Women: Living Well Aging Well

ew Jersey-based consultant Kate Nothinger,* 50, views her life in terms of "before" and "after." Before was seven years ago, when she spent 75 percent of her time traveling for business, when her cholesterol remained high despite hours of exercise on the treadmill, and when her attitude was totally focused on work. "After" is when her life changed. She cut back on travel and targeted local businesses, took up Latin/ballroom dancing, and dramatically improved her health.

"I have toned muscles I never had before and hopefully this will prevent osteoporosis," she says. "I can eat what I want—which is healthy food since I love how it makes me feel. My cholesterol profile is amazing, and I feel better than I did 10 years ago. I have set a new course of health, and it is enjoyable as well!"

Susan Bornstein, a 55-year-old human resources professional in New York, gave up the yoga she loved during college when marriage, kids and career sucked up all her free time. But 10 years ago, when the hospital in which she works began offering an on-site yoga program, she jumped at the opportunity.

Today she takes yoga two or three times a week, plays doubles tennis weekly and eats a well-balanced diet. "I've never felt better," she said. Her role models are her 80-something parents, both of whom still enjoy an active and healthy lifestyle. "If I keep up with my current lifestyle, I will be able to enjoy retirement, too," she said.

Ms. Nothinger and Ms. Bornstein are doing what aging experts wish more women would do: Taking control of their health and life today to increase the chance that they age well tomorrow.

"It's never too early to start aging well," says Terrie Fox Wetle, PhD, a gerontologist and associate dean of medicine for public health at Brown University in Providence, RI. "Many of the health behaviors we engage in during our 20s, 30s and 40s predict what our later life will be." An added bonus: Changing your lifestyle today to age well tomorrow reaps immediate benefits. "It's not like you're investing in an IRA that you can't withdraw for 20 years," said Dr. Wetle.

The bottom line is this: The average woman in the United States can expect to live to be 80 years old. Many will live longer—the fastest growing demographic is the "oldest old," those 85 and older. How do you want to live those years? Infirm and frail, dependent on others and swallowing an array of pills? Or planning your next trip to China?

N S I D E

- Women & Vitamin D
- 6 Ages & Stages: Aging: Myths & Facts
- 8 Lifestyle Corner: Repeat After Me: It's Not How Long but How Well We Live

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WOMEN: LIVING WELL continued from page 1

Eleanor Brownn, 57, is so invested in the idea of aging well that she started a nonprofit company to help women of color reach that goal. Life-Long: Sisters Staying Healthy is a six-year-old, Los Angeles-based organization dedicated to helping African-American women maintain health, longevity and quality of life. Ms. Brownn, a gerontologist, started the organization when she hit middle age and couldn't find the answers to her questions about her changing body and emotions.

Life-Long offers support groups and monthly seminars on a variety of health and lifestyle issues facing women. They are all designed to respond to the need Ms. Brownn hears from the women she works with: "They say, 'I realize I'm getting older and I need to do something if I want to stay healthy."

The \$64 million question is, of course, just what is that "something"?

Searching for Ideal Aging

A few years back, Dilip Jeste, MD, who directs the Sam and Rose Stein Institute for Research on Aging at the University of California, San Diego, conducted a seminal study in which researchers asked 205 people aged 61 and older to rate how well they thought they were aging. To the researchers' surprise, 92 percent rated themselves as aging successfully even though most had chronic diseases and a few experienced some level of disability.²

Turns out that physical health isn't quite as important when it comes to aging well as the number of friends you have, maintaining your ability to read and listen to the radio, and being able to visit family. As long as they could function relatively normally on a day-to-day basis, had a high health-related quality of life and showed signs of resilience (more on this later),

survey participants felt they were aging well. Interestingly, income, age, level of education and marital status had nothing to do with how good they felt about their lives.

These people understood something critical about aging: It's not about adding years to your life, but about adding *life* to your *years*.

"To me, ideal aging is successful cognitive, emotional and social aging," said Dr. Jeste, "not so much physical." Health has two components, he reminds us: physical and mental. The problem is that too many people tend to talk about health only in terms of the physical. "Mental health is just as critical if not more critical," he says. That's because how you feel mentally affects every aspect of your physical life. For instance, depression increases your risk of cardiovascular disease, diabetes and pain. Plus, if you're depressed, you're less likely to leave the house and remain physically active, setting yourself up for a variety of physical problems that can negatively affect your later years.

In fact, a survey of 754 women, age 18 and older, conducted by Harris Interactive on behalf of the National Women's Health Resource Center (NWHRC) found that women define health in older age in terms of mental health more than any other component.³

That's why something like Ms. Nothinger's dancing is so important. While it has certainly improved her physical health, it has done even more on the emotional side. "It makes me feel positive, energized, enriched, empowered and sexy," she said. "Even on a very bad day, after I dance I feel that life is good and full of possibilities!"

Prescription for Health: Move Your Body

"If you want to be 80 and still be able to get out of bed, then staying

active and avoiding obesity are the most important things you can do today," says Patricia Harris, MD, a geriatrician and associate professor at Georgetown University Medical Center who also directs Washington Hospital Center's House Call program, in which she and other doctors visit elderly patients in their homes.

That's because inactivity and obesity are associated with nearly every disease and medical condition capable of tarnishing your golden years, including diabetes, heart disease, degenerative arthritis, osteoporosis, depression, Alzheimer's disease and cancer. 4,5 One study found that obese women could expect to spend nearly two more years with disabilities in old age than women who maintain a normal weight throughout their life.6 Other experts suspect the current obesity epidemic may actually decrease average life expectancies in the United States for the first time.⁷

Aging experts nearly universally believe that exercise, on the other hand, just might be the proverbial "silver bullet" when it comes to preventing the infirmity and disease that is too often the hallmark of our later years.

While you can reap the benefits of physical activity at any age, the best time to start is right now, said Dr. Wetle. "The earlier you integrate healthy behavior patterns into your life, the easier it is to continue it as you grow older."

Dr. Wetle, for instance, eschews the campus shuttle bus and walks to meetings in other buildings so she can sneak in the exercise. She does it because with a grandmother who lived to be 99, she knows she has the genes for longevity. "I want a body and brain as healthy as hers was," she says. At 93 her grandmother still attended the congregant meals program for the elderly—not to eat, but to "serve the old people," as she told her granddaughter.

Dawn Marie Fichero, now a 33-year-old public relations executive in Ardmore, PA, wants to emulate her grandfather, who died at "94 years young." Ms. Fichero lived a wild life in her twenties, "smoking, drinking and sweating with the best of them. Late night, early morning revelries quickly turned into not-so-impressive hangovers and 3 p.m. daily wake-up routines."

But at age 30 she returned home to the Philadelphia-area determined to make a change. She enrolled in a master's program; quit drinking, smoking and eating meat; took up yoga to complement a "ferocious gym habit"; and learned the benefits of a 9-to-5 job.

Since then, she says, she completed Broad Street Run (a grueling 10-mile trek through Philadelphia), purchased a hybrid mountain bike and turned into a "granola-eating, water-slugging health fanatic."

"When I close my eyes, I can still hear my great-grandfather say, 'everything in moderation.' But, I am sure he would approve of my not-so-moderate changes."

If you're planning to take up a new exercise program to reduce the health risks posed by agerelated changes down the road, check with your health care professional first. Then make sure you integrate some form of

strength training into the program. We all lose muscle mass as we age—there's no way around that. But the more muscle mass you have as you age, the less that loss will affect you overall, reducing your risk of independence-ending falls and arthritis.

Hidden Strengths

In addition to maintaining strong muscles throughout your life, however, you also need to strengthen some of the hidden components of successful aging such as social relationships. Studies find that people who are lonely have much higher rates of heart disease and depression and are twice as likely to develop Alzheimer's disease as those who are more linked in with social networks.^{8,9}

Dr. Harris sees it in her patients every day. Those who are doing best are those who interact with all age groups, not just their own. "You also need to find something you're interested in, even after retirement."

While golf is good, it's not enough. "The older people who are the healthiest are the ones who never retired," said Dr. Harris. "So they're interested in their own work, they look forward to going to work every day." Their work keeps them involved and interacting with others so they maintain that all-important socialization.

Even those who aren't working do best if they have something to look forward to, whether it's the birth of a grandchild or a trip, she said. "Something that makes them interested in life." Inactivity and obesity
are associated with
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and medical condition
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Exercise, on the other
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continued on page 4

WOMEN: LIVING WELL continued from page 3

All these components are things you can start today in preparation for tomorrow. Begin by envisioning how you want to live in the final third of your life, then develop a plan to get there.

It is also important to develop resiliency. Resilience is the ability to confront challenges-sometimes terrible challenges-and maintain some sense of equilibrium. Resiliency is why some people lose jobs and go out and start new businesses while others may sink into a depression and lose their homes.

Resiliency is important on the physical side because it prevents disease-triggering inflammation that occurs when you let stress get to you. It's important on the emotional side because it helps you remain happy and optimistic even as you age and experience age-related losses, enabling you to better cope with negative feelings such as sadness and anger. Studies find it is significantly linked to successful aging.¹⁰

One of the best ways to build resiliency? By building a strong social support network. Another is embracing spirituality. We're not necessarily talking religion here, although that is certainly a form of spirituality. Instead, we're talking about the sense that there is something larger in life than yourself and your own problems.

Studies find such perspective helps you cope with stress and manage physical disabilities without giving in to them. In one study, 400 elderly people who said their personal beliefs gave meaning to their lives were five times more likely to be classified as aging successfully than those who simply thought they had good health.11

If you attend religious services on a weekly basis, count another

plus in your quest to age well. You're more likely to have low blood pressure, high levels of "good" cholesterol, less abdominal fat and lower levels of stress hormones than people who skip the sermons. You're also less likely to feel lonely as you age and, overall, more likely to live longer. 12,13

Spirituality and religion are also inextricably linked with another component of successful aging researchers see: civic engagement, or giving back. "Human beings need a sense of purpose," says Dr. Wetle, "and contributing to your world is one way to do that." Studies find people who volunteer are healthier than those who don't; they're even thinner because they move more!14

All these components are things you can start today in preparation for tomorrow. Begin by envisioning how you want to live in the final third of your life, then develop a plan to get there. Ms. Brownn of Life-Long did just that.

"I see myself being much more active, staying in the workforce, being vital and engaged. I want to be as healthy as I can for as long as I can be, and I think that's different from my mother's generation. They wanted to be healthy but there was more of a slowing down or acceptance of slowing down that I don't see in my generation. We want to do it all and keep doing it. Whether that's realistic only time will tell, but the desire is there."×

Resources

AARP

888-687-2277 www.aarp.org

American Society on Aging 800-537-9728 www.asaging.org

American Federation for Aging Research 212-703-9977 www.InfoAging.org

American Yoga Association www.americanyogaassociation.org

National Center for Complementary and Alternative Medicine

888-644-6226 www.nccam.nih.gov

U.S. Centers for Disease Control (CDC) **Healthy Aging** 800-232-4636 www.cdc.gov/aging/ www.cdc.gov/NCCdphp/publications/ aaq/aging.htm

U.S. Department of Health and **Human Services** www.healthfinder.gov

U.S. Food and Drug Administration (USDA) **USDA Food and Nutrition Information** Center Lifecycle Nutrition 301-504-5414 http://fnic.nal.usda.gov

Life-Long: Sisters Staying Healthy 213-814-9168 www.life-long.org

National Institute on Aging 800-222-2225 www.nia.nih.gov

The National Women's Health **Information Center** 800-994-9662 www.womenshealth.gov

For health care professionals:

National Council on Aging: Center for **Healthy Aging Model Health Programs for Communities** 202-479-1200 www.healthyagingprograms.org

Women & Vitamin D

What do you think of when you think of vitamin D? Osteoporosis? Rickets? The sun? How about colon cancer? High blood pressure? Muscle aches? Multiple sclerosis?

he truth is, vitamin D, more commonly known as the "sunshine vitamin" because sunlight provides our greatest source, may be one of the most important vitamins we know of in terms of long-term health. Unlike other nutrients, it acts more like a hormone than a vitamin, directly affecting genes responsible for controlling nearly every aspect of a cell's development.¹⁵

Low levels put women at risk of numerous health problems, including osteoporosis, colon cancer, high blood pressure, multiple sclerosis, lupus, type 1 diabetes, schizophrenia, depression and infectious diseases like colds and the flu. Vitamin D helps immune system cells destroy the bacterium that causes tuberculosis, increases production of insulin and enables heart cells to contract. Low levels may even be a risk factor for preeclampsia, a potentially fatal condition that occurs in late pregnancy. 16,17 In fact, nearly every cell in the body expresses receptors for vitamin D, meaning the vitamin plays some role in the normal activities of that cell.20

If women maintained high levels of vitamin D, they could reduce their risk of breast cancer as much as 50 percent; colorectal cancer up to 253 percent; and heart disease, stroke and

peripheral artery disease more than 100 percent, says vitamin D expert Michael F. Holick, MD, PhD, of Boston University Medical Center. In one of the few studies to look at the direct benefits of vitamin D supplementation on disease, 18 people with hypertension exposed to ultraviolet B light three times a week for up to 10 minutes at a time for three months not only increased their vitamin D levels about 180 percent, but reduced their blood pressure to normal levels.18

Unfortunately, D is not an easy vitamin to get these days. We've been trained to avoid the best source (the sun) by covering our body and using sunscreen. Even if you skip the sunscreen, it's nearly impossible to get enough D from sun exposure between October and April, no matter where you live, said Dr. Holick. The only good dietary source—wild-caught (not farmed) oily fish like salmon and mackerel—is expensive and often high in mercury.

That's why an estimated 50 percent or more of the world's population have a vitamin D deficiency. In the United States, 42 percent of African-American girls and women ages 15 to 49 and about 35 percent of all women ages 20 to 69 have low blood levels of vitamin D. Over-

all, women are more than twice as likely as men to have low levels of this important vitamin.¹⁹

Ideally, Dr. Holick and other experts think children and adults should have blood levels of 30 ng/ml (nanograms per milliliter).20 To get there, he recommends that everyone supplement with 1,000 IU a day, far higher than the current recommendation of 200 IU a day for adults 19 to 50, 400 IU for those 51 to 70, and 600 IU for those 71 and older. The American Academy of Pediatrics changed its recommendation for children in October 2008 from 200 IU a day to 400 IU a day.21 New adult guidelines are expected within the next couple of years. While it is unlikely that you could take too much supplemental vitamin D, you should always tell your health care professional about any supplements you take.

Other than supplementing, Dr. Holick recommends a few minutes a week in a tanning salon, particularly during the fall and winter. You're not there to tan, however. "Expose your abdomen, back and legs; cover your face; and only remain in there half the time that's recommended for tanning," he says.*

Learn more. Visit www.HealthyWomen.org.

If women maintained high levels of vitamin D, they could reduce their risk of breast cancer as much as 50 percent, colorectal cancer up to 253 percent, and heart disease by more than 100 percent.



AGING: Myths & Facts

Think you know the facts about growing older? Think again.

Myth: Dementia is an inevitable part of aging.

FACT: "Dementia should be seen as a modifiable health condition and, if it occurs, should be followed as a medical condition, not a normal part of aging," said Patricia Harris, MD, a geriatrician and associate professor at Georgetown University Medical Center. In other words, if you or your loved one becomes forgetful, it could be related to medication, nutrition or modifiable medical issues, she said. Don't assume Alzheimer's.

Just consider that when doctors examined the brain of a 115-year-old woman who, when she died, was the world's oldest woman, they found essentially normal brain tissue, with no evidence of Alzheimer's or other dementia-causing conditions. Testing in the years before she died showed no loss in brain function.²²

Not only is dementia not inevitable with age, but you actually have some control over whether or not you develop it.

"We're only now starting to understand the linkages between health in your 40s, 50s and 60s and cognitive function later in life," said Richard Powers, MD, who chairs the medical advisory board of the Alzheimer's Foundation of America. Studies find that many of the same risk factors that contribute to heart disease—high blood pressure, high cholesterol, diabetes and obesity—may also contribute to Alzheimer's and other dementias.²³

For instance, studies on the brains of elderly people with and without dementia find significant blood vessel damage in those with hypertension. Such damage shrinks the amount of healthy brain tissue you have in reserve, reducing the amount available if a disease like Alzheimer's hits, Dr. Powers says. That's important, he says, because we're starting to understand that the more brain function you have to begin with, the more you can afford to lose before your core functions are affected.

One way to dodge the dementia bullet? Exercise your body and your brain. Physical activity plays a role in reducing the risk of diseases that cause Alzheimer's. It also builds up that brain reserve. One study found just six months of regular physical activity increased brain volume in 59 healthy but couch-potato individuals ages 60 to 79.24 Other research finds people who exercised twice a week over an average of 21 years slashed their risk of Alzheimer's in half.25

Then there's intellectual exercise. "I encourage regular intellectual stimulation," says Dr. Powers. It doesn't matter what kind, just that you break out of your comfort zone. Even writing letters twice a week instead of sending e-mail can have brain-strengthening benefits, he said. That's because such novel activities stimulate more regions of the brain, increasing blood flow and helping to not only build brain connections, but improve the health of existing tissue.

Myth: If you didn't exercise in your 20s, 30s and 40s, it's too late to start in your 50s, 60s or 70s.

FACT: It's never too late! In an oft-cited study, 50 men and women with an average age of 87 worked out with weights for 10 weeks and increased their muscle strength 113 percent. Even more important, they also increased their walking speed, a marker of overall physical health in the elderly.²⁶

Muth: Sex ends when you age.

FACT: A survey of 3,005 people ages 57 to 85 found the chance of being sexually active depended as much if not more on their health and their partner's health than on their age. Women who rated their health as "very good" or "excellent" were 79 percent more likely to be sexually active than women who rated their health as "poor" or "fair." And while fewer people ages 75 to 85 had sex than those 57 to 74, more than half (54 percent) of those who were sexually active had intercourse two or three times a month.²⁷ Just remember: Sexually transmitted diseases do not discriminate based on age. If you're not in a monogamous relationship, you or your partner should use a condom.

Learn more. Visit www.HealthyWomen.org.



Myth: Getting older is depressing so expect to be depressed.

FACT: Again, says Dr. Harris, no way! "Depression is highly treatable. If older people could just admit to it and get help, they could probably live a much more active and healthy life." That's because studies find that older people who are depressed are more likely to develop memory and learning problems, while other research links depression to an increased risk of death from numerous age-related diseases, including Parkinson's disease, stroke and pneumonia.²⁸

Myth: Women fear aging.

FACT: Not so! A survey conducted on behalf of the National Women's Health Resource Center found that women tend to have a positive outlook on aging and to be inspired by others who also have positive attitudes and who stay active as they grow older.³ Women surveyed were most likely to view aging as "an adventure and opportunity" and less likely to view it as depressing or a struggle.

Myth: The pain and disability caused by arthritis is inevitable as you get older.

FACT: While arthritis is more common as you age, thanks to

the impact of time on the cushiony cartilage that prevents joints and bone from rubbing against one another, age itself doesn't cause arthritis. There are steps you can take in your youth to prevent it, such as losing weight, wearing comfortable, supportive shoes (as opposed to three-inch spikes), and taking it easy with joint-debilitating exercise like running and basketball. One study found women who exercised at least once every two weeks for at least 20 minutes were much less likely to develop arthritis of the knee (the most common location for the disease) than women who exercised less.29

References

- U.S. Census. Population Profile and Growth. Available at: http://www.census.gov. Accessed Nov 23, 2008.
- 2 Montross LP, Depp C, Daly J, et al. Correlates of self-rated successful aging among community-dwelling older adults. Am J Geriatr Psychiatry. 2006;14(1):43-51.
- 3 Harris Interactive. Women Talk 2008 Annual Survey Report. Prepared for the National Women's Health Resource Center. Nov 11, 2008.
- 4 Booth FW, Gordon SE, Carlson CJ, Hamilton MT.
 Waging war on modern chronic diseases: primary prevention through exercise biology. J
 Appl Physiol. 2000;88(2):774-787.
- 5 Warburton DE, Nicol CW, Bredin SS. Health benefits of physical activity: the evidence. CMAJ. 2006;174(6):801-809.
- 6 Reynolds SL, McIlvane JM. The Impact of Obesity and Arthritis on Active Life Expectancy in Older Americans. Obesity. 2008.
- 7 Olshansky SJ, Passaro DJ, Hershow RC, et al. A potential decline in life expectancy in the United States in the 21st century. N Engl J Med. 2005 17;352(11):1138-1145.
- Lauder W, Mummery K, Sharkey S. Social capital, age and religiosity in people who are lonely. J Clin Nurs. 2006;15(3):334-340.
- 9 Wilson RS, Krueger KR, Arnold SE, et al. Loneliness and Risk of Alzheimer Disease. Arch Gen Psychiatry. 2007;64:234-240.
- 10 Lavretsky H., Irwin MR. Resilience and aging. Future Medicine. 2007;3(3):309–323.
- 11 de Moraes JF, de Azevedo e Souza VB. Factors associated with the successful aging of the socially-active elderly in the metropolitan

- region of Porto Alegre. Rev Bras Psiquiatr. 2005;27(4):302-308.
- 12 Menec VH. The relation between everyday activities and successful aging: a 6-year longitudinal study. J Gerontol B Psychol Sci Soc Sci. Mar 2003;58(2):574-82.
- 13 Maselko J, Kubzansky L, Kawachi I, Seeman T, Berkman L. Religious Service Attendance and Allostatic Load Among High-Functioning Elderly. Psychosom Med. 2007;69(5)464-472.
- 14 Tan El, Xue QL, Li T, Carlson MC, Fried LP. Volunteering: a physical activity intervention for older adults—The Experience Corps program in Baltimore. J Urban Health. 2006 Sep;83(5):954-69.
- 15 Dietary supplement fact sheet: Vitamin D. Office of Dietary Supplements, National Institutes of Health. Available at: http://ods.od.nih.gov/factsheets/vitamind.asp. Accessed Nov 23, 2008.
- 16 Holick MF. Diabetes and the vitamin D connection. Curr Diab Rep. 2008;8(5):393-398.
- 17 Bodnar LM, Catov JM, Simhan HN, et al. Maternal vitamin D deficiency increases the risk of preeclampsia. J Clin Endocrinol Metab. 2007;92(9):3517-3522.
- 18 Krause R, Bühring M, Hopfenmüller W, et al. Ultraviolet B and blood pressure. Lancet. 1998;352(9129):709-710.
- 19 Yetley EA. Assessing the vitamin D status of the US population. Am J Clin Nutr. 2008 Aug;88(2):5585-5645.
- 20 Holick MF, Chen TC. Vitamin D deficiency: a worldwide problem with health consequences. Am J Clin Nutr. 2008;87(4):10805-10865.
- 21 Wagner CL, Greer FR, and the Section on Breastfeeding and Committee on Nutrition. Prevention of rickets and vitamin D deficiency

- in infants, children, and adolescents. Pediatrics 2008;122:1142-1152. http://www.αap.org.
- 22 den Dunnen WF, Brouwer WH, Bijlard E, et al. No disease in the brain of a 115-year-old woman. Neurobiol Aging. 2008;29(8):1127-1132.
- 23 Fillit H, Nash DT, Rundek T, et al. Cardiovascular risk factors and dementia. The American Journal of Geriatric Pharmacotherapy. 2008;6(2):100.
- 24 Colcombe SJ, Erickson KJ, Scalf PE, et al. Aerobic exercise training increases brain volume in aging humans. J Gerontol A Biol Sci Med Sci. 2006;61(11):1166-1170.
- 25 Rovio S, Kareholt I, Helkala EL, et al. Leisuretime physical activity at midlife and the risk of dementia and Alzheimer's disease. Lancet Neurol. 2005;4(11):705-711.
- 26 Fiatarone M, O'Neill EF, Ryan ND, et al. "Exercise Training and Nutritional Supplementation for Physical Frailty in Very Elderly People,"
 New England J. Med. 1994;330 (25):1769-1775.
- 27 Lindau ST, Schumm LP, Laumann EO, et al. A study of sexuality and health among older adults in the United States. N Engl J Med. 2007;357(8):762-774.
- 28 Mykletun A, Bjerkeset O, Dewey M, et al. Anxiety, Depression, and Cause-Specific Mortality: The HUNT Study. Psychosom Med. 2007;69(4):323-331.
- 29 Hanna F, Teichtahl AJ, Bell R, et al. The crosssectional relationship between fortnightly exercise and knee cartilage properties in healthy adult women in midlife. Menopause. 2007;14(5):830-834.
- 30 Hayflick L. The future of ageing. Nature. 2000;408:267-269.

- 31 Harman D. The Free Radical Theory of Aging. Antiox & Redox Signaling. 2003;5(5):557-561.
- 32 Chung HY, Kim HJ, Kim JW, Yu BP. The inflammation hypothesis of aging: molecular modulation by calorie restriction. Ann N Y Acad Sci. 2001 Apr; 928:327–335.
- 33 Everitt AV, Hilmer SN, Brand-Miller JC, et al. Dietary approaches that delay age-related diseases. Clin Interv Aging. 2006;1(1):11-31.
- 34 Pearson KJ, Baur JA, Lau FC, Shukitt-Hale B, Joseph JA. Nutritional intervention in brain aging: reducing the effects of inflammation and oxidative stress. Subcell Biochem. 2007;42:299-318.
- 35 Devasagayam TP, Tilak JC, Boloor KK, et al. Free radicals and antioxidants in human health: current status and future prospects. J Assoc Physicians India. 2004;52:794-804.
- 36 Everitt AV, Hilmer SN, Brand-Miller JC, et al. Dietary approaches that delay age-related diseases. Clin Interv Aging. 2006;1(1):11-31.
- 37 Meydani M. Nutrition interventions in aging and age-associated disease. Ann N Y Acad Sci. 2001;928:226-235.
- 38 Miquel J. Nutrition and ageing. Public Health Nutr. 2001;4(6A):1385-1388.
- 39 Dreosti IE. Nutrition, cancer, and aging. Ann N Y Acad Sci. 1998;854:371–377.
- 40 Lewis KN, et al. Resveratrol delays age-related deterioration and mimics transcriptional aspects of dietary restriction without extending life span. Cell Metab. 2008;8(2):157-68.
- 41 Lau FC, Shukitt-Hale B, Joseph JA. Nutritional intervention in brain aging: reducing the effects of inflammation and oxidative stress. Subcell Biochem. 2007;42:299-318.

LIFESTYLE CORNER

Repeat After Me: It's Not How Long but How Well We Live

Aging is not a disease. It is simply the unstoppable passage of time and the effects of time on every cell and tissue in your body. Even if we cured every disease, we'd still only increase average lifespan about 15 years.³⁰

he question, then, isn't how long you live; it's how well you live. Along those lines, I have two words for you: oxidation and inflammation. The former is the process by which cellular byproducts called free radicals damage healthy cells, triggering changes that can lead to cancer, heart disease, diabetes, Alzheimer's disease and other chronic conditions. Free radicals have even been implicated in wrinkles! The so-called "free radical theory of aging" holds that as we age, we're more susceptible to such damage and less able to protect ourselves against it.31

The latter is the result of the immune response—the heat, swelling and redness you see when you cut yourself, for instance. Such inflammatory responses are great in the short-term for banishing disease-causing pathogens; not so great when they occur chronically.³²

The two processes are not separate; oxidative stress triggers inflammation, and inflammation leads to oxidative stress. Thus, it's not surprising that the same approach could help quell both: Diet.

Your body protects cells from oxidative stress or damage with the appropriately named "antioxidants"—compounds such as vitamins E,

C and A; enzymes such as glutathione and catalase; and polyphenols. Meanwhile, anti-inflammatory compounds in food—many of which also have strong antioxidant components—can help quell damaging inflammation.

You could address both simply by eating less. Numerous studies find that calorie restriction increases longevity and reduces age-related damage from oxidative stress and inflammation, likely because fewer calories slows metabolism, reducing cellular energy production and thus limiting production of free radicals.³³ But few of us are interested in slicing calories by 40 percent for a one-third increase in lifespan.³²

Instead, how about increasing your calorie consumption—of fruits and vegetables? They provide our greatest dietary source of antioxidants and anti-inflammatories, with hundreds of studies attesting to their ability to reduce agerelated diseases.34-39 For instance, antioxidants are behind the numerous reports you've been reading about resveratrol, a compound found in grapes and wine. Studies in mice find that large doses of this antioxidant mimic cellular changes induced by restricting calories. It improves insulin sensitivity, cardiovascular function, bone density and motor coordination. Whether as a result of the resveratrol or the reduced risk of disease, the mice also live longer.⁴⁰

No, I am not suggesting you begin quaffing huge quantities of wine. I am, instead, suggesting that you boost your intake of fruits and vegetables so you can improve your body's ability to fend off those aging free radicals and soothe inflammation. Admit it: You're lucky if you get one or two servings a day, rather than the five to nine the federal government and I-recommend. The benefits could be tremendous, with studies finding that increasing consumption of such foods can reduce the risk of developing Alzheimer's and Parkinson's disease, among other age-related conditions.41

Also, replace butter and vegetable oil—high in saturated fat, which contributes to inflammation—with the anti-inflammatory benefits of olive oil. And add a couple of servings of oily fish like salmon and tuna to your diet each week. Not only will they provide vitamin D, but they're the best dietary source of anti-inflammatory omega-3 fatty acids.

Make these small changes in your diet and I guarantee you will find bigger changes in your waistline and overall health.



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