

## How to work with...Dancers

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*By Allyson Cabot*

A professional dancer may seem like a dream client—she's got rhythm, flexibility and coordination—but beneath the fit façade may be a body that needs extremely specialized instruction. Unfortunately, dancers, even when well conditioned, trained and psychologically prepared for the rigors of a life in dance, will experience injuries due to the nature of movement demands.



According to the [Journal of Dance Medicine & Science](#), up to 80 percent of dancers report injuries at some stage in their career. As much as a third of these are the result of specific trauma, and 65 percent are overuse injuries. Conditions which effect dancers include muscle weakness, muscular imbalances, range of motion deficits and the various forces associated with dance and dance movement.

In any form of dance, the greatest stressors occur in a dancer's foot, ankle, knee, hip, pelvis and lumbar spine. Hypermobility in these areas is common in most dancers, and can often lead to poor motion control and destabilization of the joint surfaces. Consequently, compensation patterns often occur in locations above or below the hypermobile region, which can also lead to injury. To prevent this, it is necessary to create a balance between mobility and stability at all of the joint surfaces in addition to careful maintenance of alignment.

As a Pilates professional, one can greatly impact the conditioning aspects of a dancer's needs in a preventative or rehabilitative manner. Knowledge of the inherent demands of dance, a sound medical background and adequate clinical skills are required for accurate assessment of a dance or any athletic injury. As a teacher, you should always defer injury diagnosis to medical professionals. Once accurately assessed, a trainer can make a huge impact on injury recovery and prevention.

When applying the Pilates principles to a dancer, an emphasis on proper postural alignment with focus on a neutral pelvis and lower extremity position is important. Cue your client to keep the patella in line with the 2nd metatarsal (second toe) and the ASIS (hip bones), whether in a parallel or turned out position.

When training a dancer to engage core strength in a neutral pelvic position, make sure they understand this is done by recruiting the inner unit muscles, or local stabilizers, which consists of the transversus abdominus, multifidi, diaphragm, pelvic floor and the posterior fibers of the psoas.

Global stabilization is also of great importance. Once the local stabilizers are recruited, movement patterns that facilitate the recruitment of the sling systems (major muscle groups attached by fascial connections that work synergistically to provide global stabilization) can be performed more safely.

Once core stability and global stability are established, pelvic stability can be addressed. Assurance that the pelvic stabilizers are equally strong is essential. The major muscle groups that you want to have balanced for pelvic stability include the hip abductors, adductors, external rotators and internal rotators.

It is imperative when training a dancer that they understand the concept of co-contraction. Whether the dancer is in parallel or turnout, there must be co-activation of the stabilizing musculature on all sides of the hip, pelvis and lower extremity. It is the collaboration of these muscle groups that leads to stability, even when performing dynamic movements.

Here is a sample training program that focuses first on core and pelvic stability, then moves to lower body work and finally includes an oh-soimportant cardiovascular component.

### **Core Fundamentals**

When performing core stabilization exercises, it is essential to monitor contraction of the core in a neutral pelvic position. Dancers, in general, tend to want to position the pelvis in a posterior tilt. Make sure your clients can contract their core musculature without over utilizing the posterior musculature, such as the gluteals and posterior pelvic floor. No butt gripping! Also, make sure you see the abdominals drawing inward and upward versus a valsava contraction, which will produce abdominal distention or a protrusion of the abdominal wall. Finally, dancers tend to flare their ribcage to get more extension in their upper spine and add an appearance of height to their bodies. Take the time to ensure that they are recruiting the upper transversus abdominus: you should see a connecting of the muscle all the way up to the ribcage into the sternal notch.

### **Core Exercises**

Chest lifts maintaining neutral pelvis  
Chest lift with knee folds  
The Hundred, done with knees in table top  
The Roll Up  
Single Leg Stretch  
Double Leg Stretch  
Single Straight Leg Stretch  
Double Straight Leg Stretch

### **Pelvic Stabilization Fundamentals**

While strengthening the hip and pelvic musculature, it is key to monitor the pelvic position in all planes of movement. Because neutral pelvis is key for postural stability, watch for anterior and posterior tilts as well as a superior or inferior position—there should be no hip hiking or sinking into the hip. In instances that only one leg is working, be sure that the hips and pelvis remain stable and immobile. Pay close attention to the alignment of the lower extremities and the activation of the anterior, posterior, medial and lateral musculature of the hip, pelvis and lower extremity.

### **Pelvic Stabilization Exercises**

Bridging  
Bridging with Single Leg Extension, keeping pelvis level  
Shoulder Bridge  
Single Leg Circles  
Side Lying Clams, Hydrants  
Side Kicks

### **Lower Extremity Fundamentals**

Many dancers lack stability in the ankle joint and supinate or pronate as a result, which will effect the alignment of the whole leg, pelvis and trunk. The positioning of the foot and ankle greatly affects the joints and musculature up the kinetic chain. Props such as balls and resistance bands can be very helpful for proprioceptive feedback. As an instructor, make sure that the ankle is not collapsing or over-arching when doing all Pilates exercises. Take time in your session to focus on the foot and ankle, because whatever is occurring at the foot will affect all the joints above it.

### **Lower Extremity Exercises**

Footwork on Jump Board (both legs and single leg)  
Footwork  
Leg in Strap work

Standing Split series  
Front Splits  
Russian Splits  
Standing Footwork on the Trapeze

### **Cardiovascular Training Fundamental**

Finally, it is crucial for dancers to understand that aerobic conditioning can not just come from their dance classes. In order to prevent fatigue and reduce the rate of injury from fatigue, aerobic conditioning must take place outside of the studio. I usually recommend a minimum of 20-30 minutes, 3 days a week, but ideally conditioning will take place in 30-60 minutes sessions 4-5 times/week. Aerobic conditioning is anything that get your heart rate up, including elliptical trainers, swimming, jumping rope, treadmill, etc. If you want to add some into a resistant client's session, try devoting part of your session to work on the Jump Board.

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