body central - part I

by andrea downie

As a reader of *Dance Central*, you are likely involved with dance in some way. Are you a dancer, an educator or a choreographer? Maybe you are an administrator, a critic, or someone who simply enjoys attending dance performances. Regardless, what we all have in common is an interest in dance.

As I sat to jot down some ideas for this article, I wrote at the top of my page "*Dance Central*." What is central to dance? One might argue that the body is central to dance for it is the primary instrument used in dancing. Whether one practices or performs dance, creates or teaches dance, watches and appreciates, or writes about dance, the body must be considered. So I propose that we consider the body and how its optimal functioning ensures more effective dancing, as this will positively impact us all.

Dance is a humanistic form, executed and perceived subjectively. Too often scientific advances have been ignored because of the objective and quantitative nature of science has seemed at odds with the essence of dance. Unfortunately, this has resulted in dance careers that are notoriously short and plagued with dance injuries.

In recent decades, the field of dance science and medicine has sought to apply structural, biomechanical, neuromuscular and psychological analyses to dance. Exciting discoveries have been made with promises of a more efficient and effective future for the dancing body. Such scientific findings need not be in conflict with the artistic goals of dance, but rather can be used to support them.

Like a musician, a dancer must develop both technical and artistic facility. A broad movement vocabulary is required in order to explore and discover, to interpret, create and communicate. But unlike the musician, the dancer's instrument cannot be put away after class or performance, nor can it be replaced. The body must also meet the demands of life outside the studio, for the rest of the dancer's life. Although the body is adaptable and resilient, it is also fragile. If chronically overused, misused and injured the dancer will be less able to meet the expressive, artistic and technical challenges of dancing. Further, quality of life may become an issue outside the

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studio, both in the present and in the future. For this reason, the body requires special care and attention.

So how do we go about ensuring dancers reach their highest potential while also ensuring optimal and healthy functioning of their bodies? As a group we must decide that injured dancers and careers that end long before a dance artist has matured are unacceptable. It is imperative that we continuously question current assumptions, aesthetics, training methods and dance practices that may adversely affect the body. We must also become increasingly aware of the needs of the individual. Understanding and accommodating as many different bodies, ways of learning and ways of moving as there are dancers is essential; research from the field of dance science can help with this endeavour.

Looking at Knees

Let's consider knee alignment. Although we all have femurs that articulate with the tibias at the knee joints, not all knees look or act the same. Understanding and identifying the variety of knee structures and misalignments is a first step toward ensuring each dancer's knees meet the increased physical demands of dance without being injured. One of the most common knee misalignments is "genu recurvatum", or hyperextended knees. Many dancers - particularly those with joint laxity - have knees that can curve backward beyond straight (see image). Research suggests that hyperextension is positively correlated with knee injuries. Stretching of the posterior joint capsule, anterior cruciate ligament injuries, patellar displacement and weakening of the knee as a result of muscular imbalances in the thigh are but a few of the associated injuries and problems that can result. Further, hyperextension can also contribute to shin splints and lumber hyperlordosis (sway back), exaggeration of genu varum (bowed legs) and tibial torsion in those who have these

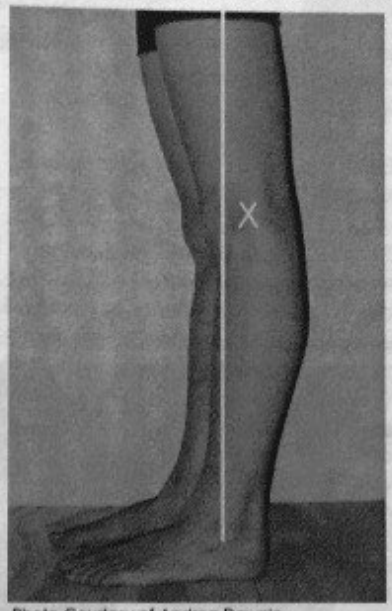

Photo Courtesy of Andrea Downie

deviations, and are therefore prone to the associated injuries.

Learning to work without pressing the knees back is a matter of retraining. An appropriate conditioning program aimed at balancing the relative strength and flexibility of the muscle groups surrounding the knee should supplement the neuromuscular repatterning of these muscles. The dancer must learn to recruit and activate the muscles appropriately in order to achieve the correct, straight, alignment of the knee.

So why do dancers hyperextend? Education and aesthetics are at the heart of this question. Though some are unaware of the risks involved, others may be voluntarily assuming these risks because hyperextension is still the desired aesthetic for the dancing leg in many dance environments. Recently, while discussing the problems associated with hyperextension and exploring ways to work differently, one of the students in my Dance Kinesiology lab summed up the current dilemma as follows, "Even though I now know why I should stop hyperextending my knees, hyperextension still looks so nice to me."

The responsibility then lies with all of us. Can we establish and appreciate a new and safer aesthetic for dance? In this case, could a straight knee, well aligned according to the dancer's individual body, become more pleasing to the eye than a hyperextended knee? I believe is it possible and I ask you to consider what you can do to help facilitate this change.

A great resource for information on common dance injuries is the Harkness Centre for Dance Injuries website: http://www.med.nyu.edu/hjd/harkness/patients/injuries/

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