

Successful Aging (1998)

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Aging in America-The New Longevity

Based upon the MacArthur Foundation Study - the most extensive, comprehensive study on aging in America - the way we live - not the genes we were born with - determines our health and vitality. Lifestyle choices, more than genes, determine how well we age.

Life expectancy has changed dramatically in America. It is estimated that in the 4500 years from the Bronze Age to the year 1900, life expectancy increased 27 years. In the short period from 1900 to 1990 it increased by at least that much. And of all the human beings who have ever lived to be 65 years or older, half are currently alive.

Life expectancy at birth in the United States has increased from 47 years in 1900 to approximately 76 years today. Women live about 7 years longer than men.

Increased life expectancy has involved a decline in death rates among middle-aged and older individuals. These advances are related to two key factors: one, people are taking better care of themselves, and two, science and medicines are taking better care of people. The control of chronic or fatal disorders such as hypertension and kidney disease and the management of heart disease have significantly lowered the risk of death. The old-old –those over age 75—now represent the fastest-growing segment of our population.

Not only are there more older people in our society than ever before, but they are different than they used to be. Several key distinctions between today's and yesterday's older adults include higher levels of education, greater access to health care, improved sanitary conditions, and greater financial worth. These improvements have resulted in a rapid increase in older people's ability to function.

Myth #1: "To Be Old is to Be Sick"

These are two key ways to determine people's ability to remain independent. One is to assess their ability to manage their personal care which includes basic functions, such as dressing, bathing, toileting, feeding oneself, transferring from bed to chair, and walking. The second category of activities is known as non-personal care, such as preparing meals, shopping, paying bills, using the telephone, cleaning the house, writing and reading. A person is considered disabled or dependent when he or she cannot perform some of these usual activities without assistance.

Advances in medical technology will produce not only longer life, but also less disease and disability in old age.

Many studies show that the reduction in disability among older people appears to be accelerating. The optimistic vision of aging is the fact that the older adult population is relatively healthy and independent and has implications on federal health care programs such as Medicare and Medicaid.

Disability in older people results from three key factors: 1) the impact of disease; 2) lifestyle factors, such as exercise and diet, which directly influence physical fitness and risk of disease; and 3) the biological changes that occur with advancing age. There is increasing evidence that the rate of physical aging is not, as once believed, determined by genes alone. Lifestyle factors, which can be changed, have powerful influence as well. We can, and should, take some responsibility for the way in which we grow older.

Decades of research debunk the myth that to be old in America is to be sick and frail. Older Americans are generally healthy. There is an increasing momentum toward the emergence of a physically and cognitively fit, nondisabled, active older adult population. The combination of longer life and less illness is adding life to years as well as years to life.

Myth #2: “You Can’t Teach an Old Dog New Tricks”

The less people are challenged, the less they can perform. But research shows that older people can, and do, learn new things, and they learn them well.

No more than 10 percent of all older people, aged 65 to 100 or more, are Alzheimer’s patients. Three key features predict strong mental functions in old age: 1) regular physical activity; 2) a strong social support system; and 3) belief in one’s ability to handle what life has to offer. All three can be initiated or increased, even in later life.

Myth #3: The Horse is Out of the Barn”

We’ve heard the claim that there’s “no point stopping now” or “the damage is already done”. This is an easy way out but far from the truth. Many older persons believe that after decades of risky behavior-over indulgence in alcohol and fat-laden food, lack of exercise, and so on-that there is no point changing. They are mistaken. Not only can we recover much lost function and decrease risk, but in some cases we can actually increase function beyond our prior level.

Certainly, it’s better to start healthy habits early and sustain them for a lifetime. But for those who have strayed-that is, most people!-nature is remarkably forgiving. It’s almost never too late to begin healthy habits such as quit smoking, sensible diet, exercise, and the like. And it’s never too late to benefit from those changes. Making these changes can mark the transition from the risky state we call “usual aging” to the goal we all share; “successful aging” or growing old with good health, strength, and vitality. The relevance to all this is “The old gray mare ain’t what she used to be.”

Most age-related reductions in physical performance are avoidable and many are reversible. They are often the cumulative result of lifestyle, what we do with our bodies and what we take into them, rather than the result of aging itself.

The facts are that exercise dramatically increases physical fitness, muscle size, and strength in older individuals. Besides rejuvenating muscles, resistance exercises also enhance bone strength, limiting the risk of osteoporosis and fractures of the hip, spine, and wrist. Exercise also improves balance. The MacArthur Studies now show that physical exercise is just the first of several ways to maintain one’s physical abilities. Active mental stimulation, and keeping relationships with friends and relatives, also helps promote physical ability. A healthy physical

and emotional lifestyle seems to be of even greater value to older people than younger ones. It's never too late to start.

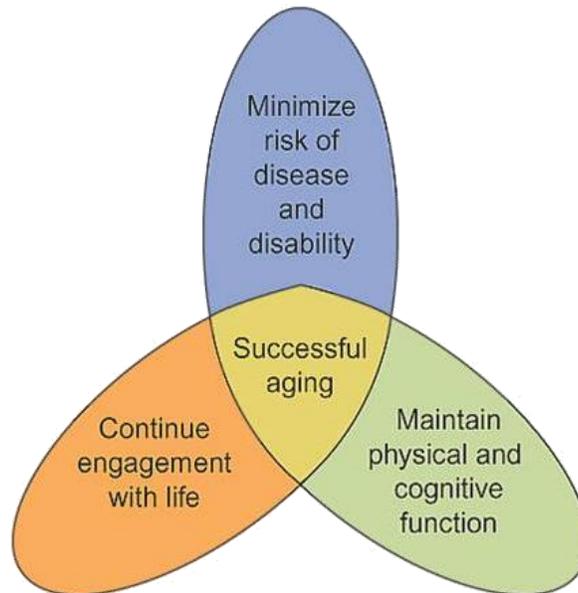
Myth #4: “The Secret to Successful Aging is to Choose Your Parents Wisely”

The role of genetics in aging is important, but it has been tremendously overstated. Not everything that runs in families is genetic. For example, apple pie recipes, passed from generation to generation, are clearly not genetically determined. ☺ Regardless of our genes, we as individuals, can play an important role in how successfully we age. We now know that diets, exercise, and even medications may delay, or eliminate, the emergence of certain diseases. Only about 30 percent of physical aging can be blamed on the genes, and 70 percent on lifestyle choices.

The likelihood of being overweight, having hypertension, high cholesterol and triglyceride levels, and the rate at which one's lung function declines as we age, are largely not inherited. These risks are due to environmental or lifestyle factors. How we live and where we live have the most profound impact of age-related changes in the functions of many organs. We are, in large part, responsible for our own old age. We have the powerful capacity to enhance our chance of maintaining high mental and physical ability as we grow older.

The Structure of Successful Aging

Successful aging is dependent upon individual choices and behaviors. It can be attained through individual choice and effort. Successful aging is the ability to maintain three key characteristics:



Avoiding Disease and Disability

Modest increases in systolic blood pressure, abdominal fat, and blood sugar, and decreases in lung, kidney, and immune function along with typical losses of bone density and muscle mass, constitute the syndrome of “usual aging”. The good news is that they are caused by how we live and what we eat and can be modified. A preventive orientation would involve periodic monitoring and action, initially through diet and exercise.

Maintaining Mental and Physical Function

Older people, like younger ones, want to be independent. The ability to be independent depends on maintain physical and mental functions, enough to carry on. Research has three reassuring messages on the subject of maintaining functions in old age; first, many of the fears about functional loss are exaggerated; second, much functional loss can be prevented; and third, many functional losses can be regained.

The notion that abilities, once lost in old age, are lost forever is another dismal assumption proven wrong by MacArthur research. Older men and women, even those in nursing homes, show substantial gains in muscle strength and aerobic capacity when they follow programs of progressive training.

Continuing Engagement with Life

Continued engagement with life is the third important component of successful aging. Maintaining close relationships with others, and remaining involved in activities that are meaningful and purposeful, are important for well-being throughout the life course.

Being part of a social network of friends and family is one of the most dependable predictors of longevity. Men and women, perhaps especially men, who do not have close friends or family, are more likely to become ill and less likely to live long lives.

Engagement with life takes two main forms: maintaining relationships with other people, and performing activities that are, in the broadest sense, productive.

Usual Aging

Modest increases in blood pressure, blood sugar, and body weight, and low bone density, are common among “normal” older adults. These risk factors are age-related in industrial societies, they are not age-determined-nor are they harmless. They promote the risk of disease. And they all can be modified. We must stop underestimating the power of lifestyle factors such as diet, exercise, and smoking cessation in reducing risk and improving quality of life.

“Usual aging” describes the older adults who are functioning well, yet are at substantial risk for disease or disability. This is a large percentage of all older people.

A recent study of a low-calorie diet caused significant reductions in weight, blood sugar, insulin levels, blood pressure, and blood levels of cholesterol and triglycerides. The “good cholesterol”, or HDL, increased. In sum, the diet improved or reversed every single risk factor. We are responsible for our own health status in old age.

Exercise can benefit the older population tremendously. It helps prevent heart disease, high blood pressure, and the tendency toward diabetes.

Osteoporosis

In both men and women, bone strength gradually declines after the third decade of life. In women not taking estrogen replacement therapy, this age-related thinning of bones markedly accelerates after menopause. Osteoporosis refers to bone loss so severe as to place an individual at significant risk for bone fracture. Osteoporosis by itself does not cause fractures. Fractures have many causes, including such factors as loss of muscle mass and strength and disorders of balance and mobility which boost the incidence of falls. This is a critical issue in the

health of older people, as falls are the major cause of fracture. The most common fractures in older individuals are in the hip, spine, wrist, and ankle.

Men deficient in the hormone testosterone are at risk for significant bone loss at any age. Individuals whose diets are deficient in calcium, or suffer from intestinal diseases which limit calcium absorption from the diet, are also at higher-than-average risk for developing osteoporosis. The risk of osteoporosis can be reduced significantly by regular physical exercise. Also, vitamin D helps strengthen bones.

The risk of osteoporosis can be reduced significantly by regular physical exercise. Beyond exercise and smoking cessation, the intervention most effective in preventing osteoporosis among women is hormone replacement therapy.

Relationship of Physical Activity to Health

There is a simple, basic fact about exercise and your health: fitness cuts your risk of dying. The more frequent the exercise, the greater the benefit, but you don't have to overdo it. Moderate exercise such as bowling, golf, light sports, gardening, walking and the like proved to be nearly as protective as vigorous exercise. Benefits of exercise also negate the adverse effects of other risk factors, such as smoking, high blood pressure, and high blood sugar.

Physical fitness is perhaps the single most important thing an older person can do to remain healthy. Physical activity is at the crux of successful aging, regardless of other factors.

Fitness boosts strength; it cuts the risk of death; it improves mood and reduces the impact of other risks. To reap the benefits of physical fitness, you don't need to get in shape-you must stay in shape. Physical activity must be maintained for a lifetime.

You can walk briskly for half an hour every day or you can walk for just ten minutes three times a day. The goal is to exercise on a regular basis at least several days a week. What you do and when you do it is up to you.

Physical fitness enables older people to function better in everyday life, as well as to live longer and better even in the face of other health problems or bad habits.

How to Slow the Changes of Age

The fragility of old age is largely reversible. Most older people, even the very old and weak, have the capacity to remarkably increase their muscle strength, balance, walking ability, and overall aerobic power. The key is to exercise regularly. The amount you do, plus the intensity and duration of the activity, are what make all the difference.

What kinds of activities make a meaningful difference? Both aerobic exercise and resistance training (strength training) offer important benefits to older people.

Aerobics

Aerobic activities such as calisthenics, rapid walking, jogging, dancing, hiking, and the like increase flexibility and overall endurance but not strength. Research studies have shown that older people can increase their general physical fitness, (heart and lung fitness) with regular aerobic exercise. After less than a year of regular exercise (e.g., walking several days a week for

forty-five minute sessions), older people increase their overall fitness dramatically-in many cases doubling their endurance.

Resistance Training

Resistance training can make a tremendous difference in older people's strength and overall ability to function. Resistance training increases the size and strength of muscles without improving endurance. Just as with aerobic exercise, the critical factor is not your age or initial strength, but the frequency, intensity, and duration of your training. Resistance training, in addition to boosting strength and burning calories, can help reduce depression in older people.

Pumping Iron in the Nursing Home

Studies have shown that the oldest, weakest nursing home residents could become stronger, more fit, and better at everyday tasks. Their balance improved, they learned to walk more quickly and steadily, climb stairs, and so on. These gains in turn decreased their risk of falling and sustaining fractures and other injuries.

Despite powerful scientific evidence, resistance exercise is largely neglected in the older adult population. How sad when you consider that these exercise make a tremendous difference in daily life and that injuries and other health problems are quite rare in properly supervised programs. Hopefully, this will change.

One recent study in women aged fifty to seventy found that bone density increased in both the hip and spine with twice-weekly strength training over the course of a year.

Nutrition in Old Age

An important aspect of overall nutrition is water balance. Older people are at a relatively high risk of dehydration, because older people have a lesser capacity to conserve water through the kidneys. Older people should consume about one and a half to two quarts of fluid per day.

Older people may need more protein than younger people. Chronic protein insufficiency may reduce the ability to fight disease and heal wounds, and may cut one's overall muscle strength.