Should People with Spinal Cord Injury Take Antioxidant Vitamins?

A study published in the Archives of Physical Medicine and Rehabilitation investigated blood and urine levels of antioxidants and biologic chemicals that signal the presence of oxidative stress to the tissues, in people with spinal cord injury (SCI). Oxidative stress occurs in the tissues when tissue damage occurs, releasing toxic chemicals into the body that potentially could weaken the tissues or immune system, making the person more vulnerable to illness. The lab studies were collected throughout the first year after cord injury to be able to follow oxidative tissue injury over time. There was a control group of healthy, able-bodied people that were also studied in the same way. The lab tests were done at one month, three months and 12 months post injury, for the spinal cord injured subjects.

The results of the study showed that one month post injury, antioxidant chemicals in the body were markedly reduced in the spinal cord group vs. the normal control values. Also, the oxidative stress marker in the urine called 8-epi prostaglandin F2-alpha increased to 161% of normal in the SCI group. After three and 12 months, most of the antioxidant biomarkers were still significantly reduced compared with the controls, while the urinary oxidative stress marker increased further to 208% of normal, as compared with the controls.

The conclusion of this study was that people with SCI experience increased oxidative stress and reduced antioxidant defense the first year after injury. The researchers plan to do a follow up study to compare how people with SCI who do take dietary antioxidants compare to those that do not with regard to overall health status. Readers of this article who are in the first year following new injury to the spinal cord, might be wondering if they should take antioxidants in view of this research study. Since the follow up study to investigate whether or not these antioxidants make a difference has not been published yet, there is no clear answer to that question. We do know that antioxidants are very safe with minimal possible side effects. They are sold over-the-counter, so do not require a doctor’s prescription. The most common anti-oxidant supplements are vitamin C, vitamin E, and beta-carotene. These can be purchased and taken individually, or as a combination antioxidant pill that contains all of these supplements and can be taken one to three times a day, like a multivitamin.
Personal Care Assistants

Part 1 of 2

How to find, hire & keep them

Is your spinal cord injury (SCI) brand new? Have you wrestled with the issue of attendant care and decided you will need help when you get home? Is your present caregiver getting older, and needs some relief? Are you getting older and making choices where to spend your energy? If you answer yes to any of these questions, you are in good company. Over 40% of all people with SCI use some form of assistance, and the percentage increases with age. We will be looking at the use of personal care attendants (PCA) while maintaining your freedom, flexibility, and control and saving money.

• Step 1: Organize

Get organized. Decide which end of your day is the most routine, requires the least spontaneity or flexibility. Are you a morning person? Are you an evening person? Once you have decided, move most of your labor-intensive personal care chores into that part of your day. For example, showers, bowel & bladder care, hair washing and laundry.

• Step 2: Consolidate

Now, figure out how to combine the help you need each day into a few parcels of time. Try to stick to one or two parcels. Can the laundry be started when the PCA arrives, and put in the dryer after your shower or bath? Can lunch be made ahead and refrigerated so you can serve yourself later?

There are many ways to consolidate. The most efficient people with tetraplegia/quadriplegia have been able to consolidate enough to lay off one attendant. For example: have the bed prepared in the morning for evening duties, wear easy clothes to take off, set up catheter supplies in the morning for bedtime routines, the amount of consolidation is up to you and your imagination.

• Community Resources

Many agencies work with Medicaid and Medicare to provide PCA’s. The following is a list of local care agencies. Remember these folks have little or no training with persons with SCI.

- Addus Healthcare (509) 444-6224
- Your Problems Solved (509) 922-1468
- Beneficial In-Home Care (509) 323-0390
- Interim Health Care (509) 456-5665

These are just a few that have provided care for others in the past. Look in the Yellow Pages of your phone book or on the internet under Home Health Service for more options.

Here are some other ideas for finding PCA’s:

- College job placement offices
- Local bulletin boards in supermarkets, libraries, churches, and other public places
- Hospital and nursing home bulletin boards
- Local newspapers
- Local independent living centers for the disabled (Evergreen Club)
- State employment offices
- County or local offices for the disabled

If this does not work, consider placing an advertisement in the Spokesman Review or Inlander. Example:

PERSONAL ASSISTANT for individual with a disability
$ ___/hr in northeast part of town
Six hours of assistance needed daily, 7-10 a.m. and 5-9 p.m.
Assistance with personal needs, homemaking, and driving (license required)
Male or Female OK
Need immediately, call John Doe at 546-6758

FREE ROOM & BOARD and $ ___/wk in exchange for personal assistance to disabled professional.
Quiet neighborhood, near transportation
Must be able to work 2-3 hours in the morning and 1-2 hours at night, to assist with personal needs and light housekeeping
Own bedroom and use of common kitchen and bath
Female preferred. Apply immediately. Call John Doe at 695-3333.
# SPINAL CORD INJURY
## RECOMMENDED SCHEDULE OF HEALTH SCREENING TESTS

**INTRODUCTION:**
The Owner’s Manual for a new car lists the recommended maintenance schedule to keep the car functioning well over the years (how often to do oil changes, spark plug changes, tune-ups, etc.). This is intended to be a similar “Owner’s Manual” schedule of recommended health maintenance tests or treatments to minimize the specific complications of aging that are more common to people with spinal cord injury.

<table>
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<tr>
<th>BODY PART</th>
<th>RECOMMENDED TEST AND FREQUENCY</th>
<th>REASON FOR TESTING</th>
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<tbody>
<tr>
<td>Kidneys and Bladder</td>
<td>● Renal Ultrasound should be done once a year after spinal cord injury.</td>
<td>Decreased nerve control to the bladder can cause permanent kidney failure, often without any symptoms. If caught early with these tests, the problem can often be cured. The risk of bladder cancer increases after 10 years of indwelling catheter usage.</td>
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<td>● Creatinine Clearance, Renal Scan, or creatinine blood test should be done every 2-3 years.</td>
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<td>● Cystoscopy should be done every 1-2 years for people using indwelling Foley or suprapubic catheters, starting 10 years after catheter usage began, to screen for bladder cancer.</td>
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<td>Heart</td>
<td>● Fasting Blood Sugar, Cholesterol, Triglyceride, and Lipoprotein (HDL/LDL) levels should be checked every 5 years, starting at age 18, and more often if abnormal.</td>
<td>Research shows that people with SCI get heart disease (blocked coronary arteries) at a younger age than normal, as well as an increase in abnormal blood lipids and blood sugar. Treadmill heart tests are not possible if the legs are weak or paralyzed. The listed tests have been proven to be the most accurate with SCI.</td>
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<td>● Dipyridamole Vasodilation with Cardiac Nuclear Perfusion Scan should be done every 5 years, starting at age 40.</td>
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<td>Shoulders</td>
<td>● Shoulder Examination for rotator cuff damage should be done every 1-2 years, or whenever there is significant pain. These tests can be done by an orthopedic doctor, physiatrist (rehab doctor), family doctor, or physical therapist. This applies to all wheelchair users. If rotator cuff problems worsen in manual wheelchair users, changing to a power wheelchair should be considered.</td>
<td>The shoulder tendons wear out with repetitive use from pushing a wheelchair and overhead reaching over many years. It is hard to do transfers, wheelchair push-ups to relieve pressure, reach overhead or push a manual wheelchair if these tendons are damaged.</td>
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<td>Spinal Cord</td>
<td>● MRI Scan of the cord at the level of injury should be done only if motor and/or sensory levels are ascending (losing muscle function and sensation) or there is increasing nerve pain at the level of injury, to rule out syrinx (cyst) formation in the cord.</td>
<td>Expanding fluid-filled cysts can form in the injured area of the cord years after the injury. These show up best on MRI scans.</td>
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| Lungs               | • **Pulmonary Function Tests** should be considered every 5 years, starting at age 35, for people with spinal cord injury levels T8 and above.  
• **Pneumococcal Vaccine** should be done once every 5-10 years following the spinal cord injury for levels T8 and above.  
• **Influenza Vaccine** recommended every year (in the fall) for all SCI levels.                                                                                                   | People with cord injuries of T8 and above have weak breathing muscles. Lung capacity decreases with age in everyone. If breathing is already weak from the cord injury, then the effect of aging could bring the lung function down low enough to significantly increase the risks of pneumonia and respiratory failure. |
| Skin/Wheelchair     | • **Type of Wheelchair, Wheelchair Cushion, and Bed Mattress** should be evaluated every 1-2 years by a physiatrist, physical therapist, or occupational therapist to be sure the type you are using still fits and functions well and is adequately protecting your skin. Ideally, this would include computerized pressure mapping.  
(Your doctor may refer you to the St. Luke’s Rehabilitation Institute out-patient department for this annual evaluation.)                                                                                   | As people with SCI age, they may be less able to turn in bed on their own or push a manual wheelchair, so a change of equipment may be needed. Skin thins as one gets older, so pressure sores become more frequent, and a different mattress or wheelchair cushion may become necessary. |
| Uterus, Ovaries, Cervix, and Prostate Cancer Screening | • **Pelvic Examination, PAP Test and Breast Examination** should be done every 1-3 years for women, starting at age of onset of sexual activity. You may need to bring a caregiver to help transfer you onto the doctor’s exam table (discuss your paralysis with scheduler at the time you are making the appointment). This exam can be done by either a gynecologist or primary care doctor.  
• **Mammogram** should be done every year for women, starting at age 40.  
• **Prostate Examination** should be done every year for men, starting at age 45. This can be done by a urologist or primary care doctor.                                                                                                                         | It may be difficult for a spinal cord injured woman or man to get up on the exam table for annual pelvic and prostate exams, so doctors may be reluctant to schedule these tests. The person with spinal cord injury may, therefore, have to advocate for their own health by requesting these tests each year. (The recommended frequency of these tests is the same for people with and without a spinal cord injury.) |
| Colon               | • **Colonoscopy and/or Sigmoidoscopy** to screen for colon cancer should be done every 5 years, starting at age 50. People with paralysis may need to be hospitalized overnight, so assistance will be available by nursing staff for the colon clean-out prep the night before.  
(You will have to ask for this.)                                                                                                                                                    | The recommended frequency of these tests is the same for people with and without a spinal cord injury. Hemorrhoids and injury to the rectum may be more frequent in people who do a rectal stimulation bowel program. The colon prep (clean-out) is more difficult for people without normal sphincter control. |
Who Pays for PCA’s?
PCA’s are expensive and you must find a way to pay for these services. There is no single plan nationwide. Below are the major public and private resources that might pay for PCA’s.

Private Resources
- Health Insurance – most insurance companies do NOT cover PCA’s. However, if you need skilled nursing or skilled therapy services, many health insurance plans may pay for a few hours of PCA.
- Auto Insurance – In certain states, no-fault auto insurance may help pay for PCA’s if you are injured in an automotive collision.

Public Resources
- Medicare
  If you need skilled nursing or therapy, Medicare may pay for a few hours of home health aide. In most cases, this will be under 30 hours of assistance a week.
- Medicaid
  COPES provides care hours depending on income and need established by an interview and examination.

Other Resources
- Family is often the first option people think of. Using a friend/relative/significant other as a PCA is a path fraught with peril, but many people manage it.
- College students – these folks are young, able bodied, have flexible schedules and need money. Eastern Washington University has both a PT and OT program that may be a source of help. Call the student employment office for recruiting suggestions.
- Church or Service Club – talk to the pastor or chairman to ask for recruiting suggestions.

Be creative, there are lots of ways to find help and not all of them require big money. Keep in mind that you are responsible for taxes, social security and workers compensation for your employees. This is a sticky wicket for many inexperienced employers and a good reason to ask for expert advice.

Part 2 of this article will be in the next newsletter and will cover

The Job Description and Interviewing and Reference Information.

Therapists
Your therapy teams have served you well. Here is a little review of what the letters mean behind their names and what it takes to get to this level?

Physical Therapist Assistant: PTA, Education: 2 year degree, with approx. one year to complete pre-requisites.

Physical Therapist: PT, MSPT, and now DPT, Education 4 year undergraduate degree with completion of pre-requisites and 3 year Doctorate. In years past this was a Bachelor Degree, then a Masters Degree, but now all are Doctorates.

Occupational Therapist Assistant: COTA, (Certified Occupational Therapy Assistant) Education: 2 year degree with approximately one year to complete pre-requisites.

Occupational Therapist: OT, Education: 4 year undergraduate degree with completion of pre-requisites and 2 year Masters Degree, this also was only a bachelors degree in the past, but now all are Masters level.

Recreational Therapist: RT, Education: 4 year undergraduate degree in Recreational Therapy, recommended to also attain certification: CTRS (Certified Therapeutic Recreation Specialists).

Speech Therapist: SLP (Speech Language Pathologist); 4 year undergraduate degree, completion of pre-requisites and Masters Degree, as well as completion of a clinical fellowship year under supervision of a licensed Speech Language Pathologist.

Therapy Aide: TA: On the job training only, no formal education required.

SCI Peer Mentors Needed
The Washington state branch of the Christopher Reeve Foundation, SCIAW, is looking for people with spinal cord injuries in Eastern Washington to volunteer to be trained as peer mentors for others with spinal cord injuries. We need people of every age group, gender and ethnicity. If interested, please call Dr. Moise’s office at (509) 473-6706 to give your name, phone number, and state you would like to become a SCI peer mentor.
Phone: (509) 473-6000
Fax: (509) 473-6129

VISION STATEMENT
Be nationally recognized as the regional rehabilitation center of choice based upon reputation, quality outcomes and innovative care.

MISSION STATEMENT
Our mission is to be a resource for health and wellness in order to optimize the potential for a full and productive life.
We serve individuals and their families requiring expertise in medical rehabilitation.
St. Luke’s Rehabilitation Institute seeks to provide value to those served by treating the whole person with regard to physical, intellectual, emotional, cultural, and spiritual needs in order to restore to their fullest potential the capacity for living. Excellence of care will take place in an atmosphere of compassion, reverence and integrity.

FES Bike
Arms not getting you enough exercise? Use your legs to exercise your heart and improve cardiovascular fitness with the Community Functional Electrical Stimulation (FES) Bike Program.

Call St. Luke’s Outpatient Therapy at (509) 473-6869 for more information.
Participants will be assessed and trained, along with their caregiver. Training is by a physical therapist. In 5-10 visits participants will be able to perform independently.

Offered 2-3 days per week
$35 dollars per month

Team River Runner
A new program called Team River Runner is being offered at Eastern Washington University for those with all levels of disability who want to learn or advance their kayaking and canoeing skills. If you are interested in this program please contact Tim Ahern, PT, at (509) 951-2871 or timscanoe@gmail.com.

Support Group
SCI support group: meets every 4th Wed from 1 - 2 p.m. Please check at front desk for room as location changes on occasion. SCI support group facilitates an opportunity to interact and network with peers living with spinal cord related injuries and deficits. Family and friends are always welcome.