

Approved by the Aerobic and Fitness Association of America

# Aerobics Today



Carole Casten

Peg Jordan

# Aerobics Today

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**Carole Casten, Ph.D.**

*California State University  
Dominguez Hills*

**Peg Jordan, R. N.**

*Aerobics and Fitness Association of America*

Series Editor for West's Physical Activities Series

**Robert J. O'Connor, Ed. D.**

*Los Angeles Pierce College*

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# Preface

AEROBICS TODAY is designed to assist the student of aerobic dance exercise. The text illustrates the benefits of aerobic dance exercise for levels of involvement from beginner to instructor with focus on understanding the basics. Careful attention has been given to laying the foundation for a safe and successful aerobic routine. Additionally, the authors have provided pertinent information with regard to pregnancy and exercise, the mental aspect of the sport, and information for would-be instructors.

The photographs clearly demonstrate how to properly perform exercises described in the book. These exercises have been found to be physically sound by exercise physiologists and recognized by certifying agencies.

The authors hope that AEROBICS TODAY will be a useful tool as you make aerobic dance a valuable part of your life.

To a healthy life!

## Acknowledgements

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## Dedication

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I would like to dedicate this book to my daughter Kimberly, my husband Rich, and my mother. Without their support and patience, this book would not have been possible. I want to thank my co-author, Peg, for her friendship, good humor, and good writing. My thanks also goes to Bob O'Connor for introducing me to West Publishing, and John Johnson for his confidence in my writing. Special thanks to the models used throughout the textbook: Maria Nilsson, Tim Plough, Renee Forrette, Florinda Tamada, Thyme Lewis, Laurie Botwinick, and Tom Smith. Thanks is also extended to the staff at West Educational Publishing, particularly to Mario Rodriguez and Theresa O'Dell, for their hard work on helping this project become a book.

*Carole Casten, Ph.D.*

The information I've shared in this book has been gathered from the innovative thinking and creations of Dr. Kenneth Cooper, Jacki Sorensen, and Marti Steele West. I dedicate this book to them, and their boundless aerobic energy. I would like to acknowledge Nancy Gillette and Linda Shelton for their contributions to injury prevention and safe instruction, and to Bonnie Rote for her work in prenatal exercise. My thanks go to my co-author Carole Casten, for her skilled teaching expertise and her lighthearted, positive attitude that overcame any obstacle to completing this project with me. I also want to thank Linda Pfeffer, President of the Aerobics and Fitness Association of America, for the opportunity to write for the organization.

*Peg Jordan, RN*

### **The Series Editor for West's Physical Activities Series**

The Series Editor for West's Physical Activities Series is Dr. Bob O'Connor, Los Angeles Pierce College. Dr. O'Connor received his B.S. and M.S. degrees in physical education from UCLA and his doctorate from U.S.C. His 30-year teaching experience includes instruction in physical education courses of tennis, weight training, volleyball, badminton, swimming and various team sports, as well as classes in teaching methods. He brings to the Series a wide range of college coaching experience in areas of swimming, tennis, water polo, and football. Internationally, Dr. O'Connor has been an advisor to several Olympic programs in weight training and swimming. He was among the first to popularize strength training for all athletic events. Dr. O'Connor has written extensively in the fields of physical education and health and is a dedicated advocate of physical education TODAY.

*Books in West's Physical Activities Series*

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# CHAPTER 1

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## Introduction



### Outline

Who Created Aerobics?

What Is Aerobics?

What Can You Expect to Gain from Aerobics?

Summary

Aerobics, or dance exercise, is a popular form of exercise that incorporates a variety of dance movements performed to motivating music. Its purpose is to provide an enjoyable form of fitness development or exercise. More than 20 million people participate in aerobics annually. In fact, it is ranked as the sixth most popular activity in the nation according to H. R. Ritchie.

## Who Created Aerobics?

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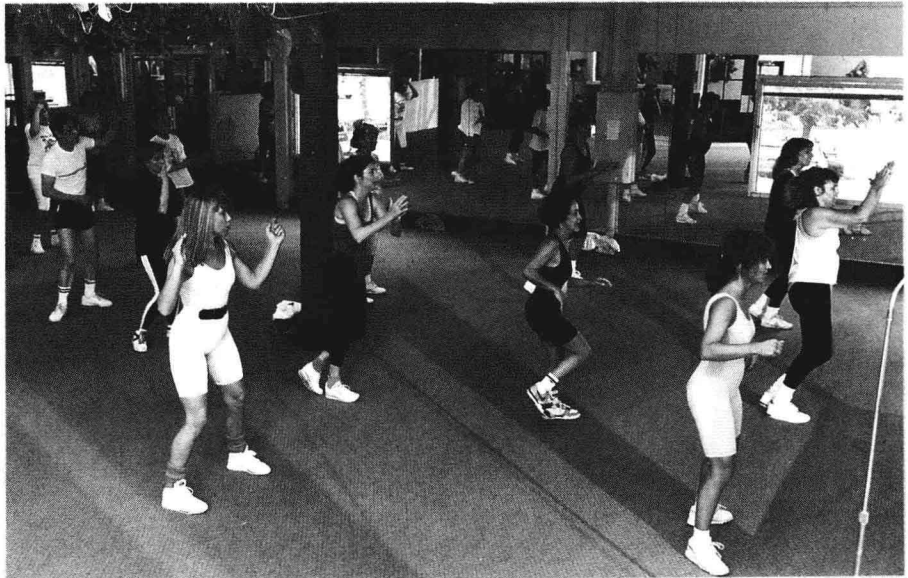
Aerobic dance was created by Jacki Sorensen in 1969, a former dancer who believed in dance exercise as a beneficial form of achieving fitness. Dancercise, Jazzercise™, aerobics, and dance exercise are variations of her original work. Although each variation is slightly different, the basic formula for an aerobics class is the same: warm-up, cardiovascular work (aerobic exercise), specific muscular strength flexibility, and endurance work, and cool down.

## What Is Aerobics?

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The scientific definition for aerobic exercise is *exercise that utilizes oxygen for a sustained activity of two minutes or longer*. Today, aerobic dance exercise refers to dance movements that combine in a way to force the body to utilize oxygen for a sustained period of time.

Many people who find it boring to jog, bicycle, swim, or jump rope enjoy moving rhythmically to music. It is important to select a fitness activity or combination of activities that you enjoy so that you will stick with it. Gaining and maintaining fitness is a lifetime commitment.



## What Can You Expect to Gain from Aerobics?

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People take aerobic dance exercise classes for many reasons. Some people like to dance and feel this is a good way to move to music, perform some dance steps, exercise, and have fun all at the same time. Others take aerobic dance exercise because they don't like to exercise outdoors, and this form of exercise usually is performed indoors. Still others participate in aerobics because their friends are doing it or to meet new people with similar interests.

Whatever your reason for doing aerobics, you can expect the following results if you attend a class three to five times a week for at least eight weeks. Though scientific research does not support all the following claims, people who regularly participate in aerobic dance exercise report that by following a regular exercise regime you will:

1. Have more energy.
2. Feel better about yourself.
3. Change your body composition by losing fat and increasing your lean body mass.
4. Look more toned.
5. Meet new people and make new friends.
6. Improve your digestion.
7. Improve the quality of your sleep.
8. Reduce your stress and the byproducts of stress.
9. Reduce your resting heart rate.
10. Improve your lung capacity.
11. Reduce the risk of cardiovascular disease.
12. Invoke a sense of discipline into your daily regimen.

## Summary

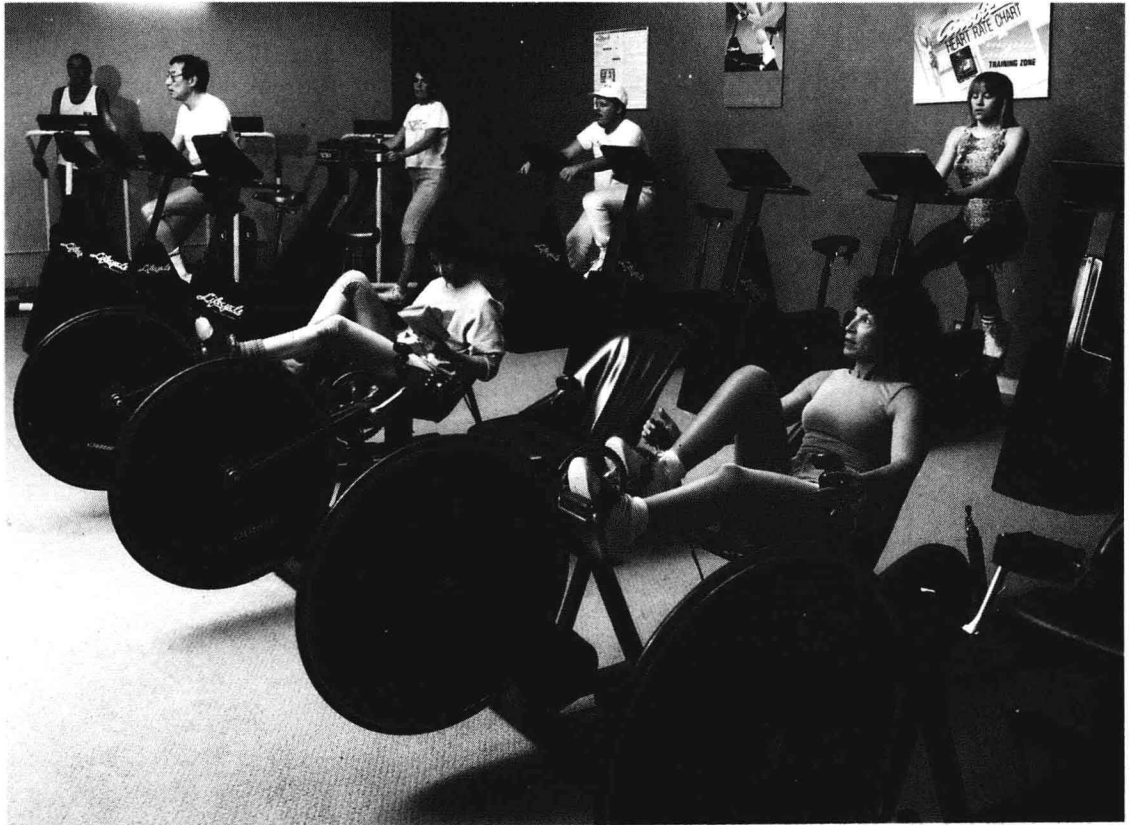
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1. Aerobic dance exercise was developed by Jacki Sorensen in 1969.
2. The format of aerobic classes has changed over the years as has its popularity. Today, more than 20 million people participate regularly in aerobic dance exercise.
3. Aerobic dance exercise is defined as dance movements combined in such a way as to cause the body to utilize oxygen for a sustained period of time.
4. To see results, it is important to participate in aerobic dance exercise for at least eight weeks, three to five times per week, at least fifty minutes per session.
5. The reasons people do aerobics instead of other forms of exercise vary greatly, from simply enjoying aerobics to being able to exercise with friends.
6. The benefits of participating in aerobic dance exercise include feeling better, looking better, losing weight, gaining muscle tone, reducing the resting heart rate, increasing lung capacity, gaining energy, and improving overall body fitness.



## CHAPTER 2

# Benefits of Aerobic Exercise



### Outline

#### Components of Fitness

Cardiovascular Efficiency

Muscular Strength

Muscular Endurance

Flexibility

Body Composition

#### Your Heart

Resting Heart Rate

Taking the Pulse

#### Checklist for Taking Your Pulse

Target Heart Rate

#### *The Karvonen Method*

#### *The American College of Sports*

#### *Medicine Method*

Recovery Heart Rate

Monitoring Your Heart Rate

Fluency of Exercise

Intensity of Exercise

Duration of Exercise

Lifestyles and the Development of

Cardiovascular Disease

Risk Factor Profile

Risk Reference Charts

Summary

The benefits of aerobic exercise are numerous. Research has firmly established that regular, vigorous exercise is beneficial to the human body. One major benefit is that after exercising aerobically an individual feels “good” and exhilarated. Another benefit of aerobic exercise is a reduction of stress and tension in the body.

Also, coronary risk is lowered by increasing the beneficial type of cholesterol, high density lipoproteins (HDL) and reducing the ratio of total cholesterol to HDL. About 75 percent of your body’s cholesterol is manufactured by the liver. The liver changes the cholesterol into low-density lipoproteins (LDLs) and triglycerides. The LDLs and triglycerides enter the bloodstream and are deposited into various tissues. Excess LDL-cholesterol is deposited along arterial walls. This forms the plaque that blocks the bloodstream. Any HDLs in the area removes excess cholesterol from the bloodstream.

Other benefits of aerobic exercising are that muscle fibers get larger and perform more efficiently. Also, bones are strengthened, become more dense, and are more resistant to deterioration. Weight control is easier because aerobic exercise raises your metabolic rate, burning additional calories, increasing fat utilization and improving digestion and elimination. Additionally, the body becomes more physically fit. The heart muscle becomes stronger and more efficient and lung capacity increases. Muscles increase in strength and endurance and the body becomes more flexible. In short, aerobic exercise offers both psychological and physiological benefits.

## Components of Fitness

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An individual is considered to be physically fit when these **five components of fitness** are developed and balanced.

1. **Cardiovascular fitness and efficiency**
2. **Muscular strength**
3. **Muscular endurance**
4. **Flexibility**
5. **Body composition**

It is important that you understand these five components so that you know what is necessary to keep your body in top shape inside and outside.

### Cardiovascular Efficiency

Cardiovascular efficiency and endurance refers to the body’s ability to deliver oxygen to all of its vital organs. The efficiency of the heart and respiratory system determines how well the body provides oxygen to its vital organs during exercise and while at rest. The cardiovascular system consists of the heart, lungs, and blood vessels. At all times, but particularly during the stress of exercise, the cardiovascular system must be able to transport oxygen efficiently to provide the needed energy to the heart, lungs and working muscles. An efficient cardiovascular system is essential to a high level of physical fitness. Exercise increases the strength of the heart, which increases its ability to pump blood most efficiently throughout the body.

Cardiovascular endurance, or aerobic fitness, is the ability of the heart and respiratory system to deliver blood and therefore oxygen to the working muscles during prolonged exercise.