SNEWS

Health Notes: Anti-aging exercise -- three studies show health boost, disease prevention, life extension

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You want information about health, physical activity, exercise and wellness, but you don't want all the techno-science garble that makes most reports overwhelming to read, let alone understand or pass on to customers. In SNEWS® Health Notes, an occasional series, we take a look at recent research that is pertinent to your business and explain it in a way that makes sense. If you have suggestions or comments, let us know!

Here we have summarized three recent studies that associate anti-aging benefits with exercise and activity.

>> Exercise boosts anti-aging benefits

We've been told for years that exercise will keep you young, but a recent study gives proof and reveals why: German researchers have found that DNA at the tips of chromosomes that protect our cells were longer and healthier in endurance athletes than even in healthy, non-smoking, albeit non-exercising adults.

The "telomeres" at the tips were compared to the plastic tips at the end of shoelaces that can prevent the laces from fraying, said Emmanuel Skordalakes, an assistant professor of gene expression and regulation at The Wistar Institute in Philadelphia. He explained that cells continue to divide over a life span but when the telomere gets too short, cells stop dividing -- and that starts the gaining process that includes muscle loss, less skin elasticity, and loss of vision and hearing and some mental abilities.

Athletic participants included professional runners with an average age of 20 who run more than 45 miles a week, while the control group was a healthy, non-smoking, age-matched group that exercised less than an hour a week and not regularly. A second group of athletes used had an average age of 51 and had been active in endurance exercise since their youth, still running nearly 50 miles a week.

The athletes had a slower resting heart rate -- a sign of cardiovascular fitness -- as well as lower blood pressure, lower body mass index and lower cholesterol than those in the control group. But the athletes also had longer "telomeres" than those who were of similar age but did not exercise, and the athletes showed increased activity of the enzyme

"telomerase," which maintains the telomere.

"This is direct evidence of an anti-aging effect of physical exercise," study author Ulrich Laufs, a professor of clinical and experimental medicine in the department of internal medicine at Saarland University in Homburg, said in a statement from the American Heart Association.

A related thought is that one reason cancer rates increase with age is that the white blood cells themselves age and become less efficient at fighting off disease and abnormal growths. If exercise maintains the youthfulness of the white blood cells by preventing the shortening of the telomere, it may explain why exercise can protect against developing cancer, said Annabelle Volgman, a cardiologist and director of the Heart Center for Women at Rush University Medical Center in Chicago.

The same logic applies to heart disease, where aging cells may allow the build-up of plaque.

"We know that any physical activity improves cardiovascular health and helps in preventing cancer," Volgman said in an AHA statement. "This study is showing us the molecular basis for this."

No one really knows yet how much is enough to prevent telomere shortening. Volgman said the best advice is to do some sort of exercise regularly. Previous research has shown even moderate activity can be beneficial to the telomeres, and some groups recommend a minimum of 30 minutes five to seven days a week.

So what? It's not an urban myth that exercise can help you stay young, healthy and disease-free. There are good reasons, which science is now revealing, and there is no better time than the present to do something.

For the scientifically minded: Because of their importance, the study findings were released recently in advance of publication in the American Heart Association's journal, *Circulation*. The study can be accessed by clicking here.

>> A little activity goes a long way in extending life

No matter how old you are, just a little physical activity can go a long way to give you a few more years of life as well as good function.

A recent study in the Archives of Internal Medicine found that even those in their mid- to late 80s who were active had a three-year survival rate that was three times as long as those who were not active.

Being "active" was getting at least four hours a week of physical activity. Walking at least four hours weekly counted, even if it were just in 15-minute strolls a few times daily,

researchers said.

“As little as four hours a week was as beneficial as more vigorous or prolonged activity,” said study author Dr. Jeremy Jacobs, a geriatric specialist at Hadassah Hebrew University Medical Center in Jerusalem.

The results “clearly support the continued encouragement of physical activity, even among the oldest old. Indeed, it seems that it is never too late to start,” the Israeli researchers wrote in a late 2009 journal.

They noted that exercise reaped benefits even for previously sedentary 85-year-olds; their three-year survival rate was double that of inactive 85-year-olds.

So what? More proof that exercise is not just for the young and that starting some activity when you are in your 70s or 80s can still improve your life and longevity.

For the scientifically minded: The study was published in September 2009 in the Archives of Internal Medicine. Click here to see the abstract.

>> Physical activity associated with higher fitness levels in middle age

This is not really a no-brainer, although it may sound like that. As they say, you don’t get less fit with age; you age because you are less fit.

A study in the Archives of Internal Medicine showed that men and women after age 45 became less fit. But if they were a healthy weight, didn’t smoke and were active, they continued to have higher fitness levels throughout their adult lives, i.e. declines were not as steep.

“The U.S. population is aging and is becoming more obese and sedentary,” the study’s authors wrote in the article. “It is well-documented that the cardiorespiratory fitness of men and women declines with age and that body composition and habitual physical activity are related to cardiorespiratory fitness.”

Low fitness levels increase the risk of diseases and interfere with older adults’ ability to function independently, they added.

Researchers at the University of Houston studied 3,429 women and 16,889 men age 20 to 96 who participated in the Aerobics Center Longitudinal Study (ACLS) between 1974 and 2006. During the study, participants completed between two and 33 health examinations that included counseling about diet, exercise and other lifestyle factors along with a treadmill exercise to assess fitness.

Statistical models showed that while fitness levels declined continuously over time, the decrease was not linear or steady -- cardiorespiratory fitness declined more rapidly after

age 45. The decline for men was greater than that for women.

The results also “showed that being active, keeping a normal BMI and not smoking were associated with substantially higher levels of cardiorespiratory fitness during the adult life span studied,” the authors wrote.

“These data indicate the need for physicians to recommend to their patients the necessity to maintain their weight, engage in regular aerobic exercise and abstain from smoking,” authors concluded. That’s also because lower levels of physical activity could mean more people will reach a level considered “disabled” more quickly, as judged by standards set by the Social Security Administration.

So what? Yup, again, a study shows that if you stay active, you’ll have a longer, healthier, more functional life.

For the scientifically minded: The study was in the Archives of Internal Medicine, 169(19):1781-1787, 2009. Click here to see the abstract.
--Therese Iknoian

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Cheers,

Michael Hodgson & Therese Iknoian

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