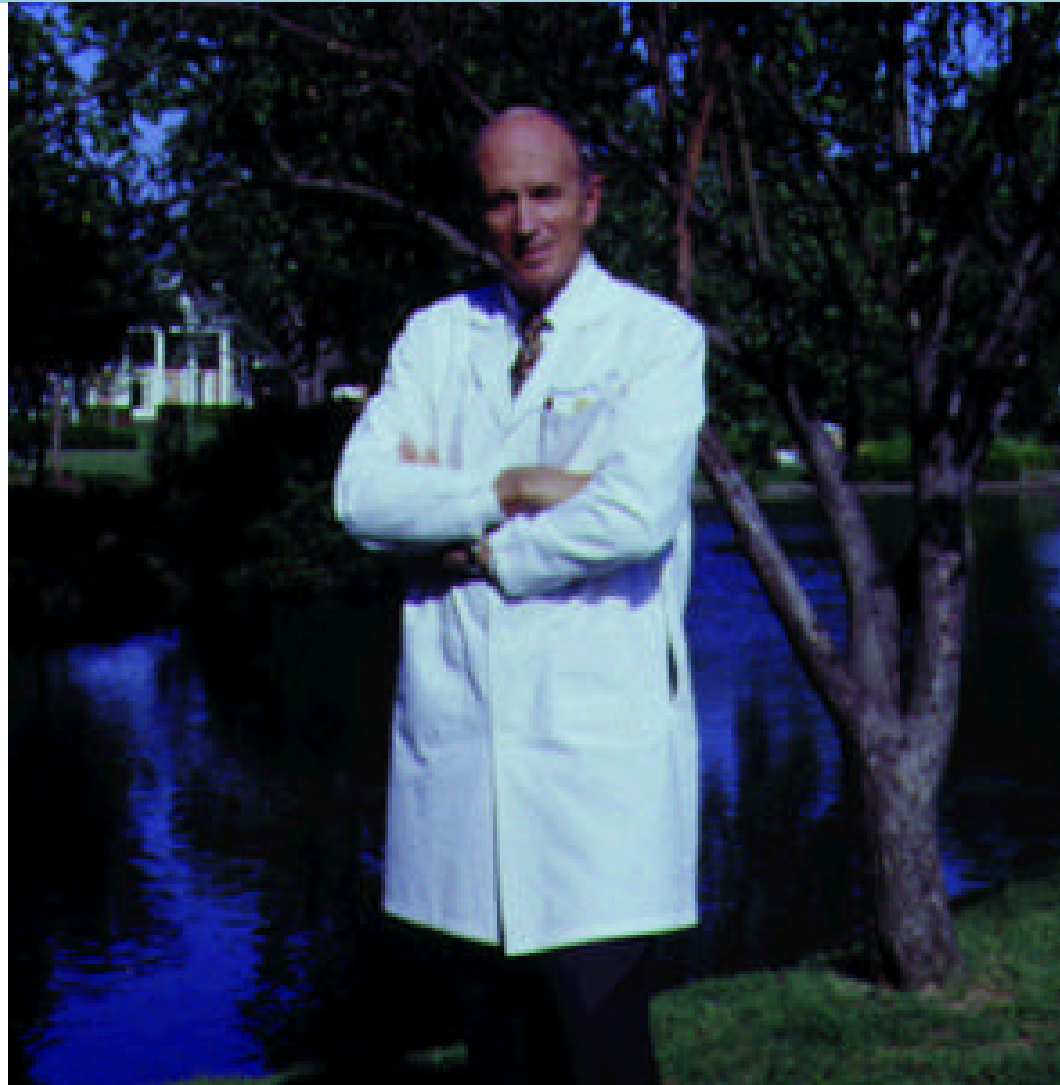


Ken Cooper: Exercise Is Only

As a researcher, best-selling author, and president and founder of The Cooper Aerobics Center in Dallas, Kenneth Cooper, M.D., M.P.H., a catalyst of the 1970s fitness boom, is a leading force in the health and fitness industry. Here, he offers a frank historical perspective of the fitness evolution, including his latest research, findings and beliefs.



Interview by George Pfeiffer



Part of a Total Wellness Program

When health promotion professionals speak of individuals who have had the greatest influence in raising awareness about the benefits of exercise, as well as inspiring millions to take action, one man's name consistently comes to mind: Kenneth Cooper, M.D., M.P.H., Cooper has been a major force and voice in raising the health consciousness of the world for more than 30 years. In this interview with Co-Senior Editor George Pfeiffer, M.S.E., AAWHP, Cooper shares his views.

George Pfeiffer: We first met in 1973 when you spoke at the YMCA in Corning, N.Y. At that time, I was a graduate student at State University of New York College at Cortland; I remember running your 12-minute test in a tiny gym, with you handling the stopwatch. Since then I have had the opportunity to hear you speak many times and have always been impressed by your knowledge, evangelical zeal and dedication to promoting exercise — and, more recently, wellness — to the world. If there is one core message that has been constant over the years, what is it?

Ken Cooper: Aerobic exercise has to be the foundation of any good preventive medicine wellness program, and that will continue to be my core message. Deaths from heart attacks in the American people over the past 25 to 30 years have declined substantially, and I am convinced that at least half the reason has been the increased awareness about physical activity and healthy lifestyle.

More people are exercising today than some 28 to 30 years ago. We have quit smoking in great numbers, we have better control of high blood pressure, we have changed our diets — helping our

cholesterol to drop significantly even though body weight has gone up — and we do a better job of acknowledging and controlling the harmful effects of stress.

All of these factors relate to exercise. For example, the best way to control stress physiologically, as I have written in my latest book, *Can Stress Heal?* is through aerobic exercise. The best way to protect against high blood pressure, as we have documented here at The Cooper Institute for Aerobics Research [in Dallas], is to become involved in an aerobic exercise program. And the best way to break the cigarette-smoking habit permanently is to start an exercise program. Exercise is the foundation, but I have become increasingly aware that it is, nevertheless, only part of a total wellness program.

Pfeiffer: The Cooper Clinic and The Cooper Institute for Aerobics Research have been the leaders in showing the epidemiological benefits of physical activity. What conclusions have you drawn from your research, and what are the potential implications for public health?

Cooper: For more than 40 years I have been trying to answer the question:

“How much exercise is enough and how much may be too much?”

An exciting discovery has come from epidemiological studies directed by Steve Blair, P.E.D., the director of research at the institute. We learned just how little exercise is necessary to attain health and longevity. We can now classify people into three categories of fitness — not just aerobically fit or unfit, as we have done historically. Now we show clearly that people can be aerobically fit, they can be health-and-longevity fit or they can be sedentary. It has been a real surprise to me that it takes so little to move into the health-and-longevity fitness category.

For example, even 30 minutes of sustained activity such as brisk walking three times per week will really help you to achieve health-and-longevity fitness as compared to running three miles, five days per week. The running will give you aerobic fitness, but the advantages there are not that impressive if your goal is for health and longevity.

So now we know, too, that you can be aerobically fit and unhealthy, or you can achieve health and longevity fitness and not be aerobically fit and get almost the same benefits.

These discoveries have been a real



landmark and a contribution to mankind.

Pfeiffer: You have taken a position that too much exercise may actually be detrimental to immune function and expose chronic exercisers to life-threatening health conditions such as cancer. On what facts do you base this premise, and what do you believe to be a safe dosage?

Cooper: Four people come to mind who have been instrumental in the fitness movement over the last 30 years — George Sheehan, Jim Fixx, Fred Lebow and myself. Unfortunately, I am the only one still alive in that group: Jim Fixx, age 52, heart attack; Fred Lebow, age 60, cancer of the brain; George Sheehan, in his early 70s, prostate cancer.

And it's not just those three. I have in my reference files more than 250 cases of high-level exercisers who thought they were achieving optimum health, but who have succumbed to or been diagnosed with severe medical problems, including heart disease and cancer. So that prompted me to start a research study in which we looked at elite athletes vs. regular runners. We looked at their DNA damage and saw clearly that DNA damage does occur with high levels of physical activity. The most dramatic study on this came from Mutation Research, published in 1995 from Ulm, Germany. It showed the same thing that we saw here — extensive DNA damage in the person exercising at *high levels* I define high level as running over 30 miles per week, or over 300 minutes per week of intense activity that's above 85 percent of your predicted maximum heart rate, or more than 100 Aerobics Points per week.

Research also showed that significant DNA damage could be completely blocked by having these people take 400 units of vitamin E three times per day, for at least two weeks prior to this maximum stress that typically causes DNA damage. We can't absolutely say that DNA damage is always a precursor

to cancer, but if it is, we can block it with high levels of antioxidants.

I am not saying that people shouldn't run marathons, ultramarathons and "Ironmen," but I am saying two things: Take in adequate antioxidant supplementation through diet and vitamins, and listen to your body. In *Dr. Kenneth H. Cooper's Antioxidant Revolution*, there is a list of 20 signs of overtraining. If you adhere to these concepts, you can train safely even at high levels.

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Pfeiffer: You have been a major proponent of corporate health promotion. How do you make the business case to management that they should provide programs for their employees?

Cooper: The corporate community is obviously accepting and promoting worksite wellness. Recent studies indicate we are way ahead, when you compare how many corporations had worksite wellness programs in 1985 vs. 1992, vs. what the U.S. surgeon general's recommendation was for the year 2000.

For example, the projection was that, by the year 2000, 80 percent of corporations with more than 750 employees should have some type of worksite wellness program. By 1992 we already had 83 percent. In larger and smaller companies, as well, worksite wellness programs have exceeded expectations. Corporations are realizing, as we found at The Cooper Aerobics Center, at least five strong benefits — reduced health-care costs, reduced absenteeism due to disease, increased employee productivity, lower turnover and better recruiting.

Our organization hires the best employees in the marketplace, and I am convinced that offering memberships in our health club and worksite wellness program is a big factor in our successful recruiting. When you add those five benefits, obviously it is going to save a company money. It is going to reduce the cost of health care if you have those things happen in your corporation.

Pfeiffer: Has the medical community been a helping or hindering force in promoting physical activity and other lifestyle practices to patients? How do we get the medical community to become a better advocate of lifestyle management as part of its standards of practice?

Cooper: When I was in medical school, I had no exercise physiology. I had no nutrition training. I had no courses in stress management. Instinctively, the medical community has been against something they don't know much about, so I have tried to bridge that gap between faddism and the scientific legitimacy of using exercise in the practice of medicine. I did that by overwhelming the medical community with good, solid scientific research. It is safe to say that we have bridged that gap over the past 28 years with publications from The Cooper Institute for Aerobics Research. More than 500 articles that are just too impressive to be ignored have been



published by our institute in peer-reviewed journals. So, yes, the medical community has been slow to accept the concept, but I am happy to say that is changing dramatically, and we are getting unparalleled support from the medical community that we never had 25 to 30 years ago.

It has been known for years that the most effective motivator for a person to change his or her lifestyle, start exercising, lose weight, control alcohol and stop smoking is to hear from his or her physician that changes are necessary.

But physicians tend to accept standards based upon their own lives — if you don't want a physician to complain about you being overweight, go to an overweight physician — but what I would suggest is that they use the same four-step approach that has been so successful for us in Dallas: (1) provide a very thorough evaluation; (2) make it an educational and motivational experience; (3) give the patient implementation programs that are realistic, safe and effective, in that order; and (4) get them back in for re-evaluation, to monitor their progress and keep them motivated.

Physicians in general, as far as lifestyle-changing preventive-medicine programs, do a reasonably good job with step one, evaluation, but they do a very poor job with steps two, three and four. My message to physicians is: Start incorporating all four to be effective with lifestyle-changing programs.

Pfeiffer: Some surveys indicate that only 20 percent of Americans get a total of 30 minutes of physical activity most days of the week. Why do you think we have such a dismal record, and what must we do as a society to change this trend?

Cooper: First of all, I question whether it is only 20 percent of Americans getting enough exercise. The surgeon general's report on physical activity and health, issued in January 1996, recommended 30 minutes of some type of physical activity most days of the week.

That can be walking up and down a flight of stairs, walking back and forth to the car, gardening or whatever.

Another recommendation, which I make, is at least 30 minutes of sustained moderate level activity three times per week, such as walking two miles in 30 minutes three times per week.

Still another recommendation is that you determine your target heart-rate zone, using the formula of 220 minus your age to get the predicted

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maximum heart rate, and work out at 65 to 80 percent of that rate for at least 20 minutes four times per week or 30 minutes three times per week.

So we have three different recommendations and three ways of distinguishing between [the] sedentary or exercising [categories]. If you use the criterion of 30 minutes most days of the week of just some type of sustained activity or some type of intermittent activity, I am sure that it would be more than 20 percent.

If you talk about my recommendation — that is, 30 minutes of brisk walking three times per week — that

number may be much higher than 20 percent.

But if you are talking about working in an aerobic heart-rate training-effect level for at least enough to get an aerobic training effect, you are probably dealing with 20 percent. So that is a misconception, and I will not accept that figure as being accurate. There are a lot more people out there, probably more like 40 to 45 percent, who are doing something that benefits them healthwise with physical activity, even though they may not be aerobically fit.

Why do we have such a dismal record? The fitness boom of the late '60s, '70s and early '80s was spearheaded by the baby boomers and that peak in our population. Those people have now reached 50 to 55 years of age, old enough that they may not be able to exercise at the same intensity. Maybe they are burned out.

Another reason why there has been a drop in fitness — and there certainly has been in the last 25 years — is a lack of agreement among professionals in the field as to what is enough, what is too much and what may actually be traumatic rather than beneficial. People are getting information that is contradictory. It's true you are better off being fat and fit than skinny and sedentary, but that in no way means are we recommending obesity, only that we are trying to show the dangers of being sedentary.

But the American public is confused. Many people are discouraged by a government panel's recent announcement that only emphasizes total weight rather than body-fat ratio. It says a BMI (body mass index) above 25 is overweight, so people who have been exercising hard but are above 25 BMI think, "Why should I do anything if I am not doing myself any good?"

How are we going to change this? A very sad commentary here is the decrease in fitness and increase in fat in American youth. American teenagers are five to seven pounds heavier in 1995 than they were in 1980. It takes



them a minute to a minute-and-a-half longer to run a mile than it did in 1980. I see four reasons these young people are fatter and less fit.

- We have eliminated mandatory physical education programs from school systems.
- They are not walking or riding their bicycles to school. It is not safe; I hear that all the time.
- With computers, video games and television, they are spending 25 to 30 hours per week behind the video screen, watching television or whatever it may be.
- There are 49 million people eating at fast-food restaurants on a daily basis, and that is an awful lot of calories and saturated fat.

The hope for the future is to concentrate on youth. We need to stop and regroup. We need to get conditioning and training programs for children back into the school system. We need to get kids properly evaluated, motivated and educated to embrace these concepts of fitness and wellness. The gains of the past 30 years, as far as reduction of deaths from heart attacks and an increase in longevity, is going to go in reverse unless we get started now with the kids. Along with that, we have to get the medical profession to take this bull by the horns and start doing something to promote fitness and wellness in America.

Pfeiffer: In recent years you have gone beyond the exercise message and have become a wellness advocate. What does wellness mean to you, and what core strategies should we as health practitioners promote to our respective audiences?

Cooper: Yes, it is true [that] in 1982 I changed my basic message from one of aerobic fitness to wellness. When I published my first book in 1968, I said, "You can't run a good thing into the ground. The more the better," and "Exercise overcomes many, if not all the deleterious effects of diet." But, some 14 years later, in *The Aerobics*

Program for Total Well-Being, I wrote, "There is nothing known to man totally protective against coronary disease, whether it is medicine, surgery or marathon running." I changed my view because far too many times during that 14-year period distraught widows told me that their husbands followed my aerobics concept exactly and worked out 15, 20, 25 miles per week but ignored their diet, weight, cigarette-smoking habit and died of a heart attack at 50 or 55 years of age.

It's true you are better off being fat and fit than skinny and sedentary, but that in no way means we are recommending obesity, only that we are trying to show the dangers of being sedentary.

I realized that aerobic exercise is not the panacea I thought it was. A wellness program must include six basic components: (1) exercise; (2) proper nutrition to manage weight, plus supplementation; (3) elimination of tobacco products; (4) control of alcohol and elimination of habit-forming drugs; (5) stress-management skills; and (6) periodic wellness exams that go beyond routine physical exams and look at overall lifestyle.

Pfeiffer: As we approach the millennium, what is your vision of preventive medicine?

Cooper: My vision is for preventive medicine to parallel the Cinderella story — to rise from being the poor stepsister to becoming the prince's esteemed choice. For too many years, preventive medicine has been shunned as a medical specialty because, typically, the profit has been in disease. As we go into the new millennium, that view will change. Our own success in preventive medicine for almost 30 years proves that it can be profitable.

People have asked me over the years how we went from having a two-room office with two employees back in 1970 to this 30-acre facility that we have now, with more than 350 employees and worldwide impact. It is pure and simple. If people realize they have a need, you provide a service, and if they get the results they want, they will make you successful in any field. If I can get that message propagated to physicians and people around the world going into the next century, then we should see even further improvements — fewer deaths from heart attacks, an increase in longevity and, most importantly, better quality of life.

Preventive medicine will become an important part of the medical-school curriculum. In the past, preventive medicine was primarily immunizations. It was treating the water to prevent typhoid. Now we are dying of heart attacks, strokes, cancer and automobile accidents, so obviously preventive medicine must change and concentrate on the things that are killing people. Preventive medicine will grow in stature to the level of other medical specialties such as cardiology, internal medicine and pediatrics. This major shift is not going to be led by physicians, unfortunately, but it is going to be required. It is going to be mandated by the patients.