



Physician Prescribed: Aerobic Activity to Prevent Silent Killer
The fight to reduce high blood pressure

You could have high blood pressure for years and not even know it. And if it gets out of control, you could be facing a heart attack or stroke.

High blood pressure—hypertension—has longed been termed the “Silent Killer.” Which is why proactive checkups with your physician are always a smart first step.

Your next move should be working with your doctor to develop a lifestyle management program to keep your blood pressure in check. Physical activity should be a cornerstone to that program since it can make an impact on hypertension sufferers—reducing blood pressure by 75%.

The November 2009 *American Journal of Lifestyle Medicine* published a study online (led by Kimberly A. Goodwin, MS, HFS) that demonstrates the pivotal role certain exercise types and their frequency, intensity and duration have on the fight against rising blood pressure levels.

The amount of blood your heart pumps and the amount of resistance in your arteries to that blood flow is your blood pressure. If your heart pumps more blood and your arteries become restricted, your “blood pressure” will rise.

A blood pressure measurement has two numbers, reflecting millimeters of mercury (mmHg) of pressure.

- The top number is your systolic pressure (when heart beats)—high if over 140 mmHg.
- The bottom is your diastolic pressure (within blood vessels when the heart is at rest between beats)—high if over 90 mmHg.
- Pre-hypertension—affecting 28% of Americans—can lead to hypertension and occurs if your systolic pressure runs between 120-139 mmHg and diastolic blood pressure is between 80-89 mmHg.

Estimated direct and indirect costs of high blood pressure in 2009 equate to \$73.4 billion.

Aerobic factor. Per the study, aerobic activity is preferred to lower blood pressure. What constitutes aerobic exercise? Continuous, cyclic movement that uses large muscle groups: walking, jogging, cycling, swimming, aerobic dance, etc.

In fact, a single session of aerobic activity has shown to reduce blood pressure for up to 24 hours postexercise—known as postexercise hypotension—per the published paper. A meta-analysis showed a single bout of aerobics reducing systolic blood pressure by 5 to 8 mmHg and 6 to 8 mmHG for diastolic.

The researchers reviewed literature by Hagberg et al, which reported “prolonged reductions in blood pressure occur early in a training program with some researchers finding favorable results after one week of training.” They went on to say that systolic blood pressure “continued to decrease with increased weeks of training (beyond 10 weeks)”; however, diastolic didn’t reduce any further.

- **Intensity.** Moderate intensity (40%-60% VO₂ max) can decrease blood pressure for up to 22 hours postexercise by 5 to 7 mmHg.
- **Duration.** Although as short as 3 minutes can reduce blood pressure for several hours, researchers recommend approximately 30-60 minutes of continuous, more persistent aerobic activity (≥10 minutes per bout).
- **Frequency.** Recommended: daily or most days of the week.

Marathoner - Going Strong for Healthier Aging Later

Read all about the latest milestones our very own Cicely Valenti reached.

As the Cenegenics Las Vegas Director of Nutrition & Exercise, she’s taking on the right lifestyle factors for healthier living now and later. See page 4.

More on Hypertension

- 90% of middle-aged adults will develop high blood pressure.
- 1 in 3 American adults has high blood pressure.
- One-fifth of those with high blood pressure are unaware they have it.
- High blood pressure is a major risk factor for heart disease, stroke, congestive heart failure and kidney disease.

Stats from the CDC



Hormone Optimization

Hormones continue to make the news. Case in point? An October 2009 AP article ("Bioidenticals not FDA-approved") that yet again laid the old argument against "bioidentical" hormone use.

Here's the Cenegenics philosophy:

- We perform extensive diagnostics to determine the metabolic, physiologic and endocrine (hormonal) health of patients—then educate them on the various options available, keeping the most natural and safest methods in the forefront.
- We measure, replace and monitor hormones, only prescribing when clinically indicated.
- We use **bioequivalent** (mirroring the exact chemical structure found in the body), rather than the dubious synthetic compounds manufactured to be different so they can be trademarked by pharmaceutical companies (for profit). These synthetic versions ultimately have different safety profiles than the bioequivalent hormones.
- We only use **accredited compounding pharmacies** (Pharmacy Compounded Accreditation Board) for our prescribed hormone therapies. That said, we recognize and agree with the bottom-line concern voiced in this article about the variant quality produced in "bioidentical" hormones by some non-accredited compounding pharmacies.

What about resistance training? Study investigators suggest weightlifting be added to the activity prescription, which can result in 3 mmHg reductions in resting systolic and diastolic blood pressure.

- **Intensity.** Low-to-moderate intensity (lower loads, higher repetitions). Example: 30%-40% of a 1-repetition maximum [1RM] for upper-body exercises; 50%-60% 1 RM for lower-body workouts.
- **Duration.** 1 to 3 sets of 10 to 15 repetitions for 8 to 10 exercises targeting large muscle groups (thighs, hips, back, chest, arms, abdominals).
- **Frequency.** Greater frequency equates to bigger health benefits. Two or three times per week recommended.

This aerobic-resistance training prescription, study researchers say, should lead to a 5 to 7 mmHg reduction in blood pressure in 75% of the hypertensive population—and further prevent the development of high blood pressure in the majority of individuals with normal blood pressures.

Rest of the story. Exercise isn't the only lifestyle management factor for reducing disease risk—nutrition and hormone optimization do their share as well. Studies show a plant-based, low-fat, low-salt diet focused on whole grains and lean meats can reduce blood pressure plus help weight loss (furthering the fight against high blood pressure). Also, this low-glycemic nutritional style diet keeps blood sugar and insulin levels low and boosts the immune system.

Keeping your endocrine system (hormone-secreting glands) in balance ensures your internal environment stays regulated, producing tremendous health benefits: enhanced libido; higher energy levels; better muscle tone; protection against cardiovascular disease, osteoporosis and Alzheimer's; heightened sense of well-being, among others.

And now there's another possible link to healthier aging and exercise. In 2009, the world quickly became educated on the link between short telomeres leading to premature cellular aging, thanks to the landmark research by Nobel Laureates Elizabeth H. Blackburn, Carol W. Greider and Jack W. Szostak.

The chromosome "endcaps" known as telomeres are DNA repeats that protect genes. The problem is, every time a cell divides, these telomeres shorten, leading to cellular senescence (aging) and subsequent age-related conditions. Rejuvenating the cell to stop—or possibly reverse—telomere shortening could create a solution to cellular aging and its consequences.

Cenegenics Senior Institute physician Dr. Alvin Lin recently blogged about how physical activity improved telomere length and referenced the Blackburn work:

What's the tie in? The authors studied mice first and then looked at a small group of humans . . . specifically comparing telomere lengths in both young and middle-aged athletes to untrained controls. The young athletes consisted of 25 male and 7 female members average 20.4 years old of the German National track & field team. The 25 middle-aged athletes were average 51.1 years old (19 male; 6 female) who trained for marathons and triathlons. Two groups of nonsmoking healthy volunteers who exercised (1hr/wk avg age 21.8 years old and 50.9 years old) were used as controls.

In summary, we now have more proof that (regular) physical activity improves our well-being on a cellular level.

Cenegenics means better health. It's the next generation of medicine—age management. Cenegenics takes solid science, comprehensive evaluation and established protocols to transform your middle and golden years into a time of more robust living.

Your unique program targets your weakest health links to keep you as disease free as possible. Four components set the stage for a new definition of aging: exercise, low-glycemic nutrition, nutraceuticals and hormone optimization (when testing reveals a deficiency).

Your exercise prescription is based on results from your **Gold Standard Fitness Assessment** as well as other diagnostics during the in-depth evaluation process:

- body composition
- cardiovascular endurance—using sophisticated Vo_2 technology for dynamic evaluation of oxygen consumption
- muscular strength and endurance
- flexibility
- posture, balance and core strength
- stability testing

Typically, Cenegenics recommends patients work out six days per week, which includes both cardiovascular (aerobic) exercise and resistance/strength training routines.

The cardiovascular can be for as little as 20 minutes, including high-intensity intervals. Resistance training can be done in 45 to 60 minutes, 3 days per week hitting each major muscle group at least once and working it to fatigue. Your routine is changed every three weeks to avoid boredom and adaptation.

Cenegenics—all about meeting your health goals so you can stay on top of your game a lot longer.



**Get Healthy Now.
Call Cenegenics Today: 866.953.1510.
Discussions are always confidential and without obligation.**



2009 PumpkinMan Triathlon - Cicely Valenti

Marathoner: 25 and going strong . . .

Okay, running a race at 25 isn't quite the same as doing one as a baby boomer. But there is a lot to be said about guarding those early years—being nutritionally clean and physically active—since aging is linked to how you spend those 20- and 30-something years.

No one knows that better than the Cenegenics Las Vegas Director of Nutrition & Exercise, Cicely Valenti. Every day she works closely with our patients, helping them correct lifestyle behavior for a more fit, healthier body in those 40s, 50s, 60s and beyond.

And it's not just lip service. Cicely faithfully practices the lifestyle component of Cenegenics' internationally renowned program and it shows.

She stays immersed in resistance training and yoga—plus competes regularly in local races, placing in the top females: Doing half marathon road races (running) or Olympic distance triathlons (metric-mile swim, 25-mile bike and 6.2 mile run). Southern Nevada has become a destination spot for these endurance races, attracting international competition and even pro athletes.

Her personal stats say it best:

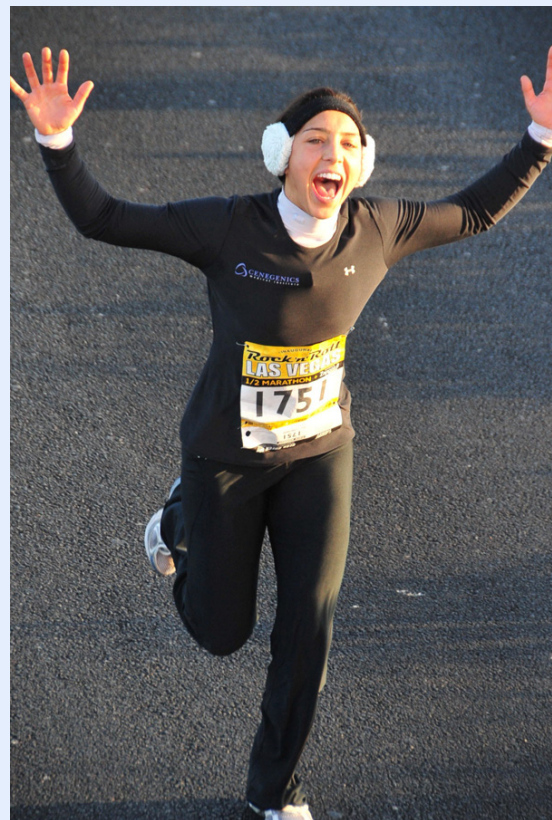
- **2009 Red Rock Loop Half Marathon:** 2nd female overall, time 1:41:47
The event took competitors to a new level, literally: 3,000-foot elevation change over the 13.24-mile loop, culminating in a combined 1,820 feet ascent. Cicely competed with 400 racers.
- **2009 RAGE Triathlon:** 1st place in division, 13th overall, time 2:49:21
The signature competition kicked off the 2009 triathlon season; there were 233 competitors in this 2009 Olympic-distance event.
- **2009 PumpkinMan Triathlon:** 10th overall (male/female), time 3:03:52
The largest triathlon event in the state, the 2009 PumpkinMan created a significant racer base with fierce competition.
- **2009 Las Vegas Half Marathon:** 60th female and 338th overall (out of an estimated 17,880 contenders); time 1:34:27
Racers came from all 50 states and 39 countries. Cicely led a strongly committed, 43-person Cenegenics team to the finish line at the 13.1-mile Las Vegas Half Marathon on December 6, 2009—a race for hope on the Las Vegas Strip, helping the Crohn's and Colitis Foundation get a step closer to finding a cure.

Reflecting on the Las Vegas Half Marathon, Cicely said, "Making the top 100 in a race that big with competitors from all over the world was pretty exciting! It was really great to lead the Cenegenics team to the finish after being their 'coach' for the last few months."

A proud salute to Cicely's healthy living example and the entire Cenegenics team who not only rose to the challenge with a stellar performance, but also helped raise \$20,000 for a worthy cause.



2009 PumpkinMan Triathlon - Cicely Valenti



2009 Las Vegas Half Marathon - Cicely Valenti