



Resistance Training: The Heavy-Hitter Against Metabolic Syndrome Risk Factors

Estimates suggest 25% of Americans have metabolic syndrome—a combination of risk factors that can lead to type 2 diabetes, cardiovascular disease, stroke and other conditions linked to artery wall plaque buildup.

“Normal” aging, declining hormone levels and/or decreased physical activity can reduce muscle mass and lead to other metabolic consequences as well as a higher prevalence of metabolic disorders. The age-related loss of muscle mass called sarcopenia is a key cause of muscle weakness leading to an increased risk for insulin resistance and type 2 diabetes.

Research reveals that resistance training can counteract the decline in skeletal muscle mass. What’s the link? Skeletal muscle is the “primary target organ for glucose and triglyceride disposal”—and maintaining that large muscle mass proves a proactive measure to offset metabolic risk factors related to cardiovascular disease.

And it’s that link that has peaked researchers’ interest on the effects of resistance training over the past ten years.

A meta-analysis called “Resistance Training in the Treatment of the Metabolic Syndrome”—published in May 2010’s *Sports Medicine*, an online journal of practical reviews on current research—reveals that resistance training has a clinically and statistically significant effect on metabolic syndrome risk factors, such as obesity, systolic blood pressure and HbA1c levels (a strong measurement of how much excess glucose is present in the blood stream over an extended period of time).

Researchers already know that resistance training is critical in the prevention of certain chronic diseases like osteoporosis. Now, with the findings of this study, researchers say resistance training should be part of a recommended management program for type 2 diabetes and metabolic disorders.

A look at the meta-analysis. Led by Barbara Strasser from the University of Hall in Austria, the research reviewed 13 randomized controlled trials, which were published from January 1990 to September 2007. Participants—425 total with 219 following resistance training workouts—reflected age groups from 46 to 67.

Per data, a mere 1% rise in HbA1c levels equates to a 21% hike in risk for any diabetes-related death, a 14% jump for myocardial infarction risk and a 37% increased risk for microvascular complications (a small vessel disease that can lead to kidney disease and retinal/eye damage).

And the study results?

- Resistance training intervention produced a clinically significant improvement in glycemic control. In fact, a decrease in Hgb A1c of 0.48% was achieved in short periods of time, such as six to eight weeks.
- Resistance training helps decrease a major risk factor for metabolic syndrome by significantly reducing body fat mass and visceral adipose tissue (abdominal) independently from dietary restriction.

The CeneGenics Factor

Target better health now. CeneGenics—the global leader in age management medicine and recognized leading authority in the field—guides you in a straightforward, established approach to confront, fight and stop your age-related disease risks.

Our highly comprehensive evaluation process exposes your weakest and strongest health links, which later form the foundation for your customized, healthy aging program.

Four synergistic components help transform your health: low-glycemic nutrition, exercise, nutraceuticals, hormone optimization (when clinically indicated).

You get solid science protocols and the five-star support of our expert medical team to better manage your aging process—from reducing body fat and having leaner muscle mass to improving libido, having sharper thinking and a stronger immune system, regaining youthful vitality and handling stress better.

CeneGenics . . . for a totally new definition of aging.

**Call CeneGenics today.
866.953.1510.**



JUNE: MEN'S HEALTH MONTH

Men's top archenemies:
Heart disease and cancer.

“ There is a silent health crisis in America . . . it's a fact that, on average, American men live sicker and die younger than American women.”

**Dr. David Gremillion,
Men's Health Network**

- Resistance training prevents loss of lean body mass—workouts twice a week increase lean body mass and help prevent age-related muscle loss. That potentially prevents age-related decline of resting metabolic rate, closely tied to lean body mass loss.
- Resistance training results in significant reductions of resting systolic blood pressure, improves lipoprotein-lipid profiles.

In other words, resistance training contributes to reducing major risk factors for metabolic syndrome.

Metabolic syndrome: are you at risk?

Per the study, the “dominant underlying risk factors for this syndrome appear to be abdominal obesity and insulin resistance”—a generalized metabolic disorder where insulin can't be used efficiently.

Also associated with metabolic syndrome are physical inactivity, aging, hormonal imbalance and genetic predisposition. Other factors—such as the obesity-induced risk factors below—are tagged as metabolic complications of obesity.

- Central obesity, elevated waist circumference.
 - Men: ≥ 40 inches (102 cm)
 - Women: ≥ 35 inches (88 cm)
- Elevated triglycerides: ≥ 150 mg/dL
- Low HDL cholesterol.
 - Men: < 40 mg/dL
 - Women: < 50 mg/dL
- Insulin resistance

AHA action list. How do you manage metabolic syndrome? The American Heart Association says your first step is to reduce the major risk factors for cardiovascular disease.

Below are their suggested lifestyle interventions:

- Lose weight to achieve a desirable weight
- Start new healthier-eating habits to lower LDL, decrease glucose levels and improve insulin action (sensitivity)
- Increase physical activity with at least 30 minutes of moderate-intensity activity on most weekdays

Power Up: Risk Factor Prevention Good for 50+ Crowd

It's a fact. Higher life expectancies also mean a rise in chronic diseases and their longtime companion, healthcare costs.

In January 2010, the *American Journal of Public Health* published findings on the benefits of risk factor prevention in Americans aged 51 and over. They stated . . .

- Current trends suggest healthcare costs will “consume an ever-increasing share of national income.”
- Medicare's future liability is estimated to be “\$24 trillion over the next 75 years” if no policy changes are made.
- As a result, policymakers are turning to prevention programs and better treatment strategies—which should stave off or slow down chronic disease stats and their subsequent costs.





Fast Forward: Aging

The average life expectancies jumped by 30 years in the last century, per a May 20, 2010 article by Kate Kelland in London.

Per Kelland, a Danish 2009 study reported that over 50% of the babies born in wealthy nations (from 2000 forward) will live to be 100.

And yet . . .

- Diabetes, heart disease and cancer are expected to see a significant rise in the years ahead.
- Dementia, Alzheimer's and incurable brain-wasting conditions are estimated to double every 20 years: 66 million in 2030; over 115 million in 2050.

Not surprisingly, focus is turning to how aging ups disease risk.

Biogerontologists—studying the biology of aging—say the goal is “not to make people live longer, but to get people to have a more healthy lifespan.”

According to Andrew Dillin of the Salk Institute in California and Howard Hughes Medical Institute, the point is helping a “60-year-old person who is predisposed to have Alzheimer's to be able to delay that, live to be 80, and get to know their grandchildren.”



The researchers “modeled the potential health benefits and medical cost savings of successfully treating cardiovascular risk factors (obesity, diabetes, hypertension, and smoking) among middle-aged and older Americans under several hypothetical scenarios.”

Study methods. Per the study, investigators . . .

- Examined whether prevention will consume more healthcare resources. If so, how much value it generates for society
- Focused their cost–benefit analysis on the potential benefits successful prevention strategies might generate
- Noted the health benefits of prevention are difficult to measure because treatment simultaneously extends life and changes the relative prevalence of fatal and nonfatal disabling diseases, thereby yielding complicated spending patterns
- Developed a dynamic microsimulation model (the Future Elderly Model [FEM]) to track cohorts over time to project their health status and economic outcomes under various prevention scenarios

What did they find? Effective prevention potentially could vastly improve the health of the America's elderly with little or no additional lifetime medical spending.

That also translates to a gain in life span. A 51- or 52-year-old person having successful treatment for . . .

- Obesity, gaining .85 years
- Hypertension, gaining 2.05 years
- Diabetes, gaining 3.17 years
- Smoking, gaining 3.44 years

To calibrate the benefits of preventing/ treating disease, researchers summed it up using this example. A 100% effective hypertension treatment would . . .

- Add 1.24 quality-adjusted life years
- Reduce lifetime medical spending by \$13,702
- Generate an economic gain of approximately \$137,964 per treated 51- or 52-year-old person
- Make the hypertension treatment worth \$117,015 per capita

Similarly, a diabetes cure would be worth \$85,120; benefits for obesity and smoking cures would equate to \$36,878 and \$33,287 respectively.

So it seems there really is something behind the old adage: *“An ounce of prevention is worth a pound of cure.”*

But then that has been the medical approach of age management leader Cenegenics from its inception.

Their proactive intervention using leading-edge protocols built on solid science turns conventional wisdom—with its doom and gloom of debilitating symptoms in later years—on its head.

Cenegenics guides patients on a course that helps them better manage their aging process so they are fitter, healthier, stronger and reinvigorated. In other words, they experience a new definition of aging and live life to the fullest in their 40s, 50s, 60s and beyond.

**Get Healthy Now. Call Cenegenics Today.
866.953.1510.**

Discussions are always confidential and without obligation.