

Aerobics And Your Feet



What is Aerobic Dancing?

From humble beginnings in the late 1960s, aerobic dance has become a major symbol of the fitness craze that exploded into American culture in the 1980s. It's still one of the most popular ways to get fit -- and stay fit -- around the world.

More than 24 million people participate in aerobics. Once confined primarily to young women, aerobic dance has blossomed into a sport for both sexes and all age groups to have fun while losing weight and keeping in shape.

Essentially an hour's workout set to music, a typical aerobics program begins with 5-10 minutes of warm-ups and stretching, peaks with 20-30 minutes of target heart range dance, can include 20 minutes of a muscle stretching floor program known as body sculpting, and ends with 5-10 minutes of cool-down and more stretching. Programs typically run three to four times a week.

The benefits of aerobics include increased cardiopulmonary efficiency, strengthened heart and lungs, improved circulation, lowered cholesterol levels, and stress and anxiety reduction. But it is a strenuous form of exercise, and thorough preparation, wise choice of routines, proper equipment, and consideration of floor surfaces are essential to avoid injury.

It's a good idea to see a doctor of podiatric medicine specializing in sports medicine before beginning an aerobics regimen. The podiatrist will perform a biomechanical or gait analysis to assess your risk of injury.

Don't Forget the Feet

Because aerobic dancing involves quick lateral movements, jumping, and leaping for extended periods of time, proper care of the foot plays a crucial part in keeping the entire body fit to endure the "pain" that precedes the "gain" of a more fit physique and efficient heart and respiratory system.

If your feet suffer from excess pronation or supination (your ankles tend to turn inward or outward too much), it's especially important to see a podiatric physician, who may recommend controlling the sometimes harmful motions with an orthotic shoe insert.

Proper shoes are crucial to successful, injury-free aerobics. Shoes should provide sufficient cushioning and shock absorption to compensate for pressure on the foot many times greater than found in walking. They must also have good medial-lateral stability. Impact forces from aerobics can reach up to six times the force of gravity, which is transmitted to each of the 26 bones in the foot.

Because of the many side-to-side motions, shoes need an arch design that will compensate for these forces, and sufficiently thick upper leather or strap support to provide forefoot stability and prevent slippage of the foot and lateral shoe "breakup." Make sure shoes have a toe box that is high enough to prevent irritation of toes and nails.

According to the American Aerobics Association International (AAAI), the old sneakers in your closet are probably not proper

shoes for aerobics. Major shoe companies today have designed special shoes for aerobics, which provide the necessary arch and side support; they also have soles that allow for the twisting and turning of an aerobics regimen.

Running shoes, perhaps the most popular athletic shoes, lack the necessary lateral stability and lift the heel too high to be considered proper for aerobics. They also often have an acute outside flare that may put the athlete at greater risk of injury in sports, like aerobics, that require side-by-side motion. Running shoes are not recommended by podiatric physicians for aerobics.

Once you've found the proper shoes, tie them securely, but not too tight, in the toe box to allow toes to spread, and tightly around the arch. Double-tie the laces to prevent accidental slippage in mid-routine.

Purchase shoes in the afternoon, when the feet swell slightly. Wear the same socks (podiatrists recommend athletic socks made of an acrylic blend) that you will wear in training.

Prevention of Injuries

In a physically challenging sport such as aerobics, injuries are common, and often involve the foot, ankle, and lower leg. (Other susceptible parts of the body are the knee and back.)

Physicians say most injuries from aerobics result from improper shoes, surfaces, or routines, and overuse of muscles through too vigorous a regimen.

New, properly tied, well-fitted aerobic-specific shoes will address the first problem, and common sense will help with the others. The key to injury prevention is proper conditioning, which will provide muscles the flexibility and strength needed to avoid injury.

If you are attending an aerobics class, make sure it is led by a certified instructor. Hardwood floors, especially with padded mats, are the best surfaces possible. If you can, start with a multi-impact class, where you can start at a low-impact level and work your way up as your conditioning improves.

If your routine is at home with a video, be very careful. Read the label to determine whether the video is produced by certified aerobics instructors and whether you can handle the degree of impact. While it's safe to do low-to-moderate impact aerobics on the living room carpet, that's not a proper surface for high-impact routines.

In addition, make sure the video includes a proper warm-up period. Make sure there are no rapid, violent movements. Do not bounce or use ballistic stretching, or stretches known as the Yoga plow or hurdler's stretch. Knees should always be loose during warm-up. A static stretch held for 10 seconds can help avoid overstretching injury.

As you work out, monitor your heart rate to stay near the target heart range (start with 220, subtract your age, then multiply by 0.8 to find target heart range). You should be within five of the target range. Monitor pulse at peak and after final cool-off and compare. The difference is known as your cardiac reserve.

Drink lots of water to avoid dehydration during workouts; it can cause nausea, dizziness, muscle fatigue, and cramping.

Don't underestimate the importance of the cool-off period. It burns off lactic acid (which makes muscles feel tired) and adrenalin, while keeping blood from pooling in the extremities.

While fitness professionals exercise vigorously six times a week, it's best to start slower. Although it varies by the individual, it's safe to start exercising twice a week for several weeks, then gradually increase to a maximum of five times a week. Remember to pace yourself, and listen to your body. If you feel pain, stop. Don't attempt to exercise through pain, or you may aggravate an acute injury into a chronic or even permanent one. If you continue to be bothered by pain more than 24 hours after exercising, see a physician.

Common Aerobics Injuries

Achilles Tendon and Calf Pain: The frequent rising on the toes of an aerobics routine often creates pain and tightness in the

large muscles in the back of the legs, which can create pain and tightness in the calf and inflammation of the achilles tendon. Again, stretching the calf muscles gently and gradually before and after the workout will ordinarily help alleviate the pain and stiffness.

Heel Spurs: Heel spur syndrome, related to plantar fasciitis, occurs after calcium deposits build up on the underside of the heel bone. Heel spurs form gradually over many months. Both plantar fasciitis and heel spurs can be avoided by a proper warm-up that includes stretching the band of tissue on the bottom of the foot.

Plantar fasciitis (arch pain): Arch pain is often caused by frequent stress on the plantar aspect, or bottom of the foot, in an aerobics routine. When the plantar fascia, a supportive, fibrous band of tissue running from the heel to the ball of the foot, becomes inflamed, pain on the bottom of the foot results. Forefoot and rearfoot instability, with excessive pronation, may result in plantar fasciitis. Shoes with proper support in the arch often prevent plantar fasciitis; if not, see your podiatrist for a custom orthotic device or a recommendation for another shoe.

Sesamoiditis: Sometimes referred to as the ball bearings of the foot, the sesamoids are a set of accessory bones found beneath the large first metatarsal bone. Incredible forces are exerted on the sesamoid bones during aerobics, and inflammation and fractures can occur. Proper shoe selection and custom orthotic devices can help avoid sesamoiditis.

Shin Splints: Aside from ankle sprains, shin splints are perhaps the most common injury to the lower body, as the muscles attached to the shin bone bring the foot up and down. The pain is usually an inflammation of the shin muscle and tendon due to stress factors. Treat shin pain with cold compresses immediately after the workout to reduce inflammation. Proper stretching before the workout should prevent the onset of shin splints. Strengthening of muscles also helps reduce shin splints.

Stress Fractures: Probably the most common injuries to aerobics instructors, stress fractures are caused by poor shoe selection, hard surfaces, and overuse. Women are more likely to develop stress fractures, usually in the lesser metatarsal bones, than men. When swelling and pain surface, see a podiatrist. X-ray evaluation and early treatment can prevent a disabling injury.

If you experience any of these injuries, see a physician (a podiatrist can treat most of them), who will prescribe treatments to alleviate the pain, and make recommendations to prevent recurrence of any discomfort. As foot specialists trained in all aspects of foot care, podiatrists are also qualified to perform foot surgery if the condition requires it.

The Bottom Line

The bottom line when undertaking an aerobic dance program is to be careful and responsible. Aerobics may even provide a more vigorous workout than jogging, and injuries will inevitably occur if you don't listen to your body and exercise your common sense as well as your muscles.

Remember there are good aerobics programs and bad ones. Use discretion in choosing both a class to attend or home video to purchase that is right for you. Always pace yourself, and stop if you feel pain. Remember, foot pain is not normal, so don't ignore it. Chances are, a successful aerobics regimen will bring out the body you've always dreamed of, and a better feeling about yourself both physically and mentally.

The American Podiatric Medical Association operates a toll-free telephone service, **1-800-FOOTCARE (1-800-366-8227)**, from which consumers can obtain informative literature on a variety of foot health topics. The [American Academy of Podiatric Sports Medicine](#), an affiliate of APMA, may be reached at 1-800-438-3355.

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