



HARKNESS CENTER

for Dance Injuries

A publication dedicated to the prevention and treatment of dance injuries

IN
Contact

HCDI Newsletter
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Director's Message, Donald J. Rose, MD

Welcome to the Harkness Center for Dance Injuries' new newsletter, "In Contact". We hope you will find this periodical filled with useful information about the latest news in dance medicine.



Dr. Rose examines dancer Stephanie Guiland after a knee injury.

The Harkness Center for Dance Injuries (HCDI) was founded as a program of the Hospital for Joint Diseases in 1989. Back then, a critical need existed for specialized and affordable healthcare in the dance community. As an orthopaedic surgeon in private practice, I began to see many dancers who were working incredibly hard for very little money and without benefit of any health insurance. I volunteered my help to many of these

dancers, but began to realize over time that dancers could not usually afford the care they needed. Many of the injuries sustained by dancers require x-rays or MRI's, physical therapy, and, in about 2% of cases, surgery. These expensive ancillary services were simply unaffordable for the uninsured or underinsured dancer. Because of this, I approached the administrators of the Hospital for Joint Diseases to inquire if we might be able to start a clinic that would specialize in dance medicine, providing a team of professionals well-versed in the health, performance and financial issues faced by dancers and dance companies.

In response to this request, William Perlmuth, a member (and now Chair) of the Board of Trustees for the Hospital along with Theodore Bartwink, both of the Harkness Foundation for Dance, proposed a collaboration between the Hospital for Joint Diseases and the Harkness Foundation for Dance. It turned out The Harkness Foundation was a natural fit to provide the seed money needed to begin this innovative approach to dancer health because it combined the two primary loves of the Foundation's matriarch, Rebekah Harkness. Mrs. Harkness manifested a devout support of dance and the arts in the early 1960's. She sponsored summer dance festivals, held workshops in her home, and eventually created her own ballet company, The Harkness Ballet. She also established the Harkness House for Ballet Arts, a school

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Financial Assistance for Dancers: One Success Story

Like so many dancers, Kimani Fowlin, a performer, teacher, and choreographer, has no health insurance. It was only when an injury to her knee got so bad that she couldn't climb stairs, let alone dance, that she decided to ask colleagues where she should go for help. Kimani delayed seeing a doctor for a long time because she feared she couldn't afford the visit. Luckily, Kimani had a friend who told her about the Harkness Center for Dance Injuries and its many free and subsidized programs.



Photo by R. Harris

"Without the financial assistance offered by The Harkness Center, I wouldn't have been able to afford the tests and surgery I needed to dance again." says Kimani Fowlin.

One such program of benefit to Kimani was the Center's "Special Assistance Fund," referred to internally as the "SAF." As a result of the magnanimous support of the New York Community Trust's LuEsther T. Mertz Advised Fund, the Harkness Center was able to establish an endowment to subsidize medical costs for dancers in financial need (see related story on page 2). It

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Harkness Center For Dance Injuries
Quality Healthcare for the Dance Community



**HARKNESS
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for Dance Injuries

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No Dancer Turned Away

The Harkness Center for Dance Injuries' commitment to serving injured dancers regardless of ability to pay was brought to the attention of the LuEsther T. Mertz Charitable Trust in 1997 by the staff of the Mertz Gilmore Foundation.

Both the Trust and the Mertz Gilmore Foundation, a separate philanthropy also initiated by the Mertz family, had histories of strong support for New York City's dance community. It was Mrs. Mertz who was the primary benefactor behind the purchase of Chelsea's Elgin Theater to create the current Joyce Theater space.

When it became clear that the Harkness Center needed to develop a long-term solution for providing dancers without financial means a way to access its critical services, a \$500,000 challenge gift was made to the Center from the LuEsther T. Mertz Advised Fund of the New York Community Trust.

The Center was challenged to raise an additional \$500,000 within five years, thus

creating a \$1,000,000 endowment to spin off the much-needed dollars for serving dancers in need. Indeed, the match was successfully met in December 2002, and since that time the Fund has helped more than 200 dancers care for their injuries, ranging from mild strains to completely ruptured ligaments needing reconstructive surgery.

While this endowment generates approximately \$50,000 per year to help dancers, demand for the Center's financial help is actually closer to five times that amount, or \$250,000 per year. We are continuing our efforts daily to expand our base of support for this most valuable and practical part of our program. Please contact us if you'd like to help!



Photo by John Robison

"Director's Message," continued from page 1

located in one of New York City's most beautiful Upper East Side mansions. Mrs. Harkness' contributions to the arts won her high praise from President Lyndon B. Johnson. She received awards from the City of New York and numerous cultural organizations around the world. Mrs. Harkness was a strong advocate of medicine and research and is remembered fondly by her company of dancers for always having made healthcare available to them.

In reflection of her vision, the Harkness Center for Dance Injuries was founded with the goal of providing the highest quality musculoskeletal healthcare to dancers regardless of their ability to pay for that care. It is the Center's mission to

perform research and educate dancers, teachers, company directors, managers and support organizations about ways to prevent, treat and rehabilitate dance injuries. As we celebrate our 15th anniversary, I am pleased to announce the introduction of *"In Contact"* to further help us accomplish this goal.

The newsletter is intended to provide you with up-to-date information about our programs and research findings. We will highlight resources available to dancers and share expert advice about injury prevention. We hope to hear from you!

Sincerely,
Donald J. Rose, MD

Did You Know?

- **Dance ranks with football as the #1 physically demanding activity** ⁵
- **80% of dancers experience a disabling injury during their careers** ²
- **65% of dance injuries are from overuse and 35% from accidents** ^{3,7}
- **90% of injuries occur when a dancer is fatigued** ⁴
- **55% of dancers have no health insurance** ^{7,8}
- **98% of dance injuries are treated non-operatively** ⁸

See references on page three

Factors Associated with Injury Occurrence in Dance

Injury Statistics Breakdown

Site of injury tends to differ depending on the type of dance being performed. Some trends have been documented within each discipline as well as across dance forms:

Dance Disciplines	Foot/ Ankle	Knee	Hip	Lumbar Spine
Ballet ^{4,7}	38.5	10.5	8.6	10.8
Modern ⁴	13.3	20.1	11.3	15.3
Flamenco ⁶	42.5	22.5	N/A	20.0
Broadway/ Musical ¹	22.8	15.7	3.0	20.3
Harkness Clinic ⁸	33.2	30.4	7.8	10.8

Note: Numbers represent percentage of injury per site

While all dance forms follow fairly regimented, predictable movement patterns within technique class, each discipline has its own unique demands that can contribute to injury

Ballet

Pointe & Winging Relevé from 3/4 to full pointe results in forces at the big toe joint of 12 times body weight.¹⁰ This can potentially lead to problems such as inflammation of the tissues surrounding that joint.⁴

Turn-Out Some dancers use the floor for friction to increase the amount of turnout they can get. This can result in excessive force along the inside of the foot and leg and can also adversely affect the spine.⁴

Modern

Partnering/Contact Women as well as men lift partners during improvisation and sometimes at high velocities and non-neutral angles which can overload the ligaments, making them vulnerable to injury.⁴

Weight Bearing Dancing on non-traditional bases of support (inverted on arms or neck, on knees, back or buttocks) may lead to undue loads on or near those structures.⁴

Broadway & Tap

Percussion Vibratory motions are known to cause structural damage to musculoskeletal tissues.^{6,9}

Exposure Eight identical shows a week for weeks, months or years on end can result in overuse problems and/or an overtraining syndrome, also known as “burnout.”^{1,3,4}

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“Success Story,” continued from page 1

soon became clear that Kimani was going to need special tests to determine the full extent of damage in her knee. Until she learned about the Harkness Center and its financial assistance programs, she was distraught about how she would be able to pursue the recommended MRI and physical therapy. Worse, her injury might (and did) turn out to be one of the 2% of all dance injuries that require surgery to restore full joint movement.

Without health coverage, many dancers suffer through minor injuries until they become debilitating. Kimani desired a healthy, holistic lifestyle but was hindered by the harsh reality of medical care costs. The SAF was established to help dancers just like Kimani — an

individual working hard as a dance professional, yet unable to afford health insurance. The SAF removed the financial barrier faced by Kimani and allowed her to care for her dance injury.

We asked Kimani to reflect on her experience with Harkness and the SAF. Recalling the initial visit and application process Kimani stated, “Debbie, Harkness’ Executive Assistant, went above and beyond the call of duty when giving me information. She assisted me with every step in the process. The whole team at Harkness made me feel comfortable and cared for, from my initial visit with Dr. Rose all the way through to the last physical therapy appointment. My physical therapist, Marc Hunter-Hall, made me feel at home the minute I met

him. He had been a professional dancer for years before becoming a therapist and he created an environment that felt very healing and natural. It was also great to see so many other famous dancers there.”

Kimani returned to full dance activity three months after her surgery and felt better than her ‘old self’ at six months. She tells us that she is doing great three years later, still dancing at full throttle. Kimani now instills in her dance students the value of taking good care of their bodies. She is thankful for all that the Harkness Center offered her, and continues to express her deep appreciation for the SAF.

Special Assistance Fund

The Special Assistance Fund (SAF) of the Harkness Center for Dance Injuries is an endowment program enabling us to offer financial assistance to uninsured dancers with low incomes who require medical treatment for a dance related injury.

The SAF program started in 1989 with annual grants from the Jacob and Valeria Langeloth Foundation. It became permanently endowed in 2001 when a gift

from the LuEsther T. Mertz Advised Fund was given to the Harkness Center by the New York Community Trust.

More than 55% of dancers cannot afford medical insurance, and 80% will experience disabling injuries during their career. Many of these dancers make too much income to qualify for Medicaid, even though the cost of their own insurance is out of reach.

Dancers who meet the financial and occupational requirements to apply for the SAF receive medically necessary services at reduced or no cost.

Due to programs such as the SAF dancers will not be turned away from receiving the care they need, regardless of their ability to pay.

Educational Programs

Dance Community

The Harkness Center provides free injury prevention lectures and workshops to dance companies and schools, studios and community groups. Lectures are tailored to each program's particular needs. Common topics include: injury prevention; strategic strength and flexibility training, blister care; hydration and nutrition.



Faye Dilgen, MSPT, provides dancers with the knowledge and skills necessary to properly care for injuries during an Injury Prevention lecture.

The Harkness Center also offers group "pre-season" screenings for dance

companies and schools. These on-site, mass evaluations detect injury risks early in the season for each dancer performing with the company or school. The screening data provides profile information to each dancer and privacy protected trend information to company/school directors about ways to reduce injury occurrence in their group.

In addition, the Harkness Center provides ergonomic assessments of dance workplaces as another form of injury prevention education. These evaluations yield information about various work related risks for producing injury in the working dancer. Factors considered during ergonomic evaluations often include: dancer training exposure; floor construction and incline; ambient temperature and light; costumes and set safety; preparation of staff to handle emergencies and company policies regarding breaks, hydration, stretching and conditioning practices, injury reporting and body weight regulations.

Typical outcomes from an ergonomic evaluation are training modifications and/or

treatment protocols are provided to the facility which enable managers to better fit the environment to the dancer's safety limits. When appropriate, recommendations are made about physical space design and/or company policies concerning rest intervals, conditioning and nutrition-hydration practices.

Medical Professionals

The Harkness Center provides educational opportunities for medical professionals interested in a career in dance medicine.

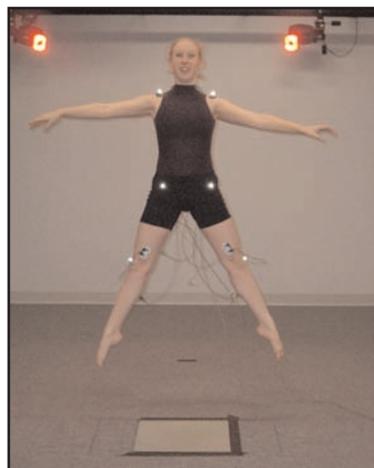
Undergraduate students can complete academic internships with us to gain first hand experience in many facets of the dance medicine field.

We offer the only fulltime hospital-based dance medicine affiliation for physical therapy students and orthopaedic residents in the world.

The Harkness Center for Dance Injuries regularly hosts continuing medical education conferences.

Human Performance Lab

Thanks to the Jacob and Valeria Langeloth Foundation, the Harkness Center has built a brand new research laboratory containing sophisticated motion analysis technology devoted solely to the study of dance. The Harkness Dance Research Laboratory is one of only 12 systems like it in the world and is equipped with eight high-speed digital video cameras, two force plates, eccentric isokinetic dynamometry,



Motion Analysis Lab is now up and running

computerized balance systems and 16-channel electromyography. These technologies allow us to analyze the muscle and joint forces experienced by dancers while dancing. Our equipment is the same as that used by the Olympic Training Center and Hollywood producers when creating special effects in feature films like *The Matrix* and *Polar Express*.

Dance Clinic

The Harkness Center for Dance Injuries offers weekly dance injury clinics. Dancers are evaluated and treated by a specialized team of orthopaedic surgeons, physical therapists and athletic trainers. The clinic operates on a subsidized or sliding fee scale basis, depending on each dancer's income and insurance profile. No dancer is turned away due to financial hardship.

In keeping with the Hospital for Joint Diseases' role as a teaching institution, the dance clinic provides not only excellent and affordable healthcare for dancers, but is also a

training site for orthopaedic residents and fellows in the Sports Medicine, and the Foot and Ankle Services at the hospital. These physicians co-evaluate each dancer with the attending orthopaedic surgeon and, as a result, learn about the unique injuries incurred by dancers and the unusual skills needed to properly evaluate and treat them.

Physical therapists and athletic trainers also interact with the dancers during and after the dance clinic evaluation to answer questions and to address strategies for healing and prevention.



Dr. Rose confers with orthopaedic resident, fellow and physical therapist

Physical Therapy and Athletic Training Services

In addition to the duties physical therapists and athletic trainers perform during weekly dance clinics, they also provide on-site rehabilitation services at our Orthopaedic and Sports Physical Therapy Center and numerous off-site satellite offices. The Harkness Center has a staff of physical therapists and athletic trainers specially trained to care for the dance population. More than 10,000 dance physical therapy visits are completed at The Harkness Center for Dance Injuries each year.



Megan Richardson, MS,ATC, instructs dancer on Pilates reformer.

Members of our physical therapy and athletic training staff have provided on-site care to performers of the Dance Theatre of Harlem, SUNY Purchase Conservatory of Dance, Merce Cunningham Dance Company, Martha Graham Dance Company, Mark Morris Dance Group, American Ballet Theatre, American Dance Festival, Cirque du Soleil, Alvin Ailey American Dance Company, *De La Guarda*, *Wicked*, *Man of La Mancha*, *La Cage Aux Folles* and many more.

FREE Injury Prevention Assessment Program

Thanks to a generous annual grant from the New York Community Trust and its Michel Fokine Memorial Fund, the Harkness Center has been able to provide dancers FREE injury prevention assessments.

The Injury Prevention Assessment (IPA) program is the first-and-only-of-its-kind in the world. Dancers are seen individually for an hour by a physical therapist or athletic trainer who specializes in dance medicine. The therapist reviews the dancer's concerns, his or her medical and nutrition

histories and then examines the dancer with a battery of specialized performance tests.

The screening is designed to evaluate the risks to which each dancer is exposed and to discuss the dancer's profile before an injury occurs. At the conclusion of the assessment, each dancer is given an individually tailored injury prevention exercise regime with recommendations for modification of technique, training strategies, footwear and/or dance environment.

2004 IPA By the Numbers:

Number of dancers seen:	589
Average # of miles traveled:	34
Longest # of miles traveled:	1317
Average age of dancers seen:	23
Median age of dancers seen:	36
Average satisfaction score:	3.9 out of 4.0





Donald J. Rose, MD, is Attending Orthopaedic Surgeon and Director of the Harkness Center for Dance Injuries, as well as Director of Ambulatory Surgery at the Hospital for Joint Diseases. He is Clinical Associate Professor at New York University's School of Medicine and is the Orthopaedic Consultant to numerous dance companies including Alvin Ailey, Dance Theatre of Harlem, Buglisi/Foreman, Erick Hawkins, Cirque du Soleil, City Center and the Joyce Theatre, as well as numerous dance schools including SUNY Purchase Conservatory of Dance and the Joffrey Ballet School. Dr. Rose has lectured nationally and internationally and has written numerous chapters and papers on topics in sports medicine, dance medicine, and arthroscopic surgery. He is on the Editorial Review Board of the *Journal of Dance Medicine and Science* and the Bulletin of the Hospital for Joint Diseases. Dr. Rose is the 1997 recipient of the prestigious Documents of Dance Award and received the 2002 University of Medicine and Dentistry of New Jersey - Robert Wood Johnson Medical School Distinguished Alumnus Award.



David S. Weiss, MD, is an orthopaedic surgeon in private practice in New York City, specializing in dance medicine. He is Associate Director of the Harkness Center for Dance Injuries and Clinical Assistant Professor at New York University School of Medicine. Dr. Weiss is Orthopaedist to Mark Morris Dance Group, Paul Taylor Dance Company, Parsons Dance Company, Merce Cunningham Dance Company, Les Ballets Trocadero de Monte Carlo and, for their New York engagements, Cirque du Soleil. He staffs a weekly performing arts medicine clinic on-site at both the Juilliard School and New York University. Dr. Weiss is Orthopaedic Consultant to numerous other dance companies, dance schools, and Broadway theatrical productions. He has served as President (2001-2003), Vice President (1999-2001) and Board of Directors Member of the International Association for Dance Medicine and Science. Dr. Weiss has also served on the Board of Directors of the Performing Arts Medicine Association, and is on the Editorial Board of the *Journal of Dance Medicine and Science*. Dr. Weiss received his MD degree from Yale University School of Medicine in 1981.



Marijeanne Liederbach, MSATC, MSPT, CSCS, is Director of Research and Education for the Harkness Center for Dance Injuries and Owner of PT Plus, P.C. at City Center. She is a PhD candidate in Biomechanics and Ergonomics at NYU and an Instructor of Kinesiology at Columbia University. Throughout the 1980's, she headed the athletic training services for The Joffrey Ballet while serving as Supervisor of Sports Physical Therapy at Lenox Hill Hospital's Nicholas Institute of Sports Medicine and Athletic Trauma. She has provided backstage therapy for hundreds of dance companies and has authored numerous articles and lectured internationally on topics pertaining to the prevention and care of dance injuries. She is on the Editorial Board of the *Journal of Dance Medicine and Science*, the National Advisory Committee for the American Physical Therapy Association's Performing Arts Practice Analysis and the Research Committee of the International Association for Dance Medicine and Science. Ms. Liederbach danced with National Ballet and many pick up companies before pursuing her career in dance medicine. She remains an active, critically acclaimed choreographer.



Peter Breen, ATC/L, MSPT, was a member of the 1992 U.S. Olympic Team in the sport of ice dancing. He earned his Athletic Training Certification, and a Masters of Physical Therapy from Boston University. Mr. Breen has over 14 years of experience in athletic medicine and has worked in a variety of dance and athletic training facilities including three years at the U.S. Olympic Training Center in Colorado. He has worked with professional, semi-professional, and developmental dancers and performing artists both in the U.S. and internationally. He has also worked with Olympic, Professional, and Collegiate athletes from over 40 different sports. Mr. Breen serves on the Board of Directors for the U.S. Anti-Doping Agency, an organization responsible for handling the testing and adjudication of U.S. Olympic, Paralympic, and Pan American athletes.



Megan Richardson, MS, ATC, attended George Washington University on a scholarship for dance, where she received her undergraduate degree in Athletic Training. Ms. Richardson earned a Master of Science in Kinesiology at Indiana University while serving as the primary certified athletic trainer (ATC) for the Indiana University Ballet Theatre. She is a Pilates Rehabilitation Specialist certified through Polestar Education. Currently, she is on staff at the Harkness Center for Dance Injuries as a research assistant, the on-site ATC for SUNY Purchase Conservatory of Dance, and provides backstage coverage for several dance companies and Broadway shows. Ms. Richardson has been involved in Dance/USA's Task Force on Dancer Health and the grassroots efforts for the National Athletic Trainers' Association's Performing Arts Special Interest Group.



Debra Spina is the Executive Assistant for the Harkness Center for Dance Injuries. Ms. Spina earned a Bachelor of Science degree in Biology from Pace University in 1978 and has been working in a medical management capacity ever since. She began her employment at the Hospital for Joint Diseases in 1998 and joined the Harkness staff in February 2000. Ms. Spina assists in the management of daily operations at the Center, in particular working with the Center's clients who are uninsured and in need of financial assistance.



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Faye E. Dilgen, MSPT, is senior dance physical therapist at the Harkness Center for Dance Injuries, where she has treated dancers from a variety of companies and schools. She has provided backstage physical therapy to numerous dance companies and developed anatomy and health curricula for the Feld Ballet School and Dance Theatre of Harlem. Ms. Dilgen received her graduate physical therapy education from Long Island University, where she was on faculty as Adjunct Professor of Cardiopulmonary Function. Ms. Dilgen is a PhD candidate in Pathokinesiology at NYU and was Section Editor of the Practical Applications column for the *Journal of Dance Medicine and Science*. She has presented research at numerous professional dance medicine venues including the International Association for Dance Medicine and Science and the Performing Arts Medicine Association. Ms. Dilgen is presently the Harkness Center's physical therapist for the twice weekly Injury Prevention Assessment Program.



Julie Daugherty, MSPT, holds an undergraduate degree from Smith College in Psychology and Dance. Ms. Daugherty taught dance and Pilates-based exercise in Australia for several years including working with the Sydney Dance Company before returning to the United States and receiving her Master of Science Degree in Physical Therapy from Long Island University. She served as on-site physical therapist for the Dance Theatre of Harlem and taught anatomy and injury prevention classes to young dancers at Dance Theatre of Harlem and the Feld Ballet's Ballet Tech for five years. Ms. Daugherty's lumbar stabilization research was recently published in *Journal of Orthopaedic and Sports Physical Therapy* and her pediatric dance research was presented at the American Physical Therapy Association's Combined Sections Meeting. She is certified in manual therapy and is currently the physical therapist for the Merce Cunningham Dance Company as well as the New York based physical therapist for the American Ballet Theatre. Ms. Daugherty has provided backstage coverage for numerous companies including the Mark Morris Dance Group and Martha Graham Dance Company.



Marshall Hagins, PhD, PT, attended North Carolina School for the Arts as a ballet major before moving to New York where he danced both on and off-Broadway. Prior to accepting his current appointment at the Harkness Center for Dance Injuries, Dr. Hagins worked at West Side Dance Physical Therapy where he treated members of the New York City Ballet. Dr. Hagins has also treated members of American Ballet Theatre, Merce Cunningham Dance Company, and served as the physical therapist for the White Oak Dance Project led by Mikhail Baryshnikov. Dr. Hagins has published original works on clinical topics in dance medicine and has presented numerous papers before the International Association for Dance Medicine and Science. He is currently an Associate Professor with the Division of Physical Therapy at Long Island University and is the physical therapy consultant for the Mark Morris Dance Group. Dr. Hagins also owns a small private practice in the Mark Morris Dance Group Center called Brooklyn Arts Physical Therapy.



Marc Hunter-Hall, MPT, received a BFA in dance and a BA in music in Pittsburgh, PA, before coming to New York to pursue a career in musical theatre. Mr. Hall spent 12 years performing in numerous regional and national musical theatre productions, including the Broadway production of *Cats* and the national tour of *Oklahoma!* In 1997, Mr. Hall graduated Summa Cum Laude from Northwestern University Medical School in Chicago with a Master of Physical Therapy, and received the 1997 Award for Clinical Excellence. He also served as an Adjunct Instructor of Kinesiology at Columbia University. Mr. Hall specializes in manual therapy and pilates-based rehabilitation and is a clinical educator in the Dance Medicine Mentorship Program at the Harkness Center for Dance Injuries. He has worked extensively with the Broadway community providing on-site care for such shows as *Man of La Mancha*, *Cats*, *The Lion King*, *De La Guarda*, and *Fosse* for Ben Vereen. Mr. Hall is the senior physical therapist at PT Plus, P.C. in the City Center Theatre Building and is the supervising therapist for the Broadway companies of *Wicked* and *La Cage Aux Folles*.



Vanessa Muncrief, MSPT, is a physical therapist at the Harkness Center for Dance Injuries. She attended the High School for Performing and Visual Arts in Houston, Texas. Ms. Muncrief received her undergraduate degree in Sociology from the University of Texas at Austin. Shortly thereafter, she moved to New York City to dance on scholarship at Merce Cunningham Dance Company. As part of Sophie Osborne Dance Associates, she performed professionally in New York City. Ms. Muncrief received her Master of Science in Physical Therapy and is currently pursuing a doctorate in Physical Therapy at Columbia University's College of Physicians and Surgeons. She is on faculty at the Dance Theatre of Harlem serving both as their on-site physical therapist and Instructor of Anatomy. Her women's health research was presented at the American Physical Therapy Association's 2003 Combined Sections Meeting. Ms. Muncrief has provided backstage coverage for many dance companies and Broadway shows.



Emily Sandow, MSPT, is a physical therapist at the Harkness Center for Dance Injuries. She also provides on-site physical therapy services to many dance companies and Broadway shows. Mrs. Sandow holds an undergraduate degree from New York University in Mathematics, graduated with honors from Columbia University College of Physicians and Surgeons with a Master of Science in Physical Therapy, and is currently at Columbia as a Doctoral candidate. She received the Columbia University faculty award for "Outstanding Student Research." Mrs. Sandow has presented original dance-related biomechanics research at dance medicine and physical therapy conferences. She has been a consultant and model for *Dance Teacher Magazine*. Mrs. Sandow trained in ballet and modern dance at the High School of Performing Arts and the School of American Ballet, and has performed in New York City.



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Thanks Thanks Thanks Harkness Center for Dance Injuries Thanks Thanks Thanks

Our Affiliates

The Harkness Center for Dance Injuries would like to thank the directors of the following dance schools, companies and organizations for their collaboration with members of our staff:

- American Academy of Ballet
- American Dance Festival
- Alvin Ailey American Dance Theatre
- City Center Theatre
- Cirque du Soleil
- Dance Theatre of Harlem
- Joffrey Ballet School
- Joyce Theatre
- Juilliard School
- La Cage Aux Folles
- Les Ballets Trocadero de Monte Carlo
- Mark Morris Dance Group
- Martha Graham Dance Company
- Merce Cunningham Dance Company
- Parsons Dance Company
- Paul Taylor Dance Company
- SUNY Purchase Conservatory of Dance
- Wicked the Musical



Photo by Beatrix Schiller

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www.danceinjury.com

Our Sponsors

Without the generosity of our supporters, programs such as our free injury prevention screening clinics, the special assistance fund for dancers in financial need, our state-of-the-art research facility and our numerous off-site satellite centers would not be possible. With tremendous gratitude we thank the following organizations for their ongoing contributions to the Harkness Center for Dance Injuries:

- The Harkness Foundation for Dance
- The LuEsther T. Mertz Advised Fund of the New York Community Trust
- The Michel Fokine Memorial Fund of the New York Community Trust
- The Jacob and Valeria Langeloth Foundation
- The Falk Family
- The Esther Simon Charitable Trust
- Altria (formerly Philip Morris Companies Inc)
- The Weinger Foundation



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