

# Dancing Smart Injury Prevention



*I*f you are a professional dancer or wish to be one, it is important to be aware of the reality of injury. It is equally important to realize that injuries can often be prevented. Personal experience and knowledge about your own limitations is essential in avoiding a dance

injury. WITH OVER 600 MUSCLES, 206 bones and countless nerves, ligaments, and tendons in the body, it's almost impossible for dancers to escape getting injured. Acute injuries, such as a sudden sprain or muscle pull, seem to happen out of the blue. One minute you're dancing, the next minute you've hit the floor. Chronic problems, like tendonitis, develop from repetitive stress over time. Though there are many types of injuries, some are more common among dancers than others. For the most part, an injury occurs when a part of your body is weak and/or when you are tired physically or psychologically or both.

Injuries to dancers are broadly defined as trauma to some body part resulting in pain.

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## *Causes of Injury*

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- Ignoring misalignment/ improper placement
- Overuse of muscles
- Dancing on hard surfaces
- Heat exhaustion
- Poor health habits (unbalanced eating habits, lack of sleep, or use of drugs)
- Performing a combination that is beyond your ability
- Ignoring one's own fatigue warning signs
- Over/Under body weight
- Dancing under high levels of emotional or psychological stress
- Dancing without proper warm-up

To better understand injuries and their prevention we must first be able to define some basic anatomy terms:

- **Muscles**: elastic tissue which moves our limbs and joints and provides padding for our organs.
- **Fascia**: the thin, soft tissue surrounds muscles, bones, organs, nerves, blood vessels, and other structures. It provides support and protection; and acts as a shock absorber. After injury, it is the fascia that creates an environment for tissue repair.
- **Tendons**: Tough tissue that connects muscle to bone
- **Ligaments**: Tough tissue that connects bone to bone
- **Cartilage**: Tough connective tissue which covers the ends of bones providing padding and facilitating movement in all joints of the body.
- **Bursae**: It provides a cushion between bones and tendons and/or muscles around a joint; bursae are filled with synovial fluid and are found around almost every major joint of the body.



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## *Basic Dance Injuries*

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**Cramps:** A sudden muscle cramp during a dance class should be a reminder to warm up properly and drink adequate amounts of water. A cramp is an overfatigue of a muscle and may be caused by a depletion of electrolytes in the body. A cramp can be relieved by immediate gentle stretching of the cramped muscle, accompanied by massage. Soreness may be a result if the cramp is not fully relieved before work is resumed. For dancers, cramps usually occur in the arch of the foot or the calf of the leg.

**Muscle Soreness or Stiffness:** Stiff or sore muscles are common complaints from students who are not used to practicing ballet exercises on a regular basis. Two common types of soreness often plague dancers. Acute soreness often results from a strenuous dance class after a period of inactivity. You may come away from the class feeling soreness in your legs or upper body from what you have done in the class. Delayed soreness is soreness that occurs 24 to 48 hours after a dance class. This soreness can be severe and can last two to three days after exercise. The best remedy is to increase circulation by stretching and exercising the muscle lightly again as soon as possible and by applying heat. In order to prevent soreness, one must properly warm-up, stretch, and then cool-down.

**Sprain:** A sprain occurs when a joint goes beyond its normal range of motion and involves the tearing of the ligaments. It occurs in any joint and includes everything from tears to complete ruptures to the tissue. A sprain is a result of excessive force applied to a joint in an unstable position. Sprains can be severe, and it is imperative that ice or cold compresses be applied to the area until a doctor can be consulted. Ankle sprains are the most common type of sprain for dancers. To avoid ankle sprains, it is important that the ankle be centered under the knee at all times, especially when landing from a jump or leap.

**Strain:** A strain is the tearing of the muscle and sometimes the tendons. Usually strains occur anywhere from the hips down in a dancer. Common causes can be the result of excessive force, structural weakness, overuse, and incorrect execution of an exercise. More than likely, strains occur in dancers due to an improper warm-up or a lack of flexibility. A strain produces stiffness, tenderness, pain, and sometimes swelling. Use the RICE recovery method.

**Tendonitis:** Tendonitis is inflammation, irritation, and swelling of a tendon which often results from a muscle strain. Once developed, tendonitis is often chronic or recurrent and becomes acute when an already inflamed tendon is subjected to further stress.

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**\*\*\* STRAINS AND TENDONITIS ARE THE MOST COMMON DANCE INJURIES \*\*\***

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**Shin splints:** Shin splints are a minor tearing of the muscle attachments from the tibia (shin bone), resulting in soreness, pain, and swelling below the knee on the inner side of the front of the leg. Icing and resting the shins help with minimizing the pain. Extreme severity of this syndrome can lead to stress fracture in the tibia.

**Knee Injuries:** Knee injuries are almost always triggered by persistent pain, redness, or swelling in the region of the knee. These symptoms are warning signs of a significant problem, perhaps a sprain, tear of the ligaments around the knee, or even tendonitis. Other symptoms are a tendency for the knee to lock, to give way suddenly, or to be unable to straighten fully. Twisting your knees for a better turnout position will put you at risk for knee damage. An orthopedic physician should be consulted immediately.

**Back Injuries:** Back pain most common in dancers is caused by muscle strain, accentuated by rotary or bending movements of the back. A warm bath can help soothe the pain because of the antigravity effect of the water.

**\*\*\*MOST INJURIES IN DANCERS OCCUR FROM THE LOWER BACK DOWN\*\*\***



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## *Treatment of Dance Injuries*

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- **Earliest Warning Signs:** to experience difficulty with some movement or position that has previously been easy. The dancer who is attuned to his or her body knows that a movement once easily accomplished and now presenting difficulty indicates something wrong.

**\*\*\* ALWAYS LISTEN TO YOUR BODY !!! THEN, TREAT YOUR INJURY APPROPRAITELY\*\*\***

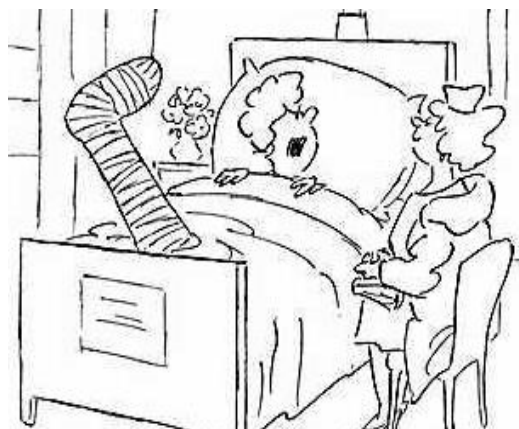
- A serious injury demands immediate attention: it is either too painful, swollen, tender, or stiff to be denied. It is the dancer's responsibility to recognize and protect the area as soon as the injury occurs.

**\*\*\*LISTEN TO YOUR BODY, AND CONSULT A DOCTOR\*\*\***

**Recovery Method** – used for sprains, strains, shin splints, and sometimes knee injuries.

# **R I C E**

- 1) **Rest** Rest...you should get off the injured area and build back slowly.
- 2) **Ice** Minimize the swelling. Ice the area until it is numb (about 10-15 minutes). Passively move the joint through its current range of motion. Repeat every 30 min – 1 hr until the swelling subsides. There are several methods to do this.
- 3) **Compression** There are several methods of wrapping and padding, watch individually helpful to the specific injured area.
- 4) **Elevation** It is important that you elevate the injured area above the level of the heart.



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## Prevention of Dance Injuries

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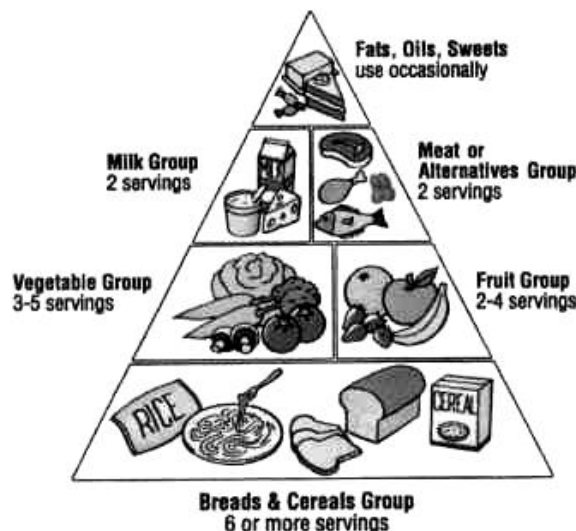
Proper conditioning is vital for the dancer. In order for anyone to efficiently execute a motor task, there must be adequate **STRENGTH, FLEXIBILITY, and ENDURANCE**. Good Posture and **ALIGNMENT** are also necessary for the maximum functioning of the body with the exertion of the least amount of energy.

- **Strength:** the capacity of the individual to exert a muscle contraction or force against a resistance.
- **Flexibility:** the extent to which a limb can be extended and flexed; also, increasing the range of movement in a joint.



- **Endurance:** the staying power of the body, divided into two components; muscular and cardiovascular.
  - Muscular: the ability to sustain many muscle contractions over a given period of time.
  - Cardiovascular: the ability to effectively deliver oxygen to the muscle tissue or a long period of time.

- **Alignment:** appropriate positioning of the body parts for the best movement efficiency.
- **Nutrition:** because of the demands the dancer places on his or her body, individuals must pay attention to ingesting a healthy, well-balanced diet, which included plenty of water.



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## *Top Ten Prevention Tips for Dancers*

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1. Proper training and teaching are essential to allow dancers of all ages to develop their skills without injury.
2. Take adequate rest to allow the body to heal itself from daily wear and tear.
3. Maintain energy levels by eating and drinking adequately.
4. Conditioning and strengthening of the leg muscles that support the arch are crucial.
5. Try to avoid dancing on hard or uneven surfaces, which could cause injury.
6. Take care of your shoes!
7. Dancers should adopt new training schedules slowly.
8. Although not always possible when dancing, but more so off stage or out of class, wear supportive footwear, and if you need to wear orthotics, wear them as often as possible.
9. If dancers perform excessive pointe or demi-pointe work one day, they should focus on other types of work during the next workout.
10. Early recognition of symptoms is important. Stop activity if pain or swelling occurs. If the pain persists after a few days rest, consult a sports-medicine physician.