

# CooperHealth

fall 2008

[www.cooperaerobics.com](http://www.cooperaerobics.com)

## aerobics 40<sup>th</sup> anniversary

How one man and one word  
changed the world

Kenneth H. Cooper M.D.

SPECIAL  
ISSUE

## Welcome to this special edition

of Cooper Health, commemorating the 40th anniversary of aerobics. This issue shares some of the stories of a boy from Oklahoma who came to make his mark on the world as a leader in fitness and wellness. Kenneth H. Cooper, M.D., M.P.H., wrote the 1968 book *Aerobics*. It was considered revolutionary and even controversial when it was released. These days, it is hard to imagine the world without the word *aerobics* and the concept behind it: Exercise is good for your health. Dr. Cooper has shaped the health of people from all walks (or runs) of life. I hope you enjoy learning more about his life and continuing legacy.

Amy George,  
Editor in Chief

## CooperHealth

EDITOR IN CHIEF, COMMUNICATIONS DIRECTOR  
Amy George

VP, MARKETING DIRECTOR  
Tom Stumpf

MEDICAL DIRECTOR  
Carolyn M. Terry, M.D.

## Cooper Clinic

A COOPER AEROBICS COMPANY

12200 Preston Road  
Dallas, Texas 75230

7850 Collin McKinney Parkway  
McKinney, Texas 75070

FOUNDER  
Kenneth H. Cooper, M.D., M.P.H.

PRESIDENT AND CEO  
T.L. (Tedd) Mitchell, M.D.

DALLAS MEDICAL DIRECTOR  
Michele A. Kettles, M.D.,  
M.S.P.H.

MCKINNEY MEDICAL DIRECTOR  
Camron E. Nelson, M.D.

ASSISTANT MEDICAL DIRECTOR  
Richard R. Constant, M.D.

**PREVENTIVE MEDICINE**  
Christopher D. Abel, M.D.  
James R. Ampil, M.D.  
Michael C. Chapman, M.D.  
S. Michael Clark, M.D.  
Joseph P. Cleaver, M.D.  
Tyler C. Cooper, M.D., M.P.H.  
Laura F. DeFina, M.D., F.A.C.P.  
W. Lynn McFarlin, M.D.  
Riva L. Rahl, M.D.  
Gary M. Sackrison, M.D.  
Carolyn M. Terry, M.D.  
Gretchen F. Toler, M.D.  
Janet Tornelli-Mitchell, M.D.

**CARDIOLOGY**  
John S. Ho, M.D.  
Nina B. Radford, M.D.

**GASTROENTEROLOGY**  
Abram M. Eisenstein, M.D.

**BREAST HEALTH**  
Gail S. Lebovic, M.D., M.A., F.A.C.S.

**RADIOLOGY**  
John J. Cannaday, M.D., D.A.B.R.  
Jennifer Engels, M.D.  
Angelena Ho, M.D.  
Thomas E. Kimball, M.D.

**DERMATOLOGY**  
Adean A. Kingston, M.D.  
Rick K. Wilson, M.D.

**LARYNGOLOGY**  
Susan E. H. Roberts, D.D.S.  
Joel W. Woodburn, D.D.S.



### 4 Aerobics: 40 Years of Changing Lives

One day at age 29, Kenneth H. Cooper thought he was having a heart attack. It turned out he was out of shape. His quest to get fit changed not only his life, but also his career—to help the world get healthy. It started with his 1968 book, *Aerobics*.



### 8 Measuring Fitness Today

Fifty years ago, fitness was based simply on being disease-free. A 1989 Cooper Institute study definitively linked fitness to lowering disease risk and increasing life span. Fitness and how it's measured have evolved over time. Find out what it means today.



### 11 Fitness Runs in the Family

Of all the activities the Coopers did together, running was a family favorite. "I can't remember a time in my life when I didn't run," says Dr. Cooper's daughter, Berkley. For the Coopers, fitness was and is a way of life.



### 12 Our Kids' Health

Learn about Dr. Cooper's latest mission: battling childhood obesity. *Our Kids' Health* is The Cooper Institute's initiative aiming to improve children's fitness. See page 14 for details on our benefit luncheon featuring guest speaker, Olympian Mary Lou Retton.



### 15 The President's Physician

Did you know that President George W. Bush has been a patient of Dr. Cooper since 1988? And First Lady Laura Bush has been a Cooper Clinic patient since 1999. President Bush has a special message for the man who helps keep him healthy.





# My Father, the “Father of Aerobics”

By Tyler C. Cooper, M.D., M.P.H.,  
CEO of Cooper Aerobics Enterprises, Inc.

**W**HEN YOUR FATHER IS THE WORLD-RENOUNDED “FATHER OF AEROBICS,” you experience a childhood unlike any other. I was very fortunate to have traveled to more than 40 countries around the world with my father, Dr. Kenneth H. Cooper, while he “preached the gospel” of aerobics.

One of my favorite memories is when I was 10 years old. My dad and I climbed a mountain in the Alps. It was my first trip to Europe. When we reached the peak, we sat down and ate a snack together. The sky was clear, and you could see for miles. It was beautiful.

“Dad,” I said, with a little disappointment in my voice, “I wish we had a camera.” He replied, “Son, you don’t need a camera to remember this moment. Just close your eyes and concentrate on the picture in your mind, and you will remember it forever.” And I have.

From that point, I learned to appreciate every moment in life, as he has.

Many of us dream to change the world, but few actually do. My father is one of the few. I’m so proud of all that he has accomplished and all that he will accomplish. But I’m most proud not of his achievements, but of who my father is as a person.

I’ve never known anyone with as much love, care, and concern for others as my dad. His family is everything to him.

And he has balanced the demands of work with the duties of a husband and father with kindness and strength.

*Perseverance, commitment, fortitude, optimism, loyalty, character, faith.* These are just a few words I use to describe my dad. And *understanding.*

I remember after graduating from college that I told him my future plans were to move to Colorado and be a ski bum. He could have had many negative reactions, but he calmly said, “If that’s what you want to do, that’s great. I support you, but I just hope you can afford it.”

That moment spoke volumes of his complete trust in letting me find my way. He never pressured me to follow in his footsteps. I believe that is a reason why I am here today. He is why I am who I am today.

My father instilled in me a great sense of adventure. He taught me to challenge injustice, never give up, and live by faith and a strong moral code. And within those boundaries, live life to the fullest.

I hope I can continue the amazing work my father started. Health and fitness does change lives. But I believe a man’s vision, courage, and love of others can change the world.



A black and white photograph of a man in a suit and tie, smiling, standing in a hallway. In the background, several people are running, suggesting a fitness or athletic setting. A sign on the wall reads "RUN THIS WAY".

# AEROBICS

## 40 Years of Changing Lives

By Amy George

### The Evolution of a Man Who Launched a Revolutionary Fitness Movement

**I**t was a summer day in 1966 when United States Air Force Captain Kenneth Hardy Cooper, M.D., M.P.H., met with M. Evans and Company publishing house in New York City. Dr. Cooper, writer Kevin Brown, and publishing executives George DeKay and Herb Katz were discussing an untitled and unfinished manuscript about a new exercise program.

The publishers suggested that the curious title of chapter one—"Aerobics"—serve as the title of the entire book.

"People can't pronounce it. They won't be able to spell it. No one will remember it," the 35-year-old flight surgeon protested.

Now age 77 and celebrating the 40th anniversary of the best-selling book that has revolutionized the world, Dr. Cooper says, "I'm sure glad I was wrong."

When *Aerobics* was released in March 1968, no one had heard that you should exercise for good health. In fact, no one had ever heard of the word before.

"I wanted to find a term to describe exercising with oxygen. The adjective *aerobic* existed, meaning to live in air or with oxygen. I just added an s and made it a noun."

In an instant, aerobics became a part of the American lexicon and an international phenomenon, catapulting

Dr. Cooper from a military man to a world-renowned physician. Forty years later, aerobics and its inventor continue to impact lives for the better.

Here is the story of how one word and one man changed the world.

### brains and brawn

The second of four children, young Ken grew up in Putnam City, Okla. The inquisitive and determined boy dreamed of becoming an astronaut. His father, William Hardy, a successful periodontist, and mother, Ruby, a part-time school teacher, had other aspirations for him—to become a physician.

His father instilled in him the idea of preventive medicine at a young age, as well as the importance of vitamin supplementation.

"My dad was labeled as 'alternative' for using nutritional supplements," recalls Dr. Cooper. "Everyone thought we were a little strange. But I didn't care."

Ken excelled in school and sports. In high school, he lettered in basketball and track. While his mother supported his athletic pursuits, his father did not.

"He was so concerned that my athletic endeavors would cause me to develop an 'athletic heart' and lead to an early death, which was a popular theory in those days," he says. "Mom rarely missed a basketball game or track meet."

Ken went to the University of





*“The doctor looked at me and said, ‘The only thing wrong with you is that you’re out of shape.’”*

—Dr. Kenneth H. Cooper

**Left to right: (1) Dr. Cooper looks on as people run the 12-minute test at a YMCA in Chicago. (2) Dr. Cooper as a baby, growing up in Oklahoma. (3) Dr. Cooper runs his first marathon, the Boston Marathon, in 1962. (4) Dr. Cooper in the Air Force, 1960.**

Oklahoma on a track scholarship and studied pre-med. To his father’s relief, he lived to get his medical degree from OU.

“It’s ironic that the one thing my father thought would kill me—exercise—would be the one thing I’d prove that helps prolong life.”

### a wake-up call

Soon after he completed his internship, the eager Dr. Cooper entered the military in 1957. He served in the U.S. Army for two years before transferring to the U.S. Air Force to follow his dream of becoming an astronaut.

While he was stationed at Brooks Air Force Base in San Antonio, the pressures of military work and being newly married caught up with him. The normally svelte 29-year-old ballooned from 168 pounds to 204 pounds.

One day while he was water-skiing, Dr. Cooper thought he was having a heart attack. “All of a sudden, my heart was racing, and I was having a hard time breathing,” he says.

Dr. Cooper underwent a thorough medical evaluation and learned that he experienced an irregular heartbeat called a supraventricular tachycardia.

“The doctor looked at me and said, ‘The only thing wrong with you is that you’re out of shape,’” he says.

That experience sounded a wake-up call for Dr. Cooper. He began exercising

and eating healthy. In one year, he dropped the nearly 40 pounds he had gained. The next year, he ran his first marathon—the 1962 Boston Marathon.

“I was the last official finisher, thanks to the persistence of my wife,” he says with a laugh. “Millie made the officials wait for me to cross the finish line and record my three-hour, 54-minute time before she let them go home.”

Dr. Cooper and Millie lived in Boston for two years while he received his Master of Public Health degree from Harvard University and started work on his Doctorate of Science. But the Air Force beckoned him back to Texas. And it was a good thing.

### the lightbulb

Dr. Cooper and Jeff Davis, a classmate in the aerospace medicine residency program, were talking one day in 1964.

Davis said, “We should be able to measure the benefits of exercise like we can measure the benefits of antibiotics. Why don’t we know the dose of exercise to prescribe to people?”

Dr. Cooper was completely intrigued with the concept of quantifying exercise. How much is effective? How much is dangerous?

“It was like a switch flipped in my head,” Dr. Cooper says. That conversation plus experiencing his own health awakening changed not only

Dr. Cooper’s life, but his profession.

“There was no research on the topic of exercise at that time, so I set out to do what no one else had done,” he says.

And Dr. Cooper did exactly that.

### journey to discovery

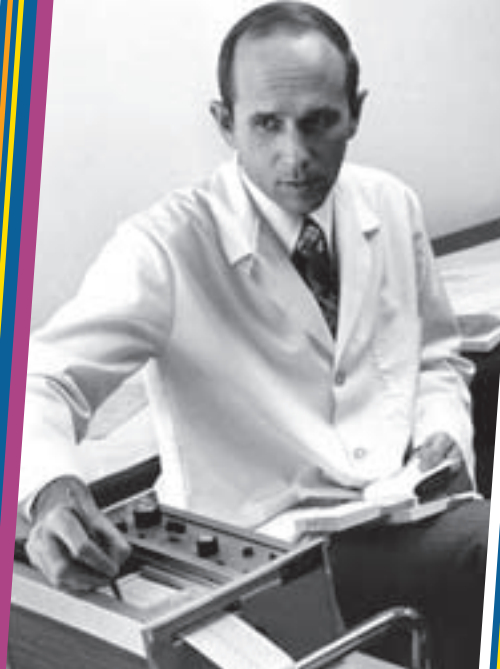
Dr. Cooper spent the next two years conducting research on the impact of physical fitness, or lack thereof, on the body. “I wanted to answer three questions: What is the most important type of exercise? How do you compare exercises? How much do you need?”

His unique work aligned perfectly with his efforts to travel to space. Dr. Cooper was assigned to NASA to help develop the first preflight conditioning and in-flight antideconditioning programs for astronauts.

“Going to space is like going to bed for a prolonged period of time,” says Dr. Cooper. “The level of deterioration is so great that when astronauts returned to earth, they would literally collapse stepping out of the capsule.”

Dr. Cooper was tasked with getting astronauts in the best shape possible in order to lessen the effects of weightlessness in space. He conducted field testing, bed-rest studies to simulate





**Left: Dr. Cooper (right) and a fellow researcher conduct aerobic tests on a U.S. Air Force serviceman. Middle: Dr. Cooper examines data from his treadmill experiment at the Cooper Clinic in the early 1970s.**

weightlessness, oxygen consumption tests on treadmills, and more.

All this information culminated in the creation of the famed 1.5-mile and 12-minute-mile tests to measure aerobic capacity. Dr. Cooper also developed the Aerobics Points System—assigning points to 41 different exercises based on type of movement, duration, and level of exertion.

Dr. Cooper would soon find out his journey to discovering new information would lead him to discover his true calling.

“I had no idea that the efforts and programs that I developed for NASA would serve as the launching pad for my aerobics lifework,” he says.

### **aerobics is born**

In January 1966, journalist Kevin Brown was assigned a story called “How to Exercise the Astronaut Way” for the Sunday supplement of *Family Weekly*. Brown was introduced to Dr. Cooper and interviewed him extensively for the article.

“I used the word *aerobics* for the first time in that article two years before the book was published, but no one really noticed,” Dr. Cooper says.

The chance encounter between Brown and Dr. Cooper was the beginning of a lasting partnership.

“I had already started thinking about writing a book. Then Kevin confirmed the idea when he suggested my

conditioning programs would make for an interesting book,” Dr. Cooper says. “I told him I had the research but needed a writer to help me put it all together. From that day, we started working on *Aerobics*.”

After two years of writing and editing, the book was ready to be published, but Dr. Cooper had to first get clearance from the Air Force Chief of Staff General John McConnell. For six weeks, the manuscript sat on the general’s desk.

“He thought I would get money from the book that I was not authorized to receive,” Dr. Cooper says. “When I told him that I would donate all royalties from the book to the Air Force Aid Society, he realized I wasn’t in it for the money. Just like that, he approved release of the book.”

### **“media circus”**

*Aerobics* was published in March 1968 in hardback by M. Evans and Company and simultaneously released in a paperback edition by Bantam Books. An excerpt of the book was featured in *Reader’s Digest* and the Sunday supplement of *This Week*.

Bantam handled the national book tour for Dr. Cooper but had difficulty booking him on the *Today* show. Fortunately, they were able to get Dr. Cooper on a national radio program, *Monitor*, hosted by Barbara Walters.

“I’m sitting at Radio City Music Hall, and Ms. Walters walks in to tape the

interview with her hair in rollers,” he says. “She doesn’t even look at me and conducts a very curt interview.”

After it ended, Dr. Cooper asked her, “What is wrong with you?” She replied, “You’re a fraud. I called Air Force headquarters, and they said they don’t support your book or programs.”

Dr. Cooper whipped out official documentation of how he tested 27,000 servicemen and servicewomen from five bases, plus the Air Force’s official brochure on the program. He continued, “If they didn’t support me, then how do you explain this proof?”

Walters, also a cohost for the *Today* show, took the materials and left. A few minutes later, she returned and told Dr. Cooper that he was booked to appear on the *Today* show the next day.

For two weeks, Dr. Cooper and Millie crisscrossed the country. “It was a media circus,” he says. “I remember doing 10 interviews in one day.”

### **a new beginning**

In the midst of adjusting to having a best-selling book and newfound notoriety, Dr. Cooper also found himself quickly moving up the ranks. As a result, he faced some life-changing decisions.

The first was whether to continue pursuing a career as an astronaut. “It can take years before you ever get a flight into space,” he says. “I saw how I was making a difference here at home, and





## FACTS ON THE COOPER EFFECT

- *Aerobics* is translated into 41 languages and Braille.
- Dr. Cooper is known as the “Father of Aerobics.”
- Dr. Cooper trained Cláudio Coutinho on the aerobics program for six weeks, which Coutinho took home to Brazil in 1969 and trained the country’s soccer team, including Pelé. Brazil went on to win the 1970 World Cup, making Dr. Cooper a national hero there to this day.
- FIFA uses the 12-minute test as the official fitness test for soccer players and referees around the world.
- In 1986, Dr. Cooper submitted the definition of *aerobics* to the *Oxford English Dictionary*.

**Above: The Cooper family—Tyler, Berkley, Millie, and Kenneth—in Hungary in 1990. Right: The book that started the fitness revolution.**

helping people meant keeping my feet on earth.”

Then came the defining crossroads in his life. Dr. Cooper was offered a fast track to becoming a commander of an Air Force hospital. But that direction meant leaving his love of research and stopping the practice of medicine to become an administrator.

After praying and talking to his wife, he made the bold decision to resign his commission in the Air Force and start a new life. After 13 years in the military and at age 40, Dr. Cooper embarked on a new beginning.

“If I can’t do what I want in the Air Force, I’ll do it on my own,” he remembers thinking. “I left with no money and no retirement. I had a pregnant wife and a 5-year-old daughter, Berkley. It was a huge gamble, but it paid off.”

### challenging the system

Dr. Cooper moved his family to Dallas in 1970. He obtained a charter for The Cooper Institute for Aerobics Research in June.

“I wanted to bridge the gap between faddism and scientific legitimacy in using exercise in the practice of preventive, diagnostic, and rehabilitative medicine,” he says.

In December of that year, Dr. Cooper saw his first patient as a preventive medicine physician in a small two-room office—just 5 miles south of the now

famous Cooper Aerobics Center location in North Dallas. Six days after opening Cooper Clinic, his son, Tyler, was born.

A few months later in 1971, Dr. Cooper was called before the Board of Censors of the Dallas County Medical Society. They were concerned about him conducting maximal performance treadmill stress testing on patients.

“The board thought I was going to kill people,” says Dr. Cooper. “They were trying to run me out of town.”

He showed the board the irrefutable data that he’d gathered, and the hearing ended in his favor. In fact, the day after the hearing, the board chairman came to see Dr. Cooper and took inventory of all his equipment and became the second physician to perform maximal stress testing on patients in Dallas.

“Many people don’t realize the challenges I’ve faced. Aerobics and preventive medicine haven’t always been popular,” he says. “I persevered through it all because I knew that a healthy life means a long and productive life.”

### the rest is history

Dr. Cooper has traveled to 50 countries preaching the gospel of aerobics. In Brazil and other South American countries, jogging is translated as “Coopering” or “doing the Cooper.” In Hungary, the national fitness test is called the *Cooperteszt*.

Everywhere he goes, people tell

him about how Aerobics changed their life.

“Once I was in Hungary, and a man came up to me and asked, ‘Are you the one who created the *Cooperteszt*?’

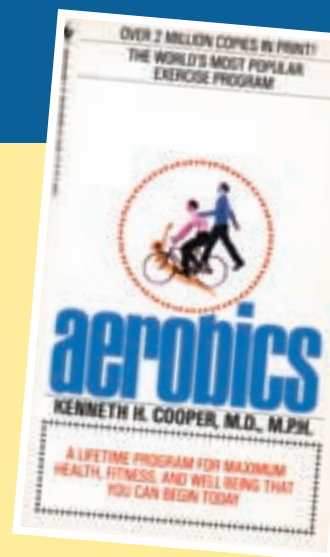
I told him I was. He yelled, ‘I hate you!’ I laugh every time I think of that story.”

Author John Grisham had the same reaction when he met Dr. Cooper in Dallas. “When he found out who I was, he said, ‘I hate you. I had to run so much in school because of you!’ But he said he’s still running today, and that’s what makes it all worth it.”

Back home in Dallas, Dr. Cooper is the picture of health. He sees patients daily, and he lectures, travels, and exercises. “People are amazed at what I can do at age 77,” he says. “If you think that’s impressive, look at some of my patients and friends.”

Dr. Cooper’s 30-year patient Ralph Osborn just celebrated his 95th birthday. Fit 90-year-old Orville Rogers set two world records in running in 2008. And 90-year-old Fan Benno-Caris is a world-record-holding race walker who was introduced to the sport by Dr. Cooper when she was 70 and holds 75 medals.

“She told me, ‘Because of you, Dr. Cooper, I forgot to grow old.’”



# measuring fitness today

By Rebecca Voelker, contributing writer



*Fifty years ago, the definition of fitness was simple. Regardless of whether it took you 12 minutes or two hours to walk a mile, fitness was based simply on being disease-free. Today, after decades of research showing the health benefits of physical activity, the definition of fitness and the ways it is measured have become much more sophisticated.*

“**T**he definition for fitness used to be the absence of disease—that’s all,” says Cooper Aerobics Center Founder and Chairman Kenneth Cooper, M.D., M.P.H. “We later said no, that’s just the tip of the iceberg. Unless you have adequate cardiovascular-pulmonary conditioning, you’re not really fit.”

## redefining fitness

After the publication of Dr. Cooper’s 1968 book, *Aerobics*, the concept of what being fit really meant began a lengthy evolution. During the ’70s, being fit became synonymous with aerobic activity. Americans increasingly took up regular aerobic exercises such as jogging, brisk walking, and swimming, which increase oxygen consumption.

The aerobic dance craze also debuted in the ’70s. In fact, Dr. Cooper heard from actress and fitness enthusiast Jane Fonda after he disagreed with her workout approach. “She said,

‘Let’s work together,’” he recalls. “So we started reviewing her tapes and making recommendations.”

In the ’80s, Dr. Cooper faced brewing opposition against aerobics head on. In 1984, Dr. Cooper appeared on *Nightline* to debate Henry Solomon, M.D., author of *The Exercise Myth*. Dr. Solomon claimed that “exercise does nothing but make you feel good, and there is no objective data that shows it affects health or longevity,” recounts Dr. Cooper.

“I said you’re right—exercise does make you feel better, lessen depression, and give you an overall more positive attitude toward life. And you’re right—there is no objective data today. But just wait. We’re working on data that will blow you out of the water.”

Dr. Cooper was referencing the landmark study by The Cooper Institute published five years later in the *Journal of the American Medical Association* that established the now widely accepted recommendations of doing moderate exercise for 30 minutes, three days a

week. The 1989 study also definitively linked a person’s level of fitness to a decreased risk of dying from all causes and increased life span.

Dr. Cooper’s research set the fitness bar higher than simply being free from disease. His work in developing the concept of aerobic exercise led to a newer, more complete definition of fitness—*aerobic fitness*. “Changing the concept to conditioning the heart and lungs based on oxygen intake is where we made a difference,” says Dr. Cooper.

As the first wave of baby boomers started turning 50 in the ’90s, the number of people exercising regularly began to decline. Dr. Cooper attributes the slowdown to the development of osteoarthritis and a lack of motivation and energy. “What’s more disastrous is that they didn’t bring their children along with them during the height of the fitness movement,” he says. “As a result we are facing a childhood obesity epidemic today. This decade will be defined by what we do or don’t do about it.”





### how is fitness measured?

Just as the definition of fitness has evolved, so have the ways in which fitness is measured. Years ago, Dr. Cooper developed a timed test to evaluate fitness. “You would try to cover as much ground as you could in 12 minutes by walking or running, and that distance was an indicator of your cardiovascular fitness,” says Tedd Mitchell, M.D., president and chief executive officer of Cooper Clinic.

The 12-minute test, often called the Cooper Test, has been used worldwide. Dr. Cooper notes that the Federation Internationale de Football Association, or FIFA, has used the test to measure individual athletes’ fitness in professional soccer since the early ’70s. But now, say Dr. Cooper and Dr. Mitchell, the gold standard in measuring aerobic fitness is maximal stress testing with a treadmill.

During a maximal stress test, you walk on a treadmill while your heart rate is monitored. The treadmill’s elevation increases every minute until you get as close as possible to your maximum heart rate. The formula used to determine maximum heart rate is subtracting your age from 220.

To get health benefits from exercise, you should work out at a target heart rate of 64 to 80 percent of your maximum heart rate. As your aerobic fitness improves with exercise, it will take

longer to reach your target heart rate.

Maximal stress testing helps your physician determine what type of exercise program is best for you. “It’s important to measure fitness in this way so we know your capacity to push yourself,” says Dr. Mitchell.

There’s a diagnostic medical benefit, too. Maximal stress testing can show abnormalities in your heart function that may not show up until you exert

yourself. Stress test results also provide your physician with a window into how susceptible you may be to developing heart disease over the next few years.

### the skinny on body fat

Even if your exercise program is aimed at getting fit, you might expect to lose weight at the same time. But it’s important to understand that as you lose body fat, you’ll gain lean tissue. And



## CHANGE YOUR WORKOUT OVER TIME

Most of us begin to lose muscle mass after age 50. So, as we age, it becomes just as important to condition muscles and bones as we do our heart and lungs. Based on years of research and his own health experiences, Dr. Cooper recommends shifting your workout toward more strength training over time. Here, Dr. Cooper shares how much of your workout should be devoted to aerobics and strength training based on your age.

Age	Aerobic Exercise	Weights/Strength Training
30s	80%	20%
40s	70%	30%
50s	60%	40%
60 and older	55%	45%

lean tissue weighs more than fat. So physicians at Cooper Clinic use body composition testing to show progress you won't see by stepping on the scale.

Skin-fold measurements use calipers to determine the amount of body fat directly under the skin. Another method is underwater weighing, which is based on the simple principle that the only type of tissue that's lighter



than water is fat. The higher the percentage of body fat, the lighter the weight will be when the body is submerged.

A newer approach uses dual energy X-ray absorptiometry (DEXA), the same imaging technology that's used to diagnose osteoporosis. "DEXA is probably the most efficient method because it tells not only the percentage of body fat, but where the fat is located," says Dr. Cooper. The location of body fat is important—the more fat located around the belly, the higher the risk for heart disease and diabetes.

For elite performance athletes, The Cooper Institute provides VO2 max testing. "This is the ultimate test to measure the maximum ability to use oxygen," says Dr. Mitchell. "We tested Lance Armstrong here as a kid," he adds. "His VO2 max was through the

ceiling; his capacity to extract oxygen is genetically different than yours or mine."

### fitness beyond aerobics

Aerobic fitness is a hallmark of good health. But even Dr. Cooper has recognized that over time, aerobic exercise alone is not enough. "If you're going to be totally fit, you have to add weight training," he says. Now age 77, Dr. Cooper started weight training at age 55, when a couple of hours of snow skiing started to cause aches and pain in his legs.

"At age 55, I could run 5 miles in 40 minutes, but for the first time in years, I couldn't ski more than two hours without my quadriceps burning so bad I had to stop and wait for my legs to catch up," he recalls. Even though his cardiovascular conditioning was top-notch, his muscles and bones weren't in the same great shape.

Dr. Cooper started his weight training with leg lifts to strengthen his quadriceps and boost his stamina for the slopes. Today he maintains a program of strength training and aerobic exercise. His daily aerobic workout combines walking and jogging. "I cover about 2 miles in 26 minutes," he says. "On Sundays I go 3 or 4 miles. Then I work out on weights. I have four different weights that I use to concentrate on the upper body."

He completes a circuit-training program using light weights, pushing a maximum of about 60 to 70 pounds for upper-body exercise and slightly more with his legs. "I try to work at 65 to 80 percent of my maximal performance, doing 25 to 30 light-weight, high-capacity reps," Dr. Cooper explains. It takes him about 15 minutes to do five to six stations in his circuit program.

Whatever your age, it is not too late to work toward achieving fitness and wellness (see "You Work Out, But Are You Well?"). Just be sure to talk with your physician before you begin a workout program. Being fit in this day and age is quite an accomplishment—your body will thank you.



## you work out, but are you well?

Emphasizing the importance of strength training along with aerobic exercise isn't the only way in which Dr. Cooper's perspective on fitness has changed through the years. "We expanded our concept away from just exercise to one of wellness," he says. Dr. Cooper was instrumental in defining aerobic fitness, so how does he define wellness?

In addition to getting proper exercise, he says, wellness includes:

- Weight control
- Good nutrition
- Proper supplementation
- Not smoking
- Limiting alcohol to one drink a day or less
- Controlling stress
- Having periodic wellness exams like those conducted at Cooper Clinic

"Exercise is not a panacea—it is only part of a wellness program," says Dr. Cooper. Patients and clients who have taken his advice have a pretty good track record. The Cooper Clinic database contains the records of more than 100,000 patients, some who have been coming to the clinic since 1970. "Our projected life expectancy is 87.5 years for men and 90.5 years for women," says Dr. Cooper. "We're beginning to show that exercise, as part of a total concept of wellness, can prolong your life."

For more information about our wellness exams, call Cooper Clinic in Dallas at 972-560-2667 or McKinney at 972-560-6300.



# Fitness runs in the Family

By Stephanie Ashenfelter, M.P.H.,  
Creative Services Manager,  
Cooper Aerobics Center

For the Coopers, Aerobics Is a Family Affair

**E**very family shares a special bond. For the Coopers, one tie that binds them together is aerobics.

Whether it was playing sports, running, hiking, or skiing, physical activity has been something the whole family—Dr. Cooper; his wife, Millie; and their children, Berkley and Tyler—has enjoyed doing together.

“I didn’t take up regular exercise until after Berkley was born, but our children have only known a life with physical activity,” Millie says. “We showed them that exercise was fun. When it’s part of your daily life, you have a more enjoyable life.”

Their fun was contagious. “All the neighborhood kids wanted to come to our house on the weekends,” Millie says. “Ken and I would be right there with them, playing ball and taking bike rides to get ice cream.”

## a way of life

Of all the activities they did together, running was a family favorite. Dr. Cooper and Millie started running together when Berkley was a baby. “I pushed Berkley in a stroller long before the modern-day ‘jogger’ was invented,” Millie says.

At age 5, Berkley started running on her own.

“I can’t remember a time in my life when I didn’t run,” she says. “I began short distances with my dad, and as I grew older, our runs together got longer. My family became my training partners. They helped make me a stronger runner.”

Tyler recounts the Coopers’ Sunday afternoons with a smile. “We weren’t your typical family unpacking a picnic or

taking a leisurely stroll in the park,” he says. “Instead, our family jogged 3 miles together each weekend. I came in last as a child, but that changed as I got older.”

Both Berkley and Tyler began competing in track in junior high and continued through to college at Baylor University. Berkley took it a step further and has run four marathons.

## healthy benefits

But for the Coopers, there’s more to running than meets the eye.

“We spent a lot of quality family time together on runs. It was a time for us to talk and stay connected with each other,” Tyler says.

“Plus, many of the physical and

mental health benefits of exercise play an important role in the family. It energizes you, releases stress, and fights off depression. For me, exercising together as a family only intensifies those benefits.”

## leading by example

Now with children of their own, Berkley and Tyler are following in their parents’ footsteps. They’re teaching their children how to live the “Cooper way.”

“As a testament to our parents, Tyler and I strive to live a physically healthy life and lead our children by example,” Berkley says.

Tyler agrees, “As Dad always said, ‘The family that jogs together stays together.’”



Dr. Cooper and Millie run with Berkley and the family dog in tow, 1966. The Cooper family—Berkley, Tyler, Ken, and Millie—on a family jog in 1982.



# Our kids' health

By Susan Campbell, Ph.D., Vice President of Education, The Cooper Institute

## Taking Health and Fitness to the Next Generation

**T**en-year-old Cayla Tucker was determined to win a medal for the 12-minute-mile fitness test. Her physical education teacher, Terry Wade, at Northrich Elementary in Richardson, Texas, helped her set goals for the school year.

At first, Cayla couldn't even run a mile. But with hard work and practice, she completed the mile in under eight minutes less than nine months later. She placed second among her fourth-grade classmates. In addition to receiving the medal she longed for, Cayla's mom says she looks more physically fit, eats healthier, and feels better about herself.

"Obesity runs in our family," Carla Tucker says, "and the last thing I wanted was for Cayla to follow in those same footsteps. Thanks to her P.E. teacher, she isn't."

To help children enjoy being healthy, Wade says, "I try to make fitness fun for students. If we make physical

activity fun at an early age, then we've instilled healthy habits for a lifetime."

Cayla is an example of how a set amount of time for physical activity and a dedicated teacher can improve a child's fitness level every year—the reverse of what is actually happening for most students.

### "brain food"

On July 1, 2008, the Texas Education Agency (TEA) announced the results of the first-ever statewide physical fitness assessment. More than 2.6 million children in grades three through 12 were measured using six FITNESSGRAM® tests. The results showed that fitness levels decline with each passing grade level. One-third of third-graders achieved the "healthy fitness zone" in all six tests, while less than 10 percent of 12th-graders were able to do the same.

"The results are alarming," says Kenneth H. Cooper,



M.D., M.P.H. “The good news is, we have an incredible opportunity to make a difference.”

By the end of the year, the TEA is expected to provide a deeper look into the data. Plans are in the works to correlate the data against 10 other school and community variables, including academic achievement, attendance, discipline, smoking habits, school meal programs, obesity, and diabetes.

“Exercise is brain food,” Dr. Cooper says. “Physically active and fit students perform better in school, are better behaved, and have less incidences of health problems such as diabetes.”

The information is prompting state and school officials to discuss new ways to help students get fit for immediate and long-term success.

“We must immunize children against inactivity and obesity while in elementary school so that as they age, they are more likely to stay healthy and fit,” says Dr. Cooper.

### keeping fitness in check

The Cooper Institute, the nonprofit arm of the Cooper Aerobics Center, has long served as the thought leader in children’s health. In 1982, The Cooper Institute launched the FITNESSGRAM testing tool.

“We wanted to create something different than the President’s Council on Physical Fitness test, which was a popular school assessment at the time,” says Charles Sterling, Ed.D., developer and chairman of FITNESSGRAM. “That test measures athletic performance, but not all kids are athletes. FITNESSGRAM measures overall health, and that impacts every single student.”

FITNESSGRAM assesses cardiovascular fitness, muscular strength, muscular endurance, flexibility, and body composition. Scores are evaluated against objective criterion-based standards, or “healthy fitness zones,”

that indicate the level of fitness necessary for health. The standards are gender- and age-adjusted, and the results are not tied to a grade.

Now in its ninth edition and in more than 85,000 schools in all 50 states, FITNESSGRAM allows schools to collect, track, and compile fitness data over time on individual students. And it provides P.E. teachers a communications vehicle to share important fitness testing results with students and parents that is meaningful and understandable.

“As teachers, we need to shift our focus from team sports to individual fitness,” says Wade, who has used FITNESSGRAM for 12 years. “This tool gives us insight into the health of our students, which helps us meet their needs in a positive way.”

### newfound focus

Dr. Cooper’s personal interest in improving children’s health started when he noticed a disturbing trend at the turn of the millennium. The well-being of the next generation was in jeopardy from the growing health crises of obesity and diabetes. Dr. Cooper decided to make a difference.

“I have spent most of my life focusing on the health and well-being of adults,” he says. “It was time that I turned my attention to children and improving their life now and for the future.”

In 2001, he worked with Sen. Jane Nelson of District 12, a former school teacher, on Senate Bill 19 to bring physical education requirements back into grade school. The P.E. requirements had been left out due to an increased academic load.

As the years went by, Dr. Cooper recognized that nothing was changing because “the law lacked teeth.”

Sen. Nelson and Dr. Cooper went back to the

## our kids’ health is a groundbreaking movement to address these alarming statistics:

- Twenty percent of youth in the U.S. will be not only overweight but obese by 2010.
- In Texas, approximately two out of five children are overweight or at risk for being overweight.
- Forty-five percent of children born after the year 2000 are expected to develop type 2 diabetes sometime in their life.
- Children who develop type 2 diabetes before age 14 will see their life span shortened by an estimated 17 to 27 years.

Dr. Cooper asks you to join him to improve **Our Kids’ Health**. To donate or learn more, visit [www.ourkidshealth.org](http://www.ourkidshealth.org).



drawing board and came up with what is now Senate Bill 530. Passed in June 2007, the law mandates kindergarten through eighth-grade students in all Texas public schools to participate in regular physical activity. It also requires students in grades three through 12 to undergo annual fitness assessments using FITNESSGRAM.

### our kids' health

To better concentrate the multiple efforts and programs to address childhood obesity, Dr. Cooper established Our Kids' Health as an initiative of The Cooper Institute in 2007. Our Kids' Health works to address all factors contributing to overweight and obese children, including physical inactivity; nutrition; psychosocial issues; demographics; and the school, family, and social environment. Current initiatives include legislation and research.

"While physical educators and public health officials recognize the importance of quality physical education," says Dr. Sterling, "it remains a marginalized program in most school districts due to competing pressures for time, resources, and money."

That's why Dr. Cooper and Sen. Nelson are teaming up once again to introduce a bill in the 2009 Texas Legislative Session to provide substantial funding for effective and comprehensive physical education programs, and to increase the number of certified physical education teachers.

On the research front, a study by the Robert Wood Johnson Foundation and The Cooper Institute will examine fitness across the state of Texas against academic performance. The study will also look at the impact of teacher training, school environment, and P.E./recess exposure on the fitness results.

Joining a coalition of research universities in South Carolina, Iowa, and Louisiana, The Cooper Institute is also working with the Department of Defense to



## save the date!

**What:** "A Life's Rx for Health" luncheon benefiting The Cooper Institute's *Our Kids' Health* initiative, featuring guest speaker Olympic Gold Medalist Mary Lou Retton

**When:** February 27, 2009

**Where:** Hilton Anatole Hotel, Dallas

For event and sponsor information, call  
**1-800-635-7050.**

look at the youth obesity issue. The knowledge will help ensure a large pool of youth who are fit and ready for military service.

And in the Dallas area, The Cooper Institute's Development Advisory Board raised money to donate FITNESSGRAM to low-income private schools. The schools are part of a study looking at increased fitness of diverse students, as well as providing healthier school meals and additional resources for parents and community members.

### a legacy of life

The passionate work and meaningful results in Texas are spreading across the nation. From Oklahoma to South Carolina, Georgia to Hawaii, leaders across the country are reaching out to Dr. Cooper to learn how to better the lives of children in their states.

And he couldn't be happier. "I'm proud of what I've accomplished through *Aerobics*," says Dr. Cooper, "but I hope I'm remembered for what I've accomplished for children. I hope that is my legacy."





# The President's Physician



Millie Cooper, President Bush, and Dr. Cooper in 2002

## **PRESIDENT GEORGE W. BUSH**

has been a patient of Kenneth H. Cooper, M.D., M.P.H., since 1988.

Dr. Cooper has performed 19 physical examinations on President Bush—seven of them while he has been president.

Brigadier Gen. Richard Tubb, M.D., and Dr. Cooper are the two lead physicians who help keep the president healthy. Dr. Cooper prepares the written medical report on the president that is released to the media every year.

President Bush exercises for an hour, six days a week. He says he exercises for his head more than for his heart, to help him manage stress.

First Lady Laura Bush has been a patient of Cooper Clinic since 1999.



THE WHITE HOUSE  
WASHINGTON

July 2, 2008

Congratulations to my friend Dr. Kenneth Cooper on this special occasion.

Health and fitness are important personal responsibilities for our citizens. Regular physical activity builds strength and endurance and provides motivation for people of all ages and abilities. For 40 years, Dr. Cooper has helped promote the good health of Americans and educated others about the importance of making physical fitness a priority in their lives.

I appreciate Dr. Cooper, Cooper Aerobics Center staff, and all those dedicated to physical fitness. Your efforts set a positive example for others and contribute to a healthier future for America.

Laura and I send our best wishes for continued success.

*Cooper Health* is published by Cooper Clinic, 12200 Preston Road, Dallas, Texas 75230. ©2008. All rights reserved. The *Cooper Health* phrase and logo are trademarks of Cooper Clinic. Reproduction without permission is strictly prohibited. No material in this issue may be reproduced without written permission. The publishers do not assume responsibility for unsolicited editorial material. *Cooper Health* does not promote any form of medical treatment, nor does it encourage the self-management of medical problems. It is meant to supplement, not replace, the advice and care of health care professionals.

If you no longer wish to receive *Cooper Health*, please call 972-560-3221.

5245M



**Congratulations**  
**Kenneth H. Cooper, M.D., M.P.H.**  
on  
**40 years of**  
**AEROBICS**

**Dr. Cooper,**

It's hard to believe your many achievements are those of just one man.

Countless millions around the globe owe their very lives to your vision of health and wellness.

We see you daily and yet we are in constant awe of your drive and dedication.

**– Associates of Cooper Aerobics Center**