

**Secondary Conditions
Preventions & Treatment:
A Series--No. 6**

SCI & Aging

**The Research
and Training
Center on
Independent
Living**



University of Kansas/4089 Dole
Life Span Institute
Lawrence, KS 66045-2930

**Funded by a grant from the Education and Training Foundation
under the Aegis of the Paralyzed Veterans of America**

Research and Training Center on Independent Living, University of Kansas. (1994). SCI and aging. Lawrence, KS: Author.

Abstract: For people with spinal cord injuries (SCI), the good news is that more of them also are growing older. Today about 40 percent of all SCI survivors are over the age of 45. The challenge is that just like every older person, a person with SCI must face the problems of old age: heart and lung problems, pain, fatigue, physical weakness, discouragement, the loss of family and friends, and depression.

Not everyone with SCI ages in the same way or has the same experiences. A person's family health history, their lifestyle, and how well they deal with stress will affect their health in old age. The strength or weakness of their relationships with spouses, children, parents and friends also will affect their later years. How much physical and emotional trauma they experienced when their spinal cord was injured also plays an important part. Another factor for how someone ages will depend somewhat on when they were injured and their age at the onset of SCI

Gerontologists and other health-care professionals have noticed that people with SCI age more quickly than the general population. Mental and emotional stress, overuse of some parts of the body and underuse of others may speed up the aging process. The aging process is natural and normal, but for people with SCI even routine aging may bring with it some special concerns. Although life expectancies have increased for people with SCI, deaths from pneumonia, stroke, and infections remain high.

Knowing what to expect from aging and being ready to make beneficial changes will help keep people with SCI healthy. Life has always been about change. How people face life's changes and what they create for themselves during and after these changes will determine how well they will age.

The Secondary Conditions Prevention & Treatment series of booklets were written and produced three times yearly by the Research & Training Center on Independent Living, Dole Center for Human Development, 1000 Sunnyside Avenue Room 4089, University of Kansas, Lawrence, KS 66045-7555, Voice: (785) 864-4095, TTY: (785) 864-0706, Fax: (785) 864-5063, email: RTCIL@ku.edu.

Supported by a grant from the Education and Training Foundation under the aegis of the Paralyzed Veterans of America.

Staff director: Glen W. White

Researchers: Julie Steward, Richard Guitierrez, Scott Gardner

Editor: Judith Galas

Graphic designer: Julie Steward, Jay Trembly

Consumer focus group: John H. Brown III, Bob Mikesic, Mac Hermreck, Jeri Johnson, Sandy Etherton, Kevin Robinson

Editorial consultants: Barbara Hall-Key, Frederick Maynard, Cheryl Vines, Charles Tubre, John Schatzlein

Guest consultant: June Isaacson Kailes, Gale Whiteneck

Notice: This information is intended as a guide only and should not be used in place of consultation with your doctor and Independent Living Center. Contact your ILC for more information on this topic. © 1994 RTC/IL

Aging and SCI: A State of Body and Mind

Aging is not a unique experience. Of the more than 5.4 billion people alive in the world¹, every one either is old already or is growing older by the day. In fact, today more people are living long enough to get old. In America, about 30 million people are over 65 years of age.² The average life expectancy is now about 78 years, compared with 47 years in 1900.³

For people with spinal cord injuries (SCI), the good news is that more of them also are growing older. Today about 40 percent of all SCI survivors are over the age of 45.⁴ The challenge is that just like every older person, a person with SCI must face the problems of old age: heart and lung problems, pain, fatigue, physical weakness, discouragement, the loss of family and friends, and depression.

Some have described the aging process as a winding down. For others aging can also mean a gradual decline in physical health and abilities. For people with SCI, this physical decline began when they were injured and beyond. To remain as independent as possible, they had to use their bodies in new ways. Often their physical adaptations for getting around or for performing their tasks of daily living stressed and tired the body in new ways.

Researchers have noticed that people with SCI and other disabilities tend to wear out, or age, faster than those who have not had to make physical adjustments. As more people with SCI become senior citizens, the rehab motto of "use it or lose it" may need to be replaced by "conserve it to preserve it."

Most people expect to make some physical adjustments as their bodies age. But not everyone understands that aging also involves the mind and the spirit as well as the body. Most don't know that the majority of people who are growing older including those who have been disabled have positive feelings about aging.

They experience their senior years as a time of confidence, wisdom, and joy. They take pleasure in knowing they have succeeded in meeting life's challenges. Often they have met those challenges with humor, calm, and a sense of personal worth, and have found that the path to aging wasn't an end but a beginning to another stage of life

An Overview

Data on the U.S. population suggests that about 183,000 to 203,000 people living in America have a spinal cord injury, and between 7,600 and 10,000 new people become injured each year.⁵

SCI still is seen as an injury that heavily affects the young. Almost 60 percent of SCIs occur among people who are between the ages of 16 and 30. Most of these injuries in younger adults involve vehicle accidents, followed by acts of violence, such as gunshot wounds. Falls and sporting activities are the next most common reasons for a spinal cord injury.

Today, the average age of a person with SCI is 30.7 years, up from 28.5 years for those injured before 1978.⁷ But even this 30.7 average doesn't bring home the fact that ever more people with SCI are passing their 40-year mark. A 1991 study by the Paralyzed Veterans of America shows that 25 percent of all persons with SCI are more than 20 years post injury.⁸ The SCI population is aging because the survival rates for those with SCI have improved dramatically over the past 50 years. Life expectancy is still somewhat below the U.S. average of 78 years.⁹

The SCI Population Is Aging

Not only is the SCI population is growing older, but also more people are sustaining a spinal cord injury in their senior years. Older Americans may face SCI after a fall that results in paraplegia or quadraplegia, also known as tetraplegia. In fact, falls now are increasing as one of the major causes of SCI because of the higher number of older Americans who are injured in this way.¹⁰

This trend toward a mix of a youthful as well as an aging population with SCI has prompted researchers to study these different age groups more closely. A study¹¹ of the health care needs of the older SCI population shows that both younger and older persons with SCI appear to be doing well. The study also shows that once a person with SCI passes the age of 60, he or she probably will experience some health and lifestyle changes.

Those over 60 are less independent in performing their tasks of daily living. They are more likely to be hospitalized and to live in a nursing home. These declines in personal independence for those who are 30 to 40 years post-injury point to increased costs for care attendants, household help, assistive devices and equipment, and institutional care, such as nursing homes.

In the past, people with SCI often were discharged from the hospital to an institution such as a nursing home. Today, about 90 percent of persons discharged from the hospital go to a private residence.¹² Most often they are returning to their own homes. Older people with SCI, however, still are going to nursing homes or care facilities. The parents who so ably cared for them at home have now become frail or have died. The care-taker spouses who assisted with care also have aged and can no longer provide daily care. People who become injured later in life often have been living alone or with an older spouse. Often they are unable to return to their own homes after they become injured.

People With SCI Age Differently

Not everyone with SCI ages in the same way or has the same experiences. A person's family health history, their lifestyle, and how well they deal with stress will affect their health in old age. The strength or weakness of their relationships with spouses, children, parents and friends also will affect their later years. How much physical and emotional trauma they experienced when their spinal cord was injured also plays an important part.

Another factor for how someone ages will depend somewhat on when they were injured and their age at the onset of SCI. Health care and rehabilitation programs have changed dramatically over the years. People who sustained a spinal cord injury in the 1940s were expected to be sedentary. They were sent home to survive and to be cared for by loved ones. The wear and tear on their muscles and joints was minimal, and they entered old age with bodies that have been less overused or misused.

In the 1970s, however, people with SCI were pushed to do as much as they possibly could. The idea of super-paras or super-quads was born. These people put a great deal of strain on their bodies. They were expected to overachieve, and their bodies have aged a little faster than the bodies of the general population and of those whose onset of SCI occurred in the '40s and '50s.

People who were young at the time they were injured also will experience aging differently than those who became injured when they were older. Most likely those who are 20 to 40 years post injury are living in homes that have been adapted to their needs. They have a variety of devices, equipment, and family and friends to assist them. Depending on their

rehabilitation program, they have strengthened their bodies so they can care for themselves as much as possible.

For those whose onset of SCI comes late in life, the challenges are more difficult. The problems associated with SCI will be compounded by the natural process of aging, and the person will need more help. It is less likely these older people will rehabilitate to the point where they can perform most of their tasks of daily living. Older friends and family may be physically less able to assist them. Many of those with late onset SCI may move to a nursing home if their home environment and support services do not allow independent or supportive living.

The growing body of research on aging and SCI has brought a greater understanding of aging and a better awareness of important health care issues. But medical and social interest in how the aging process affects people with SCI and other disabilities is still fairly recent. Before the 1940s, most people with severe disabling injuries didn't live long enough to experience old age. But with improved health care for people with disabilities and greater access to good care, more and more people not only survive their injuries, but also live for decades after.

Post-Polio Pioneers

People who had survived polio in the 1950s were among the first to experience both having a disability and growing old.

Most of these pioneers started to grow old about a decade ago. Many were surprised to find that aging brought them new levels of disability. It also brought increased pain, fatigue and overall weakness.

Doctors called the condition post-polio syndrome, but they were puzzled by its appearance. The physical deterioration and weakness were unexpected, and few health-care workers knew anything about its causes. They wondered if the "use it or lose it" rehabilitation programs might have put too much stress on post-polio bodies.

One thing, however, was obvious: Post-polio people were aging more rapidly than the general population, and their physical declines were life altering. People who had been crutch-walking were now in wheelchairs. Those in manual wheelchairs switched to motorized chairs. Those who had driven cars were now driving modified vans.

SCI and Aging Attracts Attention

The interest in post-polio syndrome caused some researchers to also look at aging in people with SCI. How are people with SCI aging? Will their injuries cause them to age more quickly? Are there things younger people with SCI can be doing that will help them maintain their bodies? Are there things health-care workers should be doing to give better care to those aging with SCI?

Many people from a variety of health-related professions are interested in the effects of aging on those with disabilities. They have been meeting at conferences, workshops and research sessions nationwide. They are sharing information about the aging process, asking more questions, and looking for answers.

Health care workers such as doctors, nurses, and physical and occupational therapists are interested in the physical changes that happen as people with SCI age. Mental health providers such as psychiatrists, psychologists, counselors, and social workers want to know more about how these physical changes affect people's mental health. Directors of independent living centers, group homes, and nursing homes also want to know more about the physical and social needs of aging people with SCI. The information is far from complete. More research into aging

with SCI is needed. Each new study, however, adds a little more to the information about aging and SCI.

Researchers and health-care providers already have some basic knowledge: People aging with SCI need to be concerned about the same things all aging people need to be concerned about. They must watch their weight, exercise, avoid stress and enjoy life.

Many studies also have shown that people aging with SCI generally report an increasing satisfaction with life. Their years have brought them a feeling of confidence, wisdom, and satisfaction in spite of the new physical challenges they might be facing. These early reports suggest that for people with SCI, aging may not be easy, but it will still be good. Like anyone who is aging, people with SCI will have to pay attention to their bodies as well as their minds and spirits.

The Body

Every part of the body is affected by aging. People age at different rates and in different ways, but everyone feels and sees changes in the body as he or she ages. Gerontologists and other health-care professionals have noticed that people with SCI age more quickly than the general population. Mental and emotional stress, overuse of some parts of the body and underuse of others may speed up the aging process.

The aging process is natural and normal, but for people with SCI even routine aging may bring with it some special concerns. Although life expectancies have increased for people with SCI, deaths from pneumonia, stroke, and infections remain high.¹³

The following section on the body discusses not only how the various parts of the body age, but also how this aging can affect people with SCI. It also mentions things people with SCI may do to slow down or work with the aging process and offers special care tips.

Skin

Signs of aging

Today's advertising suggests that aging skin is one of life's great tragedies: Wrinkles, the ads say, must be drowned or erased with expensive oils and creams. The truth is that old skin is not a tragedy. Aging skin also is not a health problem, but it can be a health concern. As skin ages it becomes dryer and thinner. It loosens and sags in places where once it was smooth and taut. Dry, thin and loose skin protects less, blisters and injures more easily, and heals more slowly.

SCI concerns

All older people should take care of their skin, but people with SCI must take good care of theirs. Older skin has less moisture and elasticity, so it is prone to pressure sores, blisters, and tears. People with SCI already stress many areas of their skin. Those who sit for long periods in wheelchairs stress the skin on the back and buttocks. Those who push wheelchairs or who use crutches stress the palms of their hands. Skin also may become rubbed or injured during transfers. In older people, these areas will become even more sensitive to tears, blisters and pressure sores. People with SCI also are likely to experience some incontinence, and skin that is wet for any length of time is more likely to develop skin breakdown.

Tips

- Eat a well-balanced diet that includes lots of carbohydrates and plenty of vitamins A and C and zinc. Bread, potatoes, pasta, and beans are good sources of carbohydrates. Dark-green or deep-yellow vegetables and fruits are good sources of Vitamin A, and fruits like tomatoes, oranges, cantaloupes and pink grapefruit are good sources of vitamins A and C. Zinc can be found in nuts, green leafy vegetables and shellfish.
- Drink plenty of water.
- If you're overweight, slowly lose weight.
- Check bath and shower water to avoid burns.
- If you smoke, stop or cut back.
- Use a sun screen when you're out in the sun.
- Use the best cushions and bed mattress you can find and afford.
- Use wheelchair gloves.
- Moisturize your skin.
- Use non-drying soaps.
- Check daily for skin damage; a mirror with a flexible handle may be helpful.
- Treat any sores immediately.
- Keep the skin as dry as possible.
- Limit the time you sit or lie down without relieving pressure.
- Do weight shifts or pushups to relieve pressure.

Muscles and Bones

Signs of aging

The natural process of aging causes the body to stiffen, particularly in the muscles and joints. With age, the tough cartilage tissue that protects and cushions the bones thins and becomes less supple. Tendons and ligaments also stiffen and weaken with age. They tear or bruise more easily and take longer to heal. As people age, their muscles become smaller and tire more easily, and painful arthritis can set into the joints.

Osteoporosis, a disease that makes bones weak, brittle, and at some risk for fractures, also is more common in older people. The bones weaken as they lose important minerals, like calcium.

These changes in the bones, muscles and joints can reduce a person's range of motion, can make a person feel stiff and move with greater difficulty. These changes also may lead to fractures and dislocations.

SCI concerns

People with SCI already face many challenges from their bones, joints, and muscles. So, the natural process of aging will make these bones and muscles even more prone to fatigue, pain and injury. People who use wheelchairs or crutches rely heavily on their shoulder, elbow and wrist joints. Overuse of these joints may cause dislocations; tears in the ligaments, muscles and tendons; or carpal tunnel syndrome, a compression of the nerves in the wrist. As people with SCI age, they have to be careful not to overuse their joints and muscles. They may have to take more time to perform their tasks of daily living and to rest more during and after each task.

The joints of people with SCI may already be painful from a condition called heterotopic ossification, or calcium deposits in the tissues around the joints, or from contractures, which are caused by a shortening in the muscle. This shortening causes the joints to tighten and pull in. The arthritis that comes naturally with aging, may add to their discomfort.

Most senior citizens have some osteoporosis, a loss of bone mass. Within six months of sustaining a spinal cord injury, many people with SCI develop osteoporosis regardless of their age. Osteoporosis in people with paraplegia results from an absence of weight-bearing stress on the bone and a lack of muscle pull on the bone that comes with movement.

Without the natural stress from this weight and muscle pull, the calcium leaves the bone. The dissolved calcium also may irritate the kidneys and bladder and can cause infections in the urinary tract. The amount of bone loss can be high,¹⁴ and the bone that is lost most often cannot be regained. Anyone with osteoporosis is at high risk for broken bones.

Tips

- Eat a healthful diet that includes some calcium to help keep bones as strong as possible. Dairy products and dark green vegetables are good sources of calcium. Too much calcium, however, may cause kidney stones.
- Do light exercises and stretches daily to keep the joints supple.
- Include some weight-bearing exercises such as working with a standing bar or standing frame or weight lifting in your exercise routine.
- Schedule rest breaks and be careful not to overdo.
- Use a sliding board if transfers become painful.
- Be cautious during transfers to avoid falls that might cause fractures.
- Consider modifying your transfer techniques.
- Moderate your sports activities, such as wheelchair races, which heavily stress the joints.
- Explore new equipment options and try new assistive devices, such as a powered wheelchair, a modified van, a shower bench or chair, reachers and grab bars.
- Look for new ways to accomplish your tasks.
- Conserve your energy and your joints by using assistive devices or by requesting the help from others.

Heart

Signs of aging

Heart disease is the No. 1 cause of death among those older than 65.¹⁵ Some heart troubles are genetic or common in families. Others are caused by such things as smoking, stress, high-blood pressure, overweight, and lack of exercise, which can all be changed or controlled.

SCI concerns

Development of a heart condition is the leading cause of death in people with SCI. Many people who have been injured lead inactive lives, and this inactivity can affect the heart. People with SCI also are at risk for irregular heartbeats or blockage in the arteries. Reduced blood flow or above or below normal blood pressure also are common. Low blood pressure and an irregular heartbeat are more common in those with a T5 or higher injury.¹⁶

Tips

- Stay slim.
- Stop smoking.
- Watch your fat intake.
- Exercise at least three times a week for 20-30 minutes, if possible. An aerobic exercise like swimming will condition the heart without stressing the joints.

- Reduce the stress in your life.
- A relaxing hobby, such as listening to music, reading, painting, or coin or stamp collecting may help to reduce stress.
- Physical activities like weightlifting, swimming, wheeling for exercise, or moving to music also can help reduce stress.
- If stress can't be reduced, find ways to minimize its effects: relaxation exercises, deep breathing, yoga, or therapeutic massage.

Lungs

Signs of aging

With age, the lungs become less elastic. The muscles that help the chest cavity to fill with air become stiffer and weaker. So, an older person has a harder time getting a full breath. With reduced breathing, a person is less likely to fight off colds and other chest infections. Less oxygen in the bloodstream also saps a person's energy and makes it more difficult to get through a normal day. When people don't get enough oxygen they can become dizzy, mentally confused, and disoriented.

SCI concerns

Some form of respiratory problem is common in a wide range of people with SCI. Those with high-level spinal cord injuries have reduced lung capacity, and as they age they need even more help with coughing and with draining fluids from their lungs. Lungs that aren't fully drained of fluids and mucous are more prone to infections. People with tetraplegia who are on a ventilator also are prone to infection at the air-tube insertion site.

Many people with SCI have difficulty coughing and clearing their lungs, and some have muscle spasms in their chest walls that keep them from taking a full breath. Those that are overweight also may be unable to breathe properly. In some cases cysts that develop on the spinal cord may impair lung function.

An infection anywhere in the body can lead to respiratory failure.

Tips

- Don't smoke and stay away from second-hand smoke.
- Keep a normal weight.
- Include exercises that encourage deep breathing.
- Avoid polluted air.
- Get a yearly flu shot.
- Quickly treat any infections.
- Talk to your health-care provider about ways to treat spasticity.
- Urinary system

Bladder

Signs of aging

The bladder shrinks with age, so an older person may have to urinate more often. The bladder muscles also weaken, so it's harder for older people to hold their urine or, in the reverse, to completely empty their bladders. Bladders that never empty completely are more prone to infection. Weaker bladder sphincter muscles also can lead to urine leakage or incontinence.

SCI concerns

Urinary tract infections and kidney failure used to be a major cause of death in people with spinal cord injuries.¹⁷

Better health care, antibiotics, and more information about how to manage bladder control has reduced death from urinary problems during the first 15 years after injury to just 2.7 percent.¹⁸

Recurring bladder infections also may lead to renal failure and a need for dialysis. For unexplained reasons, people with SCI also have a higher incidence of bladder cancer than the general population. They also experience more bladder and kidney stones.

As the bladder ages, urine leakage may become more common. Older people with SCI must be cautious of leaking and wetness because moisture can easily lead to skin breakdown and infections. People also tend to drink less water as they age, and fewer fluids will cause the urine to become concentrated. Concentrated urine can lead to bladder infections and to a strong urine odor should the clothing or cushions become wet.

Tips

- Have your bladder and renal function checked once a year.
- Drink enough fluids.
- Avoid a high intake of dairy products, which can lead to bladder or kidney stones.
- Be vigorous in your treatment of bladder infections.
- Insist your health care provider take urinary tract infections seriously, and be persistent about getting treatment.
- Ask your doctor about the effect medications may have on your bladder and kidneys.
- Have a bladder biopsy if you've had an indwelling catheter, either a suprapubic tube or a Foley catheter, for at least 10 years. Repeat the procedure about every two years.
- Keep your skin dry and clean.

Gastrointestinal system

Signs of aging

Many older people suffer from constipation, which can lead to hemorrhoids or even a bowel obstruction. Their stomach produces less acid, so their digestion slows. They are prone to stones in their gall bladders, and weaker anal muscles may lead to incontinence. The risk of colon cancer also increases with age.

SCI concerns

When it comes to the gastrointestinal or GI tract, aging adds to the GI problems people with SCI already have. About one-quarter of the people with SCI already complain about lower bowel problems, and one-fifth have serious problems with evacuating their bowels.¹⁹ Problems with the GI tract can be serious and are a common cause of death among people with SCI.

The most common GI problems in people with SCI are stool impaction, distention or swelling of the colon, abdominal bloating and prolonged or incomplete emptying of the bowel. Gallstones and hemorrhoids also are common in people with SCI.

The most common sign of hemorrhoids, or a swelling of the veins in the anus, is bleeding during a bowel program. Long periods of sitting and stimulation of the anus during a bowel program are major causes of hemorrhoids in people with SCI. Anointments can help mild cases, but banding is used to stop frequent bleeding.

Most people with SCI have regular bowel programs they follow that help them empty their bowels and keep their stools soft and moving through their intestines. These bowel programs can include high-fiber diets, finger stimulation of the rectum, stool softeners, suppositories, and laxatives. Enemas also help, but routine enemas can harm the lining of the bowel.

Tips

- Eat a high-fiber diet. Whole grains, nuts and seeds, fruits and vegetables, and beans are rich sources of fiber.
- Drink enough fluids.
- Use laxatives cautiously, but as needed.
- Get routine checkups that include an exam of the anus and rectum and a test for colon cancer.
- Use enemas sparingly.
- Use a regular bowel program to empty your bowels at least every other day.
- Talk to your physician if you're having bowel problems.
- Don't self-medicate.

Nervous system

Signs of aging

People's reflexes slow as they get older and become less coordinated. Reduced coordination may be one of the reasons why older people fall so frequently. The nervous system also controls a person's internal thermometer, and many people feel unusually cold or hot even when the room temperature is at normal levels.

Damage to the nervous system also may affect the body's immune system, which protects the body from infections of the skin, lungs, and urinary tract. Stress and depression may also affect the immune system and make the body less able to resist infection.

SCI concerns

Pain, which is transmitted by the nervous system, is common in most people with SCI.²⁰ Older people with SCI also tire more easily, have increased loss of sensation, experience greater spasticity, and lose some of their motor control. People who sustained a brain injury at the time of their spinal injury also may experience dementia, a deterioration in their mental abilities, as they age. Spinal cord cysts near the original injury site also are common. They may cause pain and decrease function.

Tips

- Try to keep yourself in a generally healthy condition.
- See your health-care provider whenever you experience pain.
- Massage, meditation and relaxation techniques may offer some pain relief.
- Talk to your doctor about whether narcotic drugs could help manage intense pain.
- Use adaptive devices that will help offset a loss of fine motor control in the hands and fingers.
- Avoid being out in very hot or cold weather.

Immune system

Signs of aging

The immune system helps a body fight off infection and diseases. As a person ages, the body becomes less able to protect itself from viruses and bacteria and even from some diseases like cancer. Depression or a feeling of hopelessness also can weaken the immune system and make a person prone to illness.

SCI Concerns

Damage to the nervous system may weaken the immune system. So people with SCI may have a higher incidence of immune system problems because of nerve damage that occurred when they were injured. Some researchers are looking closely at why older people with SCI have frequent infections. They suggest that people with SCI have more infections because a life-long use of antibiotics for urinary, respiratory and skin infections have made those drugs less effective in their bodies.

A weakened immune system also may be caused by a breakdown in the body's largest organ: the skin. The skin is the body's major first line of defense against infection. The skin's thickness and mucous lining act as natural barriers to infection. But as a person ages, the skin thins and becomes less able to stop bacteria from entering the body. It also becomes more susceptible to tears and injury.

For people with SCI, skin problems from pressure ulcers and breakdown already are a concern. The natural aging of the skin, combined with skin breakdown in people with SCI, make the skin a major concern when people are looking for things that can stress the immune system.

The immune system also is affected by people's feelings. Research is showing that people with SCI experience greater stress and are prone to depression and feelings of helplessness. These feelings may weaken their immune systems and increase their chances of becoming ill. Some researchers even think that some of the problems people with SCI experience with their nervous systems may come from a weakness in their immune systems. Some over-the-counter pain medications, prescription medicines like Valium, and recreational drugs like alcohol, cocaine and marijuana also can suppress the immune system.

Tips

- Laugh frequently.
Use stress reduction and relaxation techniques such as medication or deep breathing.
- Avoid recreational drugs.
- Eat a balanced diet.
- Socialize with others.
- Don't take medicines not prescribed for you or over-the-counter drugs for a long period of time without talking to your health-care provider.

Medications

Signs of Aging

Older people have more physical ailments and may end up taking a variety of prescribed and over-the-counter medicines.

It's not uncommon for an older American to have a kitchen or a bathroom counter crowded with pill bottles. As the body ages it uses and stores drugs differently. A drug that may work well in a 40-year-old may not be good for someone who is 70. Older bodies also have

difficulty eliminating some drugs from the body. The kidneys and liver the major organs for drug elimination don't work as efficiently.

Sometimes prescribed drugs don't work well in combination with each other. Older people may have prescriptions from more than one doctor, and the doctors may not realize which drugs and how much medication their patient is taking. Unexpected drug reactions may cause unwanted side effects, even illness. Bad reactions to drugs cause or contribute to many hospital admissions among older people.²¹ Drugs also cause unwanted side effects such as depression, dizziness, or impaired thinking.

SCI concerns

Many people with SCI take a number of medications, such as drugs for infections, depression, and pain. Older people, as a group, tend to have a number of prescriptions for various conditions. The potential for unpleasant side effects or harmful drug combinations increases as their bodies age and begin to process drugs differently.

The body of a person with SCI may also have difficulty absorbing, processing and eliminating some drugs. Absorption in the stomach and intestines, for example, may be slower, as can the absorption of drugs injected into a paralyzed muscle. So, antibiotics given by mouth or by injection to fight infection may not be fully absorbed. The kidneys and liver of a person with SCI often do not work as efficiently and may let harmful levels of drugs build up in the body.

Tips

- Take medications carefully, in the right amounts and at the correct times.
- Give your health-care provider a complete list of all the prescribed and over-the-counter medications you're taking.
- Report any side effects immediately.
- Talk with your health-care provider about non-medicated ways to help the body.
- Eat a well-balanced diet.
- Drink plenty of fluids.
- Don't self-medicate with someone else's medications.

Working with the Medical System

Aging is not a disease and neither is a spinal cord injury. Both conditions often require that a person see a health-care provider from time to time. As people with SCI age, their health-care visits may, in fact, increase. But a person who is older and who has SCI is not a permanent patient.

Through the years, people with SCI have tried to move away from the role of patient and into a role of a consumer. As a consumer, people with SCI want information and services that will help them live as independently as possible. They seek wellness as much, if not more, than medical treatment. This move from patient to consumer will continue to be important as the SCI person ages. Just as traditional medicine once viewed people with SCI as totally incapable of self-care, it has also viewed the elder American as incapable of making decisions. People aging with SCI must continue to play an active role in their rehabilitation and treatments. They must try and find health care providers who have some knowledge about SCI.

Some research has shown that people with SCI who are many years past their injury may have a more positive attitude about life because they have learned how to work within the

medical system. They have had many years in which to be proactive in their care. Over time they have come to respect and understand their bodies. They work with their limitations and have learned what their bodies need. They also may have developed long-term relationships with their health-care providers and are more likely to feel like a respected member of a health team. These feelings of participation and control are important.

These older people with positive attitudes about their bodies and life show by their example that people can learn how to live successfully with SCI. They also show that people can learn how to care for their bodies and to work with the health-care system. People recently injured or younger people living with SCI should seek out those with long-term SCI experience.

Support groups, social gatherings, or connections made through an Independent Living Center can help connect older people with SCI with those who want information about self-care and good health providers.

To be sure they are getting the best care from people who respect them, older people with SCI should look for health-care professionals who

- Have experience with SCI and aging or are willing to learn more about it
- Are good listeners
- Are interested in promoting self-sufficiency
- See rehabilitation as the first approach
- Respect a person's wish to be independent for as long as possible
- Are willing to try new methods or alternative treatments
- Keep current with the new information or who encourage their people to share new information
- Keep abreast of services within the community

Sometimes a person with SCI must be willing to go to more than one person in order to maintain a level of wellness. An older person with SCI, for example, may need information about nutrition, about ways to maintain a healthful weight, and about ways to improve physical conditioning. This information may not be available from one health-care source. A person may need to talk with a physical trainer, a dietician, and with his or her peers in order to get complete information.

People who remain active in their health and wellness programs will feel more in control of their bodies and of their lives. This feeling of control and participation will increase their positive feelings about aging.

Overall Care of the Body

Sometimes the hardest thing for people to do is to change the way they live. Everyone finds it hard to diet, to exercise more, or to quit smoking, drinking, or abusing drugs. They may know that making these changes will improve their health. They may even know that continuing harmful habits will affect the quality of their life down the road. Still, change is hard.

It's also hard for relatively young people with SCI to make changes that will improve their lives when they're older. They think they have years to go before they're old. They put these changes off, thinking instead that they'll do things differently next week, or next month or next year. Before they know it, however, they'll be approaching old age.

Making personal changes

When people make healthful changes, they are taking control of their lives and are making sure they've done the best that they can to help their bodies stay healthy and fit. For people with SCI, these changes may lengthen the time in which they will live independently.

People are more successful in making changes in their personal habits if they do the following things:

- Work on changing only one thing at a time.
- Join a support group of friends who are working on the same problem or a more organized group such as Weight Watchers, Alcoholics Anonymous, or Take Off Pounds Sensibly (TOPS).
- Keep a journal of their progress.
- Reward themselves when they reach a goal or small steps along the way.
- Discuss their goals with a health-care professional or counselor who can offer support and information.

In looking ahead to getting older, some people need to consider making changes in things such as their living space, their care givers, their location, and the devices and equipment they may need in a few years.

Changes in the Living Space

People need to look around their homes and ask themselves: Will I maintain my independence as I age in my current home or apartment? A living space in which it's hard to maneuver, or that requires a lot of maintenance, or that is far from support services will only be more challenging and exhausting as a person ages. Is the home equipped with grab bars? If not, can they be installed easily? Does the bath include a shower that is easy to get into? Are the counter tops and work areas at a comfortable level? If someone else is doing the yard work and home maintenance, will that person continue to do those chores? If not, who will? By going from room to room and honestly examining a home's challenges, a person can think about the living space changes they must plan for and make.

Changes in Personal Assistants

Many people with SCI live independently and care for themselves. Others rely on personal assistive services or family for some or all of their daily care. Others receive services from local health care agencies. Regardless of their abilities, most aging people come to rely on others for at least some help in completing their tasks of daily living. They may have an aide grocery shop, cook, and do light cleaning. Personal care assistants from a local agency may help with bathing and dressing. As they age, most people with SCI will increase their reliance on caregivers. Will that increased care come from personal assistants, family or friends? Will it come from agencies? Anticipating what their personal and home care needs may be will help people with SCI plan for how they will meet these needs as they age.

Changes in Location

Sometimes a person needs to take a hard look at where he or she lives and considers what kinds of services the community offers for older citizens with disabilities. Does the community have a good health-care system? A person should find out if there is a respected hospital nearby, a selection of medical specialists, and home-care support services offered through a hospital, Visiting Nurses Association or private agency. Are the health-care providers knowledgeable

about health issues for older people? Is there an Independent Living Center nearby? Does the city's transportation system include vans or buses equipped to carry wheelchairs? Is there an accessible senior center? In trying to imagine themselves as an older person in the community, a person might decide that their plans may have to include moving to a community or an area in which it will be easier to grow old.

Changes in Equipment and Assistive Devices

As people with SCI age, they can anticipate that their equipment needs also will change. People who have been getting around with crutches may need a manual wheelchair. People with manual chairs may one day need motorized chairs. They may need to consider a lift-equipped van. Heat and humidity during the warm months may be more intolerable as a person ages, so they may have to consider air-conditioning.

Getting Help with Changes

Changes in living space and equipment can be expensive. Changes in care givers and location take planning. A person may need to investigate the best ways to locate and finance these changes. Independent Living Centers or senior centers can help people explore their options. These agencies often can be found in the yellow pages of the phone book under "Social Service Organizations," "Senior Citizens Service Organizations," or by calling the local hospital or county health offices for agency phone numbers.

The National Institute on Disability and Rehabilitation Research (NIDRR), U.S. Department of Education, has funded several research projects involving life with spinal cord injuries such as the Medical Rehabilitation Research and Training Center on Secondary Conditions, University of Alabama-Birmingham; Rehabilitation Research and Training Center on Aging with Spinal Cord Injury; Rehabilitation Research and Training Center in Community Integration for Individuals with Spinal Cord Injury; and the Research and Training Center in Community Integration for Individuals with Spinal Cord Injuries. Contact these centers for information on their research and training activities and for reports on their findings.

The Mind

Many people enter their later years battling with their mind as much as with their body. They keep thinking, "I'm too young to be old." Most people nearing or past mid-life worry about what lies ahead. Will I enjoy the rest of my life? Will my body give out? Will I age with richness or despair?

To some degree, everyone fears aging. Their bodies are changing and their social and family contacts are changing as well. Life seems too uncertain. A person's internal fears often are reinforced by the external messages they get from television, movies, and newspapers and magazines. The external message throughout much of American culture is that no one should grow old and that staying young is superior to aging.

In other parts of the world, people revere their older citizens. They respect them for their experiences and for the wisdom they have gained from life. Americans seem determined to place youthful entertainers and robust sports heroes on their lists of the people they most admire.

To age with zest and dignity, a person often has to ignore these external messages and think about the positive side of aging. For many people, growing older brings with it a sense of

accomplishment. Being older also gives people permission to focus on their own lives and what they want. Their responsibilities to children and jobs have eased, and they have more time to plan their futures according to their own interests.

In her book, *What Are You Doing With the Rest of Your Life?*, aging specialist Paula Hardin suggests that people really take the time to think about what they expect from life after 50 or 60. She suggests they ask themselves four important questions: What do I want to do? What do I want to have? What do I want to be? and What do I want to give? When people know the answers to these questions, they'll be able to seek out what will nourish and enrich the second half of their lives.

What do I want to do?

People should list their unrealized dreams perhaps a place they wanted to visit, a high school diploma, a college education, or a new career. Then they should look at the steps they can take to realize that dream.

What do I want to have?

Many people say they want to have their health as they age. If they do, then they need to look at the steps they'll have to take to help their body stay healthy. Some people may list a desire to have a close relationship with their children or a financially secure old age. They must ask themselves what they need to do to achieve those goals.

What do I want to be?

People frequently ask kids, "What do you want to be when you grow up?" Rarely do they ask themselves that question. Once people are grown, they assume they have become what they will be.

They don't think of their lives or interests as evolving. But life is filled with changes. At any age people must remember to ask themselves: What do I want to be when I grow up? The answer to that question might set them on a course that will fill their later years with joy and accomplishment. For example, Colonel Sanders of Kentucky Fried Chicken fame and the artist Grandma Moses developed their new careers when they were well into their 70s.

What do I want to give?

Reaching out to the needs of others often is the most direct way for people to satisfy their own needs to feel wanted and productive. Senior citizens have found satisfaction from such things as conducting children's story hours at their local libraries, being a phone visitor to shut-ins, or helping with church committees or youth groups. When answering this question, people should ask themselves: What part of the world do I want to make better?

For example, if a cleaner environment is important to someone, he or she might teach grandchildren about recycling or organize a group to clean up local pollution. By being involved with issues and projects that are important to them, older citizens of all abilities can make important contributions to their communities and enrich themselves.

Finding the answers

Finding answers to the four questions, will help people discover just what they truly want and love. They must not hurry their lists. Instead they should live with them, reread their ideas, add new ones, delete the ones that don't feel right. They must engage their hearts in redefining

their futures. Like a moth flying closer and closer to the light, they will move closer and closer to seeing what they want to do with their senior years.

The Spirit

When people say someone's got spirit, they often mean that the person is spunky, that they have a certain zest and determination, and that they generally tackle life head on. As people age, they need to hold on to their positive feelings about life and to find ways to create even more.

In the various studies that have been done with older people who have SCI, researchers have been surprised to find that most of the people they met were pleased with their lives. In some studies the majority of older people with SCI described the quality of their lives as good or excellent. They expressed this satisfaction with life in spite of their decline in physical function and changes in their social roles.²²

Researchers of aging and SCI don't fully understand why some people feel positive about their lives and others feel depressed and negative. Some research suggests that as time passes people have time to work through the anger and depression they felt when their injury was new and troubling. They reach a point where they create a new balance in their lives and find fresh satisfaction.

Another reason for a strong spirit may be that people who feel upbeat about life have affirming feelings about themselves and who they have become. They feel optimistic because their journey through life has given them the freedom to be themselves. In her book, *The Fountain of Age*, Betty Friedan explores the negative myths people have about aging and counters those ideas with positive examples. Friedan says she began her latest book with a fear and denial of growing old. When she had finished, she found herself accepting and celebrating the journey toward old age. She writes:

And through our actions, we will create a new image of age free and joyous, living with pain, saying what we really think and feel at last knowing who we are, realizing that we know more than we ever knew that we knew, not afraid of what anyone thinks of us anymore, moving with wonder into that unknown future we have helped to shape for the generations coming after us.

Life has always been about change. How people face life's changes and what they create for themselves during and after these changes will determine how well they will age. Growing old is, after all, no less challenging or exciting than growing up. It is no less free from emotional and physical pain and just as likely to be filled with joy.

Terms You May Hear

Arthritis (ar-thri'-tis) Inflammation of a joint.

Contracture (kon-trak'-chur) Reduced range of motion in the joints caused by a drawing together or shrinking of the tissues surrounded the joint.

Dialysis (di-al'-i-sis) A process in which the body's waste products are cleaned from the blood by machine because the kidneys no longer work properly.

Gastrointestinal (gas-tro-in-tes'-te-nel) Pertaining to the stomach and the intestines.

Gerontologist (ger-on-tol'-o-gist) Someone who studies the physical and mental processes that go along with aging.

Hemorrhoids (hem'-e-roid) An itching or painful mass of anal tissue swollen with blood.

Heterotopic ossification (het'-er-o-toe-pic os-e-fi-ka'-shun)

The development of bone where it normally does not occur, such as in muscle and other soft tissue.

Osteoporosis (ah'-stee-o-po-ro-sis) A weakening of the bone caused by a decrease in the bone's minerals, such as calcium.

Paraplegia (par'-a-ple'-je-ah) Damage or loss of movement and feeling to the lower part of the body caused by disease or injury to the nerves within the segments of the spine located in the areas of the chest, lower back, and hips.

Poliomyelitis (po'-lee-o-my-eh-li-tis) A disease caused by a virus that affects the central nervous system and can cause paralysis, and muscle loss and weakness.

Post-polio syndrome (post po'-lee-o sin'-drome) A condition that affects older people who have survived polio and that causes weakness, pain, and fatigue.

Quadriplegia (kwod're-ple-je-ah) Damage or loss of movement and feeling caused by disease or injury to the nerves within the eight cervical segments of the spine that are located in the neck. This term is being replaced by the term tetraplegia.

Sphincter (sfingk'-ter) A ringlike muscle encircling a bodily passage or opening, such as the anus or the mouth, that tightens and constricts the opening.

Tetraplegia (te'-tra-plee'-je-ah) A term now used internationally to replace the term quadriplegia.

References

¹ *World Population Data Sheet*. Washington, D.C.: Population Reference Bureau Inc., 1992.

^{2,4,8,21,22} *Aging with Spinal Cord Injury*. Gale G. Whiteneck, et. al, editors. New York: Demos Publications, 1993.

³ *Aging with a Disability*. Rancho Los Amigos, Calif: The Rehabilitation Research and Training Center on Aging with a Disability.

^{5,6,7,9,10,12,13} *Spinal Cord Injury: Facts and Figures at a Glance*. Birmingham, Ala.: University of Alabama-Birmingham, SCI Care System, March 1994.

^{11,13} Update on Aging with SCI. Prepared by Michael J. DeVivo, University of Alabama, Department of Rehabilitation Medicine, 1717 6th Ave. S., Birmingham, AL 35233-7330.

¹¹ A Cross-sectional Study of the Relationship Between Age and Current Health Status for Persons with Spinal Cord Injuries. *Paraplegia*, Vol. 30, 1992. M.J. DeVivo, et. al.

¹⁴ Degenerative Joint Abnormalities in Patients with Paraplegia of Duration Greater than 20 Years. *Paraplegia*, Vol. 26, 1988. E.J. Wylie and T.J.H. Chakera.

^{15,16,17,18,19,20} System by System: The Grim Slide. *New Mobility*, Summer 1992. Sam Maddox.