



# SPORTS TRAINING TIPS: DANCE

U W H E A L T H S P O R T S M E D I C I N E

## DANCE INJURIES

There are a number of common causes of injuries in dancers. Extrinsic factors include the type and frequency of dance (classes, rehearsals, performances), length of training time, environment (floor, temperature of dance space) and equipment (props, shoes, clothing). Intrinsic factors include the individual dancer's body alignment, prior history of injury, nutritional deficiencies, emotional or psychological stress, and fatigue.

Common technique and/or training errors in dance include the following:

- Forced turn-out from the foot/ankle (rolling in), knee (twisting) and lumbopelvic (arching the low back)
- Initiating pointe prior to establishment of proper strength and physical maturity
- Stress of impact from jumping and leaping
- Repetitive activity

### How can dance injuries be prevented?

The demands that dance places on dancers' bodies put them at high risk for injury. Research indicates that dancers have a high prevalence of lower extremity, hip and back injuries.

Dancers can help prevent injury by:

- Completing an adequate warmup and cooldown.
  - *Warm-up:* Increase the temperature of the core and muscle tissue until a slight sweat appears on the skin. Many people confuse stretching for warming up. Suggestions for warming up include agility-type activity such as light jumping jacks, jumping rope and jogging in place. If space allows, one may consider chasses, carioca, forward skipping, etc.
  - *Cool-down:* Gradually lower heart rate after class or rehearsal by performing slow variations of the warm-up, stretching and balance exercises.
- Using proper body mechanics and technique
  - *Pelvic alignment:* The front of the pelvis should be level with the pubic bone when standing upright in dance. A common error is arching the low back in order to achieve a greater turn-out at the feet.
  - *Turn-out:* Most of the motion should come from the hip and very little at the knee and ankle. For proper turn-out position, stand with feet in parallel first position, rock back on heels while keeping the rest of the body upright, and rotate from the hip to place feet into first position turn-out.



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- **Turn-out with plies:** Track the knees over the second toe for proper performance of plies. If this position is difficult to achieve, it may be a greater turn-out than the body is currently able to achieve.
- **Foot positioning:** Avoid rolling in on the arches—a common fault in dance technique as dancers try to force a greater turn-out.
- **Knee alignment:** Don't hyperextend the knees—a common error dancers make when standing, and felt as a strain in the back of the knees. Create a slight bend in the knees to avoid hyperextension.
- Minimizing muscle imbalances and weakness through strength training programs
- Maintaining a balance of stability with mobility
  - Dancers are often very flexible and therefore risk injury to joints if they don't know how to control their flexibility. Stabilization exercises are helpful for injury prevention and performance.
- Following proper nutrition guidelines  
(*The kilogram to pound conversion is 1 kg = 2.2 lbs. For example: 115 lbs = 52.27 kg; 50 calories per kilo for a 115 lb female equals about 2600 calories for a dancer who is training heavily.*)
  - 45-50 calories per kg of body weight for females
  - 50-55 calories per kg of body weight for males
  - 55-60 percent carbohydrates, 12-15 percent protein, 20-30 percent fat
  - Consult a dietician for a more individualized nutrition plan
- Knowing the limits of their bodies
  - Dancers should be mindful of the amount of activity they engage in and how the activity makes their bodies feel
  - If feeling fatigue or pain, dancers should limit their dance
- Getting adequate sleep or rest
  - School-aged children should get 9-11 hours of sleep per night
  - Sleep and rest help muscle recovery and decrease fatigue
  - Avoid overtraining and reduce risk for injury by monitoring quality vs quantity of dance, diet, hydration, rest and sleep patterns

## How are dance injuries treated?

UW Health Sports Medicine uses a comprehensive approach to treat dance injuries, beginning with an evaluation by a sports medicine physician or sports rehabilitation specialist (physical therapist or athletic trainer) and X-rays or MRIs if needed. Following this evaluation, most dancers undergo specialized rehabilitation that may include strengthening/postural exercises, flexibility exercises and manual therapy treatments. Dancers also receive an assessment of their dance technique, looking for any faulty mechanics that may be causing the injury. A customized injury treatment plan may include modifying the intensity, duration or frequency of dance.

Low-impact exercises in the pool or on the Pilates reformer may be suggested to safely and effectively return a dancer to full activity.

## What to do if an injury occurs

The early warning signs of injury are redness, warmth, swelling or pain. Ignoring any of these signs and continuing to dance may cause further injury and prolong recovery time. Upon initial detection of an acute injury, remember the acronym, **RICE**: Rest, Ice, Compression, Elevation.

For evaluation and treatment at the UW Health Sports Rehabilitation Dancers Clinic, please call **(608) 265-7500**.

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## References

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For more information about sports rehabilitation services, please visit [uwhealth.org/sportsrehab](http://uwhealth.org/sportsrehab) or call (608) 263-4765.