

# A 60-Second Shortcut to Vitality

By Stefan Bechtel - [Prevention Magazine](#), February 1983

Shown to help fight high blood pressure, Dr Broino Kiveloff's simple exercise program may even keep age at bay.

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What manner of beast, the Sphinx asked Oedipus, walks first on four legs, then on two, then on three? Oedipus, the Greek hero of legend, finally came up with the answer. It was man himself who began life creeping on all fours, later learned to walk upright on two legs and during his declining days hobbled along on a third leg, his cane.

The old riddle is a clever one. But life isn't really that simple or certain. Not everyone is destined to become a "three-legged" person; some carry on to the last unsupported by anything but their own vitality and zest for life. And medical detectives, probing the deep mysteries of human aging, have begun to show that many more of us could hold back the "inevitable" decline of old age. It ruins the riddle, but it's terrific news.

How does a person take action against age? There are many ways, but one takes less than a minute a day, costs nothing and can be learned almost instantly. It's been shown to help fight high blood pressure, the major risk factor for heart attacks, stroke and kidney disease, and now its inventor believes it can also retard aging by the same mechanism.

"There are thousands of theories of aging," says Broino Kiveloff, M.D., associate chief of rehabilitation medicine at the New York Infirmary - Beekman Downtown Hospital. "This is a new one-the best one!"

Dr. Kiveloff himself is a testament to the method he's been practicing daily for the past 18 years. Though he won't say how old he is, he will say he's been practicing medicine for 55 years. And his grip is still firm, his skin hardly wrinkled, his mind quick and sure. As a 76 year-old painter who's also been practicing the method puts it: "One feels so much more energetic - you feel a surge of energy immediately, almost like jumping off the floor!" What are they doing? Lets take a look.

When Dr Kiveloff came to New York from Poland in 1960, he began specializing in rehabilitation medicine, the art and science of helping people regain their ability to live normally after a disabling illness or injury. At the New York Infirmary he began working with Olive Huber Ph.D., professor emeritus in the department of physiology at Hunter College, who became the co-developer of the technique.

Among the first patients Drs. Kiveloff and Huber treated were several suffering from intermittent claudication, limping or severe pain in the legs when walking. Their pain caused by constriction of the tiny arteries in the limbs, at the far edges of the vascular system. To help increase the peripheral circulation through these beds of small vessels, the doctors devised a system of brief, daily isometric exercises, which earlier research suggested might do the trick. (Isometric or static exercise means muscle tension without movement such as pressing your arm against a doorframe.)

One early patient was 77 years-old female doctor who was an avid hiker hill climber until intermittent claudication brought her hikes to an abrupt halt. She could walk no further than one or two blocks without pain. On examination, the doctors found she had a history of coronary disease and high blood pressure. They put her on their isometrics program, and after a few weeks her pain while walking began to gradually fade away; it eventually disappeared completely.

But something else happened, too: Her blood pressure fell from 180/90 to 150/76. (The first figure is the systolic pressure, or the heart's contracting phase; the second figure is the diastolic pressure, or relaxing phase. Normal blood pressure for a healthy young adult is 120/70.) Exploring further, the researchers found that isometric exercise raised the temperature in the hands - indicating that peripheral circulation was indeed being increased. They even found that it could reverse the constriction of arteries caused by smoking.

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Isometric exercises fight age by improving peripheral circulation, Dr. Kiveloff maintains. Also, he says, 'It makes people happy.'

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**'Enemy Number One'**

Could this technique also be a safe reliable way of lowering high blood pressure for the more than 20 million Americans who suffer from it? "Enemy number one," as Dr. Kiveloff refers to hypertension, is often the grim prelude to heart disease - the leading cause of death in the United States.

Drs. Kiveloff and Huber designed a study to test their isometrics program on 22 volunteers. Seven of them had normal blood pressure, and 15 were hypertensive. Seven of the 15 hypertensives were also taking drugs to help control their pressure.

Not surprisingly, while actually doing the exercises all the volunteers showed an increase in heart rate and blood pressure. But after five to eight weeks of regular daily isometrics, blood pressure dropped significantly among the hypertensive volunteers. The eight hypertensive people who were not taking any drugs registered drops in systolic pressure of from 13 to 25

percent and diastolic pressure dropped 2 to 27 percent. The five people who kept on taking their medication while they did the exercises experienced smaller declines: Systolic pressure went down 3 to 18 percent, diastolic dropped 2 to 15 percent.

Two of the study subjects did the exercises instead of taking their medication. For them, blood pressure dropped down to normal and stayed there. The seven subjects with normal blood pressure were unaffected by the exercises (Journal of American Geriatrics Society, December, 1971).

There were some "free bonuses" to the program as well: Many of the volunteers reported that they felt fitter, more energetic and noticed improvements in their posture, muscle tone and general appearance. So have many of the hundreds of people who've written Dr. Kiveloff about their success with the program, as he's gone about "spreading the word" through medical journals and the lay press over the past 10 years.

One man we talked to that been restricted to a salt-free diet and put on medication after his doctor discovered his blood pressure was 160/95. Every three months for the past seven years, he had to go to the doctor for blood tests and other checkups on his progress. But after five to eight weeks of isometrics, his pressure fell to 120/80 and he discontinued the medication (though he still avoids salt, he says, because he learned to like the taste of saltless food). "It's so much more wonderful than taking medication," he told us. "You have to go to the doctor only when want to!"

An executive nearing 65 told us he hadn't missed a single day of isometrics since he started seven years ago, and his blood pressure has stayed at 130/70 (down from 185/105). "I'm in awfully good shape, fit and flexible, and this is the only regular exercise I get," he told Prevention Magazine.

A diabetic hospital technician started the exercises 14 years ago after discovering her blood pressure was up to 195/90. It dropped to 140/70 in short order, she told us, and today ( at the age of 56) it's still there. "The exercises have really, really helped me, but they're the kind of things you have to keep doing every day. Last year I stopped doing them and my blood pressure started going right back up again," she says. She notes the exercises have other benefits, too: They help relax her before bed, help relieve the numbness that sometimes settles in her hands and help cure headaches. Isometrics, she believes, have "given me a new lease on life."

What is this extraordinary program? It's simple--though it's important that it be done correctly. The most important thing is to breathe normally doing isometrics. Also, observe the time limit: six to seven seconds for each exercise. In medical jargon, the program's full name is "brief maximal extensive isometric exercise," Dr. Kiveloff points, with the emphasis on brief. By counting aloud to easily keep track of your time and you can also maintain normal breathing.

### Here's how you do it:

- Stand in a relaxed position, arms hanging loose. Don't clench your fists or bend your elbows or joints.
- Tense all your muscles at the same time as tightly as possible, while breathing normally and counting aloud to six. You might try tensing each muscle group separately -- legs, arms chest, abdomen, face -- and then try tensing them all at once. When you do, you should feel an immediate surge of warmth all over your body.
- Relax and rest for a few seconds.
- Repeat the exercise twice more.
- Do this three times a day (try morning, noon and night).

And that's all there is to it. Dr. Kiveloff told us he's begun doing the exercises four or five times a day for added benefit. And, he added, though the original study was done with people exercising in a standing position, it can be done sitting or even lying down. Generally, he says, it takes six to eight weeks to produce a significant drop in blood pressure (if your pressure is elevated to begin with), with the long-term benefits growing over time.

(If you are presently under a doctor's care for high blood pressure, you should consult your doctor before discontinuing any medications or beginning an exercise program.)

### Taking Up Arms Against Age

But what does this have to do with aging? Everything in the world, Dr. Kiveloff maintains. He explains his theory this way: "The human body is like a plant. When there is not enough moisture it withers; when the blood supply to the body tissues and vital organs is impaired a loss of vitality, early aging and cardiovascular diseases follow."

So aging is a process that begins with impaired circulation, a constriction of the vessels that supply oxygen and nutrients to tissues and organs and carry off waste. A person's age, he adds, is not something that's determined by the calendar. "The main cause of early death--cardiovascular and cerebrovascular decline--can set at any age," he says.

Crucial to a healthy cardiovascular system is good peripheral circulation. In fact, blood pressure is directly related to peripheral circulation, since the greater the resistance to blood flow through those tiny, far-flung vessels, the harder the heart has to pump to push the blood through, and the higher your blood pressure. The process known as "cardiovascular adaptation"--or the way a race gets easier the longer you train for it--is largely a matter of improved peripheral circulation, Dr. Kiveloff says.

A sound cardiovascular system also requires adequate reserves of blood properly distributed through the body, he says. Normally the muscles store some 40 to 50 percent of the body's total supply. Yet aging affects blood-storing muscle fiber, replacing it with connective tissue, which can't store blood nearly as well.

Isometrics, Dr. Kiveloff maintains, attacks all these problems at once. It's been shown to dramatically and reliably improve peripheral circulation. It improves and maintains muscle tone and muscle bulk, delaying the conversion of muscle fiber to connective tissue and thus protecting the proper balance of blood reserves through the body. And it checks the steady upward creep in blood pressure that usually accompanies age, which can lead to serious and often fatal complications.

Along the way, Dr. Kiveloff says, you take up arms against again other ways: Good peripheral circulation helps prevent wrinkle, for example. Improved posture aids your overall health and fights off one of the classic signs of age: stooped shoulders. And enhanced sense of well-being so many people report goes a long way toward keeping a youthful spring in your step.

Dr. Kiveloff told Prevention Magazine his original study has never been seriously challenged by other researchers. Yet surprisingly little additional work has been done to clarify or confirm it.

One recent Danish study seems to support his work, however. Over a period of nine weeks, nine healthy men performed isometric exercises (knee extensions) while their blood pressure and heart rate were monitored. At the end of the study period, two minutes of isometrics produced a lower heart and blood pressure than it had at the beginning of the study (American Journal Cardiology, February, 1979).

Dynamic or moving exercises such as jogging also "generally have favorable effect on blood pressure," according to Howard Hartley, M.D., director of cardiac rehabilitation at Brigham and Women's Hospital, in Boston. Dr. Hartley told Prevention Magazine that in his own studies of people with hypertension, a decline in blood pressure occurred after several weeks of jogging. "Generally speaking," he told us, "the higher the resting blood pressure, the greater the response to conditioning."

Asked about the lack of follow-up studies on Dr. Kiveloff's work, Dr. Hartley said, "There's not a lot of enthusiasm among doctors about recommending isometrics to people who are prone to coronary disease, because it has the potential for being very stressful exercise."

Yet Dr. Kiveloff maintains that he's seen no side effects--such as irregular heartbeats, dizziness or discomfort--in anyone doing the exercises properly. In fact, he points out a study of 140 patients with known or suspected coronary artery disease concluded that isometric exercise alone is much less likely to produce myocardial ischemia (shortage of blood to the heart) than vigorous dynamic exercise (Chest, April 4, 1975).

In his office at the rehabilitation center at the New York Infirmary, Dr. Kiveloff leans back in his chair. Despite all the publicity, he tells a visitor, he' never made a penny for his isometrics program except the payment for one magazine article. Why does he go on teaching and talking about it, despite the lack of financial reward and some resistance from the medical community? The visitor asks. "Because it makes people happy, you know." And then he smiles.