



ELSEVIER

Journal of Back and Musculoskeletal Rehabilitation 5 (1995) 189–190

---

---

Journal of  
Back and  
Musculoskeletal  
Rehabilitation

---

---

## Introduction

Marika Molnar

*Westside Dance Physical Therapy, 2109 Broadway, Suite 204, New York, NY 10023, USA*

Specific times in one's life stand out in epic proportions. Although you may have wondered at the time why you were doing what you were doing, in retrospect it seems perfectly clear. By 1979 I had completed my Master of Arts degree in Dance Education and had just graduated from Columbia University's Program in Physical Therapy. In 1980 I was asked by George Balanchine to be the physical therapist for his company, the New York City Ballet!

At that time in America I was the only physical therapist on the staff of a major ballet company. Today it is estimated that all major dance companies utilize the services of a physical therapist as well as an orthopaedist. Over the last 15 years the term *dance medicine* has gained credibility in both the dance and medical communities. I am honored to have had the opportunity to be a part of that effort.

In 1981 the American College of Sports Medicine recognized the unique qualities and needs of professional dancers at their Annual Conference. Dr. William Hamilton, the orthopaedic consultant to the New York City Ballet since the early 70's, presented an overview of dance medicine, including the physical characteristics necessary to be a professional as well as the unique problems dancers encounter in perfecting their art form. I introduced creative refinements to the evaluation and treatment of dancers based upon their physical demands and characteristics, which are different from those of the 'normal' population. For example, in order to achieve a good relevé (rise onto the toes) they must plantar flex the ankle to about 90 degrees, which is at least 20 degrees greater than the norm. External rotation at the hip joints must also be greater than the average 45 degrees; a dancer must have about 60–70 degrees in the neutral hip position so that the legs appear to be 180 degrees turned out at the feet. Intra-pelvic torsion requirements are extreme in order to enable the dancer to perform a grandé battement (a high kick) or a grandé jete (a split leap). Clinically, these increases in motion in one direction often lead to loss of motion in the opposite direction. For example, internal rotation at the hip joint and dorsiflexion of the ankle joint are usually less than the average values. These extremes of motion must be balanced with strength and stability in order to produce the desired outcome without dysfunction. This information was experiential and innovative in 1981; however, my presentation made an impression upon a prestigious audience. Since that time, there have been several articles and books published about rehabilitation of dance injuries and well documented research into their causes. Through lectures and seminars, I have continued my efforts to bring attention to the importance of healthy functioning of the dancer.

Clinical decision-making in the evaluative process is based upon one's knowledge and experience as well as the communication between patient and practitioner. In order to come up with a correct diagnosis and treatment plan, one must have a clear understanding of normal biomechanics, pathomechanics and the quality and quantity of physical demands in the dancer's life. This implies a knowledge of their entire

movement repertoire, including correct technique and faulty mechanics, as well as everyday activities such as walking.

It has been my personal experience as well as that of my colleagues that the majority of injuries that dancers sustain are to the foot/ankle and lumbo/pelvic/hip areas. It comes as no surprise, therefore, that this collection of informative articles concerns itself primarily with introducing innovative ways to treat these dysfunctions in classical dancers. My colleagues are all experienced practitioners who specialize in injury prevention and care of professional dancers.

Dr. Thomas Novella's article will stimulate you to explore a new method of measuring plantarflexion that makes it more precise and specific to the ankle joint. Accurate diagnosis is essential to guide appropriate treatment. You will learn to differentiate signs and symptoms of posterior ankle pain from Dr. William Hamilton.

Dancers often report beginning to study dance because of some developmental physical disturbance, i.e. scoliosis. In Elizabeth Henry's article you will learn why leg length discrepancies need to be evaluated and treated before further dysfunction occurs. You will also learn about a very functional and state-of-the-art tool to evaluate and treat movement impairment in dancers from Katy Keller and Jean Claude West.

Dysfunction at the extreme ranges of motion of the pelvis and hip are examined in Peter Marshall's article, with suggestions for treatment and maintenance of sacroiliac (SI) joint integrity. Dr. Lawrence DeMann's article focuses on overuse of a specific muscle in the hip, which also influences the SI joint. Ways to evaluate and treat this problem without causing the dancer to lose time from performing are discussed.

The interest in and increased awareness of the needs of the dance community have promoted growth in the field of Dance Medicine. Several organizations, in particular the International Association of Dance Medicine and Science and the National Dance Association, have brought practitioners and dancers together to study the science and somatics of the art of dance. As sophisticated as our biomechanical and technical knowledge may become, we must always remember that dancing is a performing art. In the memorable words of George Balanchine, 'You can never tell. A long foot can compensate for the shortness of a leg. Sometimes you see a body and you say it's not beautiful. But then she moves, and the mechanics of the moving produce an impression of beauty. Ballet exists only when people are performing'. The human body is an amazing entity and we are still in an evolutionary phase as we discover and uncover the mystery and potential of human movement. Art and science truly meet in the field of dance medicine.