

AEROBICS

Prof. Gordana Furjan-Mandić, Ph.D.

Faculty of Kinesiology

University of Zagreb

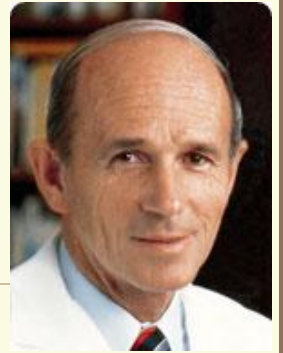
gfurjan@kif.hr



TYPES OF AEROBIC EXERCISES

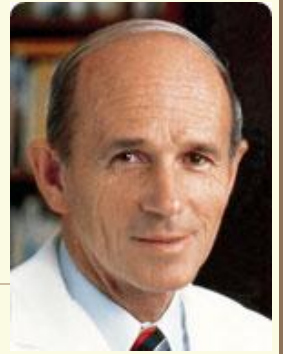
- 📄 **CLASSICAL OUTDOOR ACTIVITIES** - walking, running, cycling, roving
- 📄 **CARDIO FITNESS** – simulation of cyclic activity on exercise equipment
- 📄 **AEROBICS** – forms of group fitness programs which performed in rhythm and tempo of the music

Dr. Kenneth Cooper



- 📄 In the 1960s, Dr. Kenneth H. Cooper developed a system of exercises to prevent coronary artery sickness. The system was developed at the Air Force Hospital and originally intended for those in the military.
- 📄 He began measuring systematic human performance using a bicycle ergometer, and began measuring endured performance in terms of a person's ability to use oxygen.


Dr. Kenneth Cooper



He termed it "aerobics" in a book of the same name that he published in 1968. This book includes many exercise programs and incorporated running programs, walking, swimming and bicycling programs. This book was the beginning of what we know today to be aerobic programs.

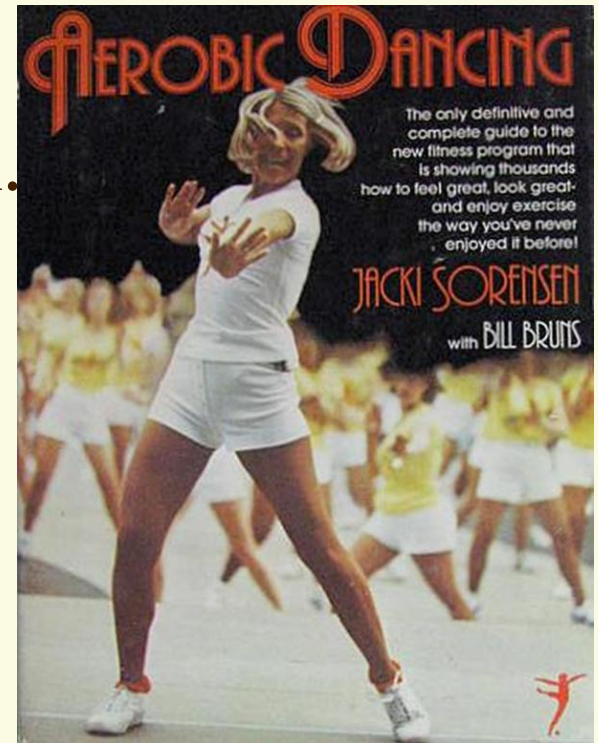
He has written 18 books and is nicknamed "the father of aerobics."

Dr. Kenneth Cooper

 Dr. Cooper has opened many clinics that research how fitness and exercise affect the body. He developed fitness testing that is used currently by the military, colleges and universities, athletes and law enforcement. This includes a 12-minute run, a 1.5 mile run and the Aerobics Points Systems.

Jackie.Sorensen - '70s

📄 Jackie Sorenson took what she learned in K.Cooper's book and developed dance routines that incorporated the principles from the book. These dance routines came to be known as aerobic dance and was done to improve cardiovascular health.



Jane Fonda

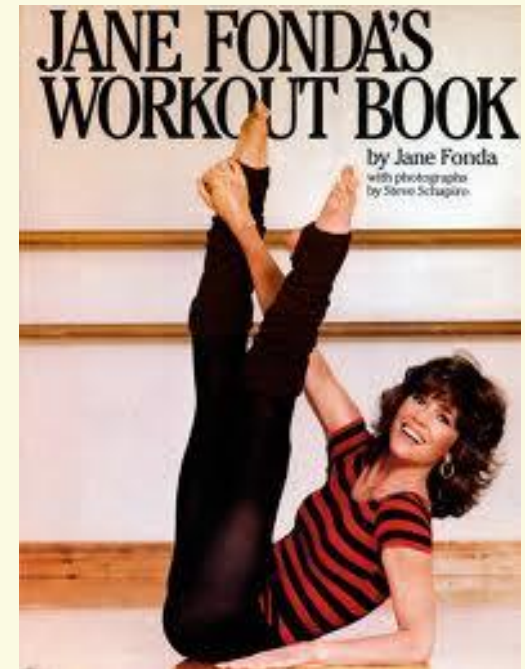
📄 In 1982, Fonda released her first exercise video, titled *Jane Fonda's Workout*, inspired by her best-selling book, *Jane Fonda's Workout Book*.

The *Jane Fonda's Workout* became the highest selling home video of the next few years, selling over a million copies.



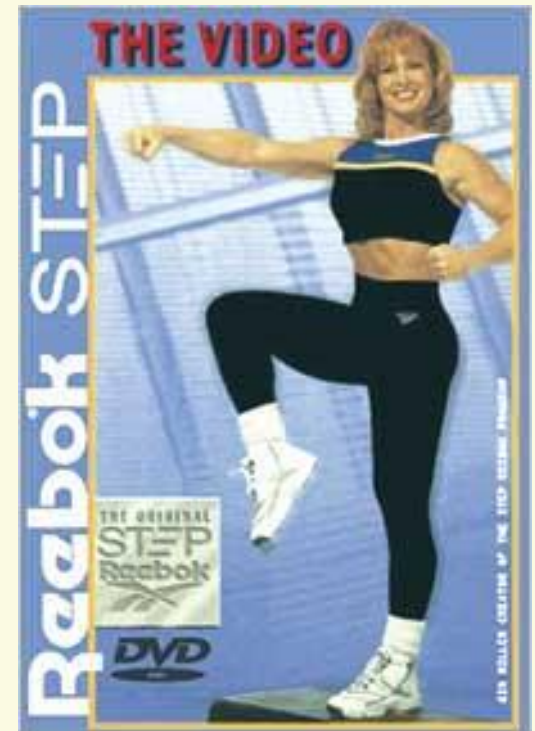
Jane Fonda

She also released five workout books and thirteen audio programs, through 1995. After a fifteen-year emptiness, she released two new fitness videos on DVD in 2010, aiming at an older audience.



Gin Miller

Step Aerobic was created by Gin Miller. She took the basic concept of a football drill where athletes have been "stepping" up-and-down bleacher steps and incorporated it into a dance aerobics program. The result was a low-impact and high-intensity workout. Gin worked with Reebok to develop the very **first step aerobic video in 1992.**



New aerobic ('90...2000)

During the next two decades, aerobic exercise in various forms spread throughout the United States, Australia, Europe and into other countries.



New aerobic ('90...2000)

These aerobics are done in a class with music and in the presence of an instructor.



They help in improve cardiovascular health, reducing weight, maintaining the body shape and increasing motor abilities.



Aerobic programs ('90...2000)

There are also more specific form of aerobics such as:

☞ Low, High (HI/LO) and Moderate Impact Aerobics,

☞ New Body,

☞ Aqua Aerobic,

☞ Fitt Ball,

☞ Slide Aerobic,

☞ Fitt Kids,

☞ Core Board ,

☞ Dance aerobics (Jazz, Latin, Funky, Hip-Hop, Salsa, Afro aerobic,...)

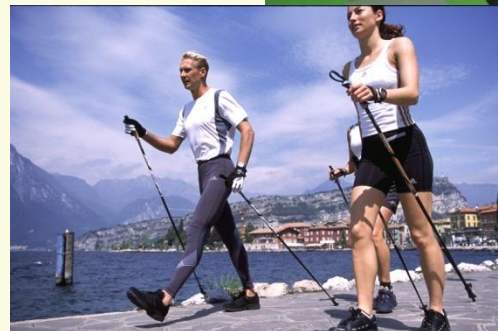
☞ Pilates,

☞ Yoga...



Group fitness programs– 2000...

- ☰ Gym Stick Resistance Training
- ☰ Flexi-Bar
- ☰ Bosu Balance Trainer
- ☰ Spining
- ☰ Nordic Walking
- ☰ Zumba
- ☰ Insanity
- ☰ Bokwa
- ☰ Cross Fitt



Goals of aerobics

- 📄 improving health status
- 📄 development of functional abilities,
- 📄 reduction fat,
- 📄 shaping of individual muscle groups in a harmonious unit,
- 📄 development of motor skills, particularly strength, flexibility, coordination and rhythm,
- 📄 consolidating and strengthening bone - joint and tendon segments of the musculoskeletal system...

Specifics of aerobics

- forming "critical parts of the body"
- Music - the pace of work and motivation
- sociological aspects - friendships
- relatively inexpensive equipment
- no need for a partner or dependence on the group
- simple movement patterns
- demonstration of leaders
- exercises are suitable for all age groups

Speed of music (BPM= beats per minute)

☰ WARM UP	120-130
☰ LOW IMPACT	130-140
☰ HIGH IMPACT	140-160
☰ STEP	125-140
☰ SLIDE	122-130
☰ NEW BODY	125-135
☰ STRENGTH EXERCISES	110-130
☰ STRETCHING	< 100

+/-2beats

AEROBIC CLASS

I	WARM-UP (5-10 min) + PRESTRETCH (1-2 min)
III	CONDITIONING (+strenght exercises) (20-30 min) + COOL DOWN
V	STRETCHING (5-10 min)

Warm up

Permitted movement:

- ☞ Dynamic motion of small amplitude and low intensity, accompanied by a different hand movements - from small to large amplitude
- ☞ Movement without sudden changes of direction and turns
- ☞ Without choreography or simple choreography

Prestretch at the end of warm-up must be carried out:

- ☞ a gentle stretch of each of the major muscle groups
- ☞ symmetrically
- ☞ static and dynamic (small amplitude)

Conditioning

- 📄 Duration: 75-80% (45 minutes)
- 📄 Intensity: (60-80% of max heart rate)
- 📄 Speed of music: depends on the type of aerobics class
- 📄 The aim of the class: aerobic fitness
- 📄 It can consist of 2 parts (cardio sections and the strenght exercise - workout)
- 📄 At the and: gentle motions of the warm-up phase (cool down)

Strengthening (workout)

- ☰ Duration: 15-30% (10-15 minutes)
- ☰ Speed of music: 110-130 BPM.
- ☰ Target: Developing muscular endurance, primarily of large muscle groups



Stretching

- 📄 passive way of stretching
- 📄 reduces muscle tension,
- 📄 increase the regenerative processes (lactic acid) - prevent soreness
- 📄 increase the flexibility
- 📄 reduce the risk of injury
- 📄 reduces fatigue after training



Calculating the Target Heart Range:

- 📄 Subtract your age from 220 to get your maximum heart rate.
- 📄 Multiply your maximum heart rate first by 0.60 (60%) and then by 0.85 (85%). This will give you your (aerobic) target heart range.

Cueing

- ☞ verbal - voice announces step, correcting, gives character to begin with, encouraged to work
- ☞ what, when and how to speak
- ☞ nonverbal - hands (signs, touch), mime (eyes), the demonstration movement structures

Aerobic steps - LO

 March (1 count)

 Walk (4 count)

 „V” step (4 count)

 „A” step (4 count)

 Grapevine step (4 count)

 Step touch (2 count)

 Push touch (2 count)

Aerobic steps - LO

📄 Knee up (2 count)

📄 Side to side (2 count)

📄 Leg curl (2 count)

📄 Lounge (2 count)

📄 Kick (2 count)

📄 Squat (2 count)

- single & double


Aerobic steps - HI

- 📄 Jogging (1 count)
- 📄 Step touch (2 count)
- 📄 Push touch (2 count)
- 📄 Knee up (2 count)
- 📄 Jumping Jack (2 count)
- 📄 Hooping (2 count)
- 📄 Leg swing (1 count)
- 📄 Twisting (1 count)

Aerobic steps - HI

 Kick (2 count)

 Leg curl (2 count)

 Jump (2 count)

- single & double