



Pilates and Dance

Injury Prevention

The human body has a great deal of structural strength created by its musculo-skeletal systems. Dance activity subjects the body to abnormal stresses and forces. As a result dancers are frequently sidelined by injuries.

Dancers should complement daily dance classes with exercises that strengthen and stretch muscles not developed by dancing activity. Among the most common injuries in dancers are those caused by overuse.



Repetition of movement for extended periods of time places undue stress on the feet, legs, hips, and back. The dancer can also sustain injuries by over-stretching or compressing the body tissues, such as muscles, bones and joints. This can result in injuries such as muscle strains, joint sprains, dislocations and fractures.

Everyday Protection

Many professional dancers attribute being injury free to having an increased awareness of their alignment and posture both in the dance studio and outside. Pilates provides dancers with a range of everyday tools to become more aware of their alignment. It also provides very effective conditioning programmes that can boost a dancer's functional stability by increasing the protective strength of their local muscle structures.

This means the strength that originates in the deeper lying (local) muscles, and allows the outer (global) layer of muscle groups and bone systems to work in a fluid, integrated, way. Our trunk is the foundation of our entire body. If our torso is unstable our arms and legs work harder to accomplish any given task. The tone in our muscles is lower when lying down than when standing up. For this reason Pilates is initially done lying down as in this position we can start to improve our way of moving without having to work too hard against gravity. The initial Pilates exercises gradually challenge the body in different positions until this improved awareness and control can be used in all positions and planes of movement.

Awareness and Connection

Pilates is concerned with building awareness of the effect movement has throughout the whole body. Breathing control and mental concentration makes it possible for the dancer to be conscious of their movement and helps to increase awareness of the sensory feedback from the nervous system. This mind-body connection is used extensively in Pilates and is a way to increase control and detailed movement.

Mental training and relaxation techniques can also be used to enhance performance and assist a positive outcome. It helps the dancer maintain focus and can also be useful in skill acquisition, such as learning new choreography or seeking to clarify movements. Incorrect

movement patterns or postural positions can often be felt more intensively by the body because they provide more feedback in our joints and muscles.

When the alignment is improved the dancer may receive less feedback and it may be perceived as feeling weaker. As with all new information, it will take time for a dancer to associate this new sensation with an improved way of moving. Pilates is an ideal tool to coordinate joints and muscles along with this new awareness. It can make the physical sensation more understandable, and it can make the training and assimilation of new information more effective for the whole body.



Building Intensity and Strength

A conditioning programme should start slowly and gradually increase in intensity. This means that the resistance should also be increased over time to gain more strength and coordination. When muscles are used actively without excess tension they can increase in size and strength, making them more efficient and fatigue resistant. If muscles are inactive they always become weak and waste away.

Pilates exercises build muscle strength without excessive bulk. The springs used in Pilates equipment sessions encourage an eccentric muscle activation, making it possible for the muscle to lengthen while working actively.

The springs mimic muscles by being able to contract and expand. This makes an action that is very different from static weights used in gym settings, as the spring gets heavier the further it is stretched. Pilates equipment also creates resistance in one direction (out) as well as assistance on the return (back). In this way opposing muscles work together smoothly and efficiently without causing muscle imbalances as long as the exercises are performed with correct alignment. This type of exercise is more likely to protect and extend range of motion (ROM) and flexibility.

Resistance Exercise Planning

Resistance exercise is where strength and not stamina is important. So it needs to be done with care, as some muscles may develop more than others and can lead to decreased efficiency of movement.

Using a heavier resistance with fewer repetitions of an exercise can help the dancer to gain strength. However, care should be taken not to increase resistance so much that the quality of the execution is reduced. Performing more repetitions at a lower resistance will help to improve muscular endurance. In a mat class a dancer will need to generate the resistance themselves, or make use of smaller pieces of equipment like a flex-ring or theraband to help create it.

To benefit from a conditioning programme it is important for the dancer to train frequently. A conditioning routine should be performed three times a week for the dancer to increase strength and maintain fitness.



Photos Tania Huddart and Cam Sanders
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