 1. At visit 8, the dancer reported *point* tenderness at the base of the 2nd metatarsal following auditions but no pain with weightbearing. Her physician and physical therapist recommended returning to the CAM boot outside of dance and wearing supportive shoes when not dancing. Dance participation was not restricted unless the patient experienced pain or soreness during or following dance. Repeat x-rays indicated normal healing. The patient met all physical therapy goals and returned to

full dance participation and performance without midfoot pain or bony tenderness. The patient continued to wear the CAM boot intermittently to offload the foot secondary to dancing 7 days/week due to auditions. This was preventative in nature and the dancer was instructed in weaning out of the boot fully by the attending physical therapist and physician.

NEW-ONSET SYMPTOMS

Six weeks after discharge from physical therapy, the patient reported new onset symptoms of pain in the distal 1st metatarsal of her right foot that she reported “spiraled up” toward the base of the 1st metatarsal. This pain started following a weekend of auditions and she reported having pain with weightbearing after

Table 1. Physical Therapy Progression

	Weeks 1-2	Weeks 3-4	Weeks 5-6	Weeks 7-9
Manual Therapy	STM; TCJ distraction			STM FHL
Balance	Airex, Bosu (flat shoes, <i>relevé</i>): with <i>développé</i> to 45°	Jumps to Airex	Dynadisc; preps to <i>passé en pointe</i>	Bosu: with <i>rond de jambe en l'air, développé</i> to 90°
Proprioception	BAP's board; PWB perturbations in <i>relevé</i>	Bosu rocks (flat shoes); 4-way resisted <i>relevé</i>	Bosu rocks (flat shoes and <i>relevé</i>); unstable surface in <i>pointe</i> shoes	Leg press with Dynadiscs
Foot & Ankle Strength	Resisted ankle 4-way; foot intrinsics	Turning progression (technique shoes)	Progression of previous	Progression of previous
Hip & Core Strength	Hip abductors; external rotators	Resisted hip 4-way rotators	Resisted hip 4-way on Bosu	Standing resisted clamshell on Bosu
Plyometrics	PWB jumps; FWB DL jumps	FWB DL jumps; FWB SL jumps	FWB SL/DL jumps (increased height)	FWB DL jumps (increased height an contacts); hop testing
Pointe-work		PWB, barre	Turning, jumps	
Dance Participation	Centerwork; no jumping	Warm-up jumps, barre en <i>pointe</i> ; <i>petite allegro</i> , mark rehearsal	Turning en <i>pointe</i> , modified <i>grande allegro</i> ; partnering rehearsal	Full: progress to full <i>grande allegro</i> height
Outcomes	DFOS 66% LEFS 82%		DFOS 95% LEFS 100%	DFOS 100% LEFS 100%

Abbreviations: STM, soft tissue mobilization; TCJ, talocrural joint; PWB, partial weight bearing; FWB, full weight bearing; DL, double-leg; SL, single-leg; DFOS, Dance Functional Outcome System; LEFS, Lower Extremity Functional Scale; FHL, flexor hallucis longus

returning home. The dancer said her symptoms resolved following acupuncture but was sent to be evaluated by her referring physician. Repeat imaging was performed and a referral was made to the foot and ankle specialist for further evaluation of the Lisfranc joint due to continued reports of mild pain with dancing. The imaging findings are reported below. An avulsion from the Lisfranc ligamentous insertion was suspected and the patient was referred for repeat MRI.

X-ray report: "3 weight-bearing views of bilateral feet were independently reviewed and compared to prior MRI right foot and demonstrate healed 2nd metatarsal base fracture with interval widening between medial and middle columns of the midfoot" (Figure 4).

CONCLUSION

This case describes a unique source of Lisfranc instability and the progression of a stress fracture at the base of the 2nd metatarsal into a Lisfranc injury based on the insertion point of the Lisfranc ligament at the displaced fracture segment. The dancer will be continuing her professional career and is currently undergoing surgical consult and decision-making to best address her current deficits and prolong her professional career.

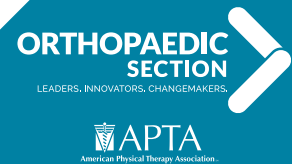


Figure 4. Weight-bearing anterior-to-posterior radiograph of bilateral feet with interval widening between the medial and middle columns of the right midfoot.

THE PASIG HAS ARCHIVED COURSES AVAILABLE AT
www.orthoptlearn.org

ISC 20.3, Physical Therapy for the Performing Artist

ISC 18.3, Dance Medicine: Strategies for the Prevention and Care of Injuries to Dancers



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