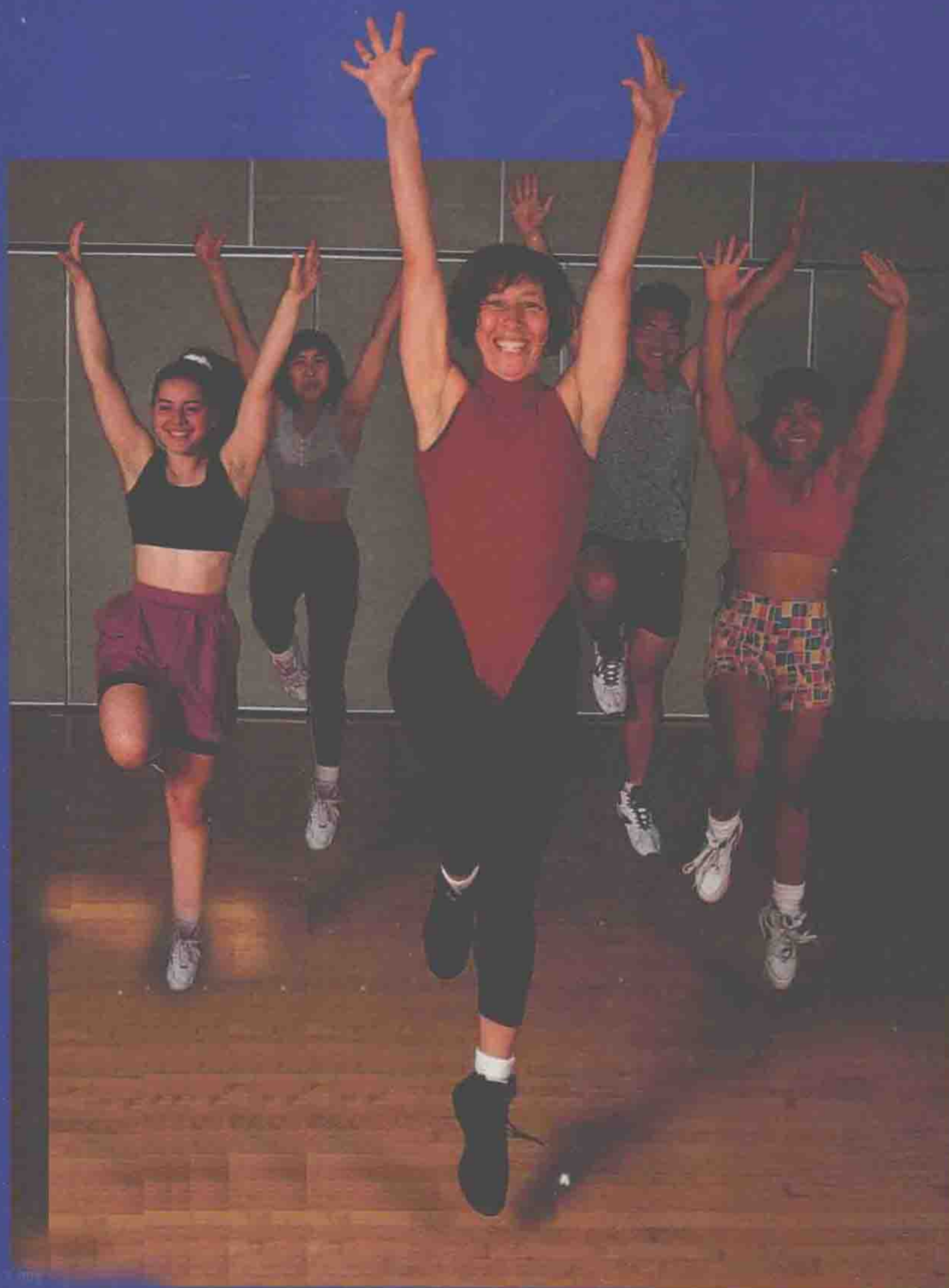


KEEP MOVING!

It's Aerobic Dance

THIRD
EDITION



Esther Pryor ■ Minda Goodman Kraines

KEEP MOVING!

IT'S AEROBIC DANCE

THIRD EDITION

ESTHER PRYOR
MINDA GOODMAN KRAINES



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KEEP MOVING!

PREFACE

We have been extremely gratified by the success of *Keep Moving!* Since its initial publication in 1987, more than 50,000 college students have found it an invaluable resource for getting the most out of their aerobic classes.

Expansive developments in the fitness and aerobics industry have dictated numerous changes in the third edition of *Keep Moving!* However, in this new edition, our goals still remain the same: to provide lucid, accurate coverage of the basic scientific and physiological principles that underlie aerobic fitness; to describe the most universal aerobic movements clearly

and with an abundance of illustrations; and to offer brief discussions of such vital topics as posture, flexibility, injuries, nutrition and stress, so that the class time can be spent moving!

The third edition of *Keep Moving!* expands on previous information and includes new topics to excite both the novice and seasoned aerobic student. New features include:

- Additional student worksheets that the instructor can assign for home study. The completion of these worksheets will give the student training in using the techniques and concepts discussed in the text.

- New appendixes that include a history of aerobics, careers in fitness, and exercise recommendations for special populations.
- An expanded chapter on how to add variety to your aerobic workout, with special attention to step aerobics.
- Completely revised and updated coverage of the important scientific and physiological principles that underlie aerobics.
- Clear, well-illustrated descriptions of dozens of popular, contemporary aerobic movements. *Keep Moving!* includes more than 300 illustrations.
- Movement tips, which have been increased to help the student master particularly challenging moves.
- Additional Precaution boxes to help the student use correct technique and avoid injury.

Not only have new subjects been included in this edition, but previous chapter topics have been augmented. The information on posture now addresses common postural deviations and ways to improve daily postural habits. Injury care discusses circumstances that can affect your exercise participation. Also new to this chapter is a detailed injury and care chart. Chapter 7, which focuses on nutrition, provides a vitamins and minerals table, which gives a quick reference for the function and source of important

nutrients. The body toning exercises in Chapter 9 introduce resistance equipment and new conditioning exercises.

Minda Goodman Kraines wishes to thank her husband, Guy Kraines, and her daughters, Denaya and Marissa. Without their love and support, it would have been much harder to complete this new edition. Esther Pryor would like to thank John Silva for his support and encouragement.

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GETTING STARTED ON A HEALTHY LIFESTYLE

It is one thing to understand the importance of exercise and diet as a means to a healthy lifestyle, it is another thing to actually pursue and live these values. In this book, we introduce a way that can lead to a healthy lifestyle through the attainment of a physically fit body. The fit person not only exercises but also leads a lifestyle that is balanced with good nutritional habits, a well-adjusted attitude, and the ability to relax. Leading a healthy lifestyle can not only effectively prevent or delay chronic diseases but also enhance the quality of life and make a person's life more manageable.

Keep Moving! focuses on physical activity as a means to attain this healthy lifestyle. As John F. Kennedy said, "Physical fitness is not only one of the most important keys to a healthy body, it is also the basis of dynamic and creative

activity." The aerobics class is one of the many types and variations of exercise programs that help you achieve a healthy body. It is a successful combination of exercise and *fun!* If this is your first aerobics class, you need to know what to expect from the class and what is expected of you in the class. This opening chapter of the text describes all the details to get you started on the right path to fitness and a healthy life!

MEDICAL CONSIDERATIONS

Before embarking on an aerobics program, you may want to consider a medical evaluation of your current health status. If you have been

following a regular exercise program, an aerobics class should pose no physical problem. However, certain risk factors make it appropriate for the student to consult with a physician and receive a medical clearance before embarking on an exercise program. Factors to be considered include:

1. *Your age and level of activity.* Men and women over 45 who have not been involved in a regular exercise program.
2. *Pregnancy.* Women who are pregnant or who have given birth within the previous 3 months.
3. *A history of heart disease.* The severity of the condition will determine the appropriate level of exercise participation.
4. *Hypertension.* This should not deter a person from exercise, but a physician's clearance is essential.

If you are included in any of the risk groups listed above, your physician will help you decide whether or not you can safely participate in an aerobics class. Once you are committed to begin your exercise program, the first worksheet, found on page 185, should be completed and returned to your instructor before you start your class. This information will provide the instructor with knowledge about your present health condition and other appropriate information to make your workout safe and effective.

STRUCTURE OF AN AEROBICS CLASS

Aerobics classes combine a variety of movements that are choreographed into simple routines that improve not only your cardiovascular endurance but also your coordination and rhythm. The moves performed during the aerobic sections of the class, must be performed *nonstop* for a minimum of 20 minutes, and must be of sufficient intensity to sustain an indi-

vidual's target heart rate. Target heart rate will be discussed in Chapter 3. Although all instructors have personal lesson formats, the following activities are generally an integral part of an aerobics class.

Warm-up

A warm-up is like tuning a fine instrument. The body, the aerobic dancer's instrument, must be tuned in preparation to responding to the demands placed on it in an aerobic workout.

Most fitness professionals highly recommend the warm-up, although there is little scientific evidence that it helps performance or prevents injury. However, the warm-up is stressed for several reasons. First, it is believed that warm-up shortens the cardiovascular and muscular systems' adjustment period to the oncoming stress of physical activity. The warm-up thus lets the body gradually shift from a resting state to an active state without undue shock.

Second, the warm-up is thought to minimize the risk of inadequate blood flow to the heart during the first few seconds of heavy exercise because it gives the heart time to adjust from being at rest to undergoing sudden, strenuous activity (14). This also helps to prevent **arrhythmia** (abnormal heartbeats) because the blood supply has time to change to the greater demand placed on it.

The third major goal of the warm-up is to raise the body's core temperature by as much as 2 degrees. This can affect the body in many ways:

1. Increase the metabolic rate, which in turn increases the rate at which energy is used
2. Increase the flow of blood to the muscles
3. Increase the release of oxygen to the muscles
4. Increase the speed and force of muscle contraction
5. Increase muscle elasticity

Finally, the warm-up is also thought to be of

important psychological benefit because it mentally prepares a person for the strenuous demands of the upcoming workout. Many experts believe that exercise prior to a strenuous activity gradually prepares a person to go all out without fear of injury. In competitive athletics, many participants consider the warm-up an activity that prepares them mentally for their event, an opportunity for them to clearly focus their concentration or to psyche up for the upcoming performance (21).

We believe that a warm-up is valuable before engaging in a vigorous aerobic workout. To attain a thorough warm-up, you should adhere to certain concepts. The warm-up is *not* a time for intense stretching; it is a time to loosen and ready the muscles for the aerobic movements to follow.

The time necessary for warm-up varies with each individual, depending on fitness level and age. Generally, a minimum warm-up of 5 to 10 minutes is adequate. Pre-warm-up exercises can help those who want more warm-up activity. For such individual pre-warm-up, allow yourself approximately 10 minutes before class.

Be sure to pay extra attention to warming up any area of your body that is weak or prone to injury.

The warm-up itself consists of three phases, which may be conducted in any order depending upon the preference of the instructor.

1. Isolations
2. Active warm-up
3. Static stretch

Isolations The isolation warm-up phase is very short and involves simple moves (isolations) that focus on one body part at a time. This part also concentrates on posture and body alignment. The entire phase may take no more than 1 or 2 minutes, yet it is important because it helps to create body awareness.

Active Warm-up The active warm-up phase involves simple calisthenics, full-body move-

ments, and possibly light jogging or walking. This phase starts slowly and the pace and intensity are gradually increased until your body begins to feel loose and warm. The active warm-up elevates your heart rate and warms the muscles. Light perspiration may be an indicator that your muscles are ready for more intense activity.

Static Stretch The last warm-up phase is the static stretch. A static stretch is when you take a stretch position with a specific body part to the point of slight discomfort and you hold this position for 10 to 30 seconds. Exercise stretches should be static rather than ballistic (bouncing). A slow static stretch tends to counteract a muscle's stretch reflex, whereas the sudden stretch of a ballistic exercise contracts the muscle, which negates the purpose of the stretch (15). Static stretching also requires less expenditure of energy, which probably causes less muscle soreness and yields more relief from muscular distress (11).

The static stretch phase consists of simple stretches of specific muscle groups that are used in aerobics. The muscle groups include the quadriceps (front of the thigh), the hamstrings (back of the thigh), the gastrocnemius and soleus (the calf and Achilles tendon or back of the lower leg), the tibialis anterior (the shin or front of the lower leg) and the gluteus maximus (buttocks muscle).

Aerobic Warm-Up

Following the warm-up, the first aerobic part of the workout, the aerobic warm-up, begins with low to moderate intensity movements. These initial movements, combined into simple routines, incorporate full-body movements that emphasize the use of the large muscle groups. Many of the steps will be low impact, which means one foot is always on the ground and there is minimal jumping, hopping, and jogging. Variations on walking, sliding, and lunging may be incorporated into routines that move around the room in order to increase the heart rate.

During this phase of the aerobic workout, the heart rate and oxygen consumption will gradually increase so that, by the end of this phase, which is usually about 5 to 10 minutes in length, the target heart rate or exercise heart rate zone is achieved.

Peak Aerobics

Depending on the lesson format and aerobic training requirements, the aerobic session continues by advancing to high-impact routines and/or more strenuous low-impact moves. All routines are designed to keep the heart rate within the target heart rate zone and can be modified to suit the individual's fitness level. The main emphasis is to "keep moving." Between movement routines, students monitor their pulse, maintaining at least a walking pace while doing so. The entire phase lasts between 20 and 30 minutes depending upon the time length of the scheduled class.

Aerobic Cool-Down

The aerobic cool-down follows the peak aerobic phase of a lesson and is designed to slowly decrease the aerobic movements to a lower intensity and slower pace. During the aerobic exercise phases of the workout, the heart pumps a large amount of blood to the working muscles to supply them with the oxygen needed for movement. As long as exercise continues, the muscles squeeze the veins, forcing the blood back to the heart. If exercise stops abruptly, the blood is left in the area of the working muscle. Aerobic movements may cause blood to pool in the lower extremities. Because the heart has less blood to pump, blood pressure may drop, which may cause light-headedness or dizziness. However, a gradual tapering off of activity helps the muscles send the extra blood in the extremities back to the heart and brain. In addition, cool-down exercises help to prevent muscle

soreness and promote faster removal of metabolic waste (5, 28).

The aerobic cool-down phase should be a minimum of 5 minutes to allow the body time to recover from the stress of the peak aerobic workout. Although the amount of time needed varies with each individual, the heart rate should return to 120 beats per minute or below and sweating should be reduced by the end of the aerobic cool-down phase (21). The transition from the peak aerobic workout to the aerobic cool-down phase is accomplished by gradually diminishing the intensity of the exercise and/or slowing down locomotor movements to a walking pace. Other locomotor movements include step-touches, small lunges with simple arm movements and/or upper body exercises, low knee lifts, and simple locomotor patterns. Fundamentally, movements should rhythmically flex and extend the legs with small, simple motions. Arm movements should be kept below heart level. Stretches specifically for the quadriceps, hamstrings, lower leg muscles, and Achilles tendon may also be performed at the end of this cool-down phase.

Body Toning and Conditioning

Body toning and conditioning exercises may follow either the warm-up or the aerobic cool-down phase of the class. This section can last anywhere from 5 to 20 minutes depending on the instructor's format and emphasis. This phase of the class does not involve cardiovascular endurance but focuses on individual muscle groups and promotes muscular strength and endurance. Exercises specifically for the abdominal region, the arms, chest, buttocks, and thighs are executed, with particular attention to body alignment and exercise technique. Resistance equipment may be used to increase the difficulty of the exercises. As with the aerobic workout, this phase of the class is also choreographed with smooth transitions between the specific exercises.

Flexibility Cool-Down

Just as the warm-up prepares the body for activity, the flexibility cool-down prepares the body for rest. This phase, lasting from 5 to 10 minutes, involves slow, sustained stretching for all the major muscles used during the aerobic workout. Deep stretching at this time is most beneficial because the muscles are warm and can allow for the maximum stretch. Stretching at this time helps to maintain and increase flexibility and helps to prevent muscle soreness. Much of this phase is executed on the floor. A mat may be used as cushioning for the body.

Relaxation

Being able to relax is as important to the body as being able to successfully withstand imposed physical demands. Not all exercise classes include a relaxation phase, but it is certainly a welcome activity after a strenuous workout. Relaxation exercises may incorporate breathing techniques and active or passive relaxation activities. A properly designed aerobics class is a way to reduce levels of stress and a way to promote relaxation. However, the class must be within your capacity so that you are not overstressed or overworked. Your participation must not lead to chronic fatigue or cause you to become obsessive about exercise, yet it should be motivating so as not to lead to boredom or exercise burnout.

The next sections will help you understand how to work safely and effectively in your aerobics class, thus achieving the maximum benefits with the minimum stress!

REGULAR ATTENDANCE

To achieve fitness benefits from an aerobics program, you must attend class (or participate in aerobic activity) at least three times a week for a minimum of 20 minutes. These classes should

be evenly distributed throughout the week, with a maximum of 2 days' rest between classes. If you must miss a class, substitute a jog, quick walk, or another aerobic activity within the week.

If you are ill or unable to exercise over a certain length of time, it is important to gradually work back to your former level of activity. It may take you three or more classes after an illness to perform with the same energy you expended prior to your absence. With regular participation, you can maintain and improve fitness levels.

INDIVIDUAL PACE

We have all heard the fitness axioms "train, don't strain" and "no pain, no gain." Somewhere between these two ideas is a middle ground that provides the safest and most productive workout pace. You are not competing with anyone but yourself in aerobics class, so it is important to work at your level; set the pace that is most beneficial for your body. Keep breathing easily, and never hold your breath. If you can converse easily when performing aerobics, you are working at the correct pace.

In aerobics, the heart beat is regularly monitored to help establish a pace that will produce improved fitness levels. Monitoring the heart rate also helps to prevent overexertion. Aerobic routines are choreographed so that, depending on the individual fitness level, sections of routines allow students to participate at their own desired impact or intensity level.

WHAT TO WEAR

Comfortable clothing that allows ease of movement is the appropriate attire for aerobics. The fashion industry has provided an assortment of specialty aerobics apparel to fulfill these needs. This attire includes leotards, tights, crop tops,

unitards, and biker shorts. Simple jogging shorts and a T-shirt are also acceptable for the aerobics class. Some additional clothing, such as sweat shirts and pants, can be worn for the beginning of class to provide warmth to the body until your body temperature increases. These overgarments, which superficially heat the body, should be worn only for warm-up. A popular notion is that use of these items during a workout can lead to quick weight loss, but in truth you are only sweating off water—not fat! In warm weather you should wear the minimum amount of clothing so that you can sweat freely and let your cooling system work. Because the body needs to sweat freely, cotton is the best material for exercise wear because it absorbs perspiration. As cotton becomes damp, the air evaporates the moisture and cools your body.

Support undergarments are extremely important in aerobic exercise. Women should wear a bra that fits snugly and provides adequate support during the vigorous running and jumping movements in class. Specific exercise or sports bras can be purchased in fitness apparel stores and in many retail clothing stores. Men should wear athletic supporters or dance belts for adequate support during exercise activities. Your instructor will usually provide guidance on aerobics attire but if the outfit provides freedom to move, it is probably appropriate.

SHOES

Shoes are the most important investment you can make for your aerobics class. Because of the wide variety of aerobics shoes available, there are many considerations in purchasing your aerobics footwear. The following sections discuss important factors for selecting the shoe that is most appropriate for your foot.

Foot Facts

Your foot is a complicated structure made up of 26 bones, 33 joints, and about 20 muscles that

control movement. There are three basic foot types; your type of foot dictates the type of shoe you should wear for an aerobic dance class.

The ball of the *normal foot* rests on the ground regardless of whether or not the heel is lifted. The normal foot will fit most shoes as long as the heel fits snugly and the shoe accommodates the width of the foot.

The *cavos foot* has a high arch and tends to absorb shock poorly. This type of foot needs a shoe with a firm counter (the stiff piece around the heel, usually of leather). Additionally, heel lifts may sometimes be necessary for the high-arch foot.

The *flatfoot* has a poor arch and has no rise to the top portion of the foot when viewed from the side. The flatfoot requires a very firm counter and a very firm midsole.

Shoe-Buying Tips

Shoes are the major monetary investment for an aerobics class and the most important item you wear to class. Most aerobics shoes today provide stability at the rear of the foot, where shock absorbency and stability are needed during exercise. As you look at the many models available, keep in mind your specific foot type and consider the following points as you compare shoes:

1. Leather is the best material for aerobics shoes because it breathes and molds to your foot. A hard leather gives better support than a soft leather, which stretches after a few wearings.
2. Lateral support straps (straps that cross the upper) provide foot stability. Straps that are close to the front of the shoe (closer to the toe) provide greater support.
3. The sole width should match the heel width. If the sole is too narrow, it will not provide enough stability for your foot during landing.