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Serving the Needs of Individuals with Disabilities and Those Who Care for Them

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Aging with a Spinal Cord Injury

Cynthia W. Kovacs, M.S.Ed., CRC, CDMS, CCM, QRP

Getting older.

Another birthday.

A new wrinkle.

Another gray hair.

We all face the inevitable in our own way. For those of us who have a spinal cord injury (SCI), however, aging brings a whole host of additional

issues that we must be aware of to prevent serious health problems and to ensure a good quality of life.

Respiratory problems are the leading cause of death in the aging SCI population. The lungs become more susceptible to infections as they lose their elasticity and the number of air sacks (alveoli) decreases. Therefore, most doctors recommend getting a yearly flu shot and a pneumonia vaccination soon after the injury and then about every ten years.

Heart disease is the number two cause of death in persons with SCI. The risk factors for coronary artery disease include problems with glucose tolerance or the tendency to be diabetic. Paraplegics seem to have an added risk for hypertension. SCI also appears to have a harmful effect on blood lipids, with a tendency to lower HDL, the "good cholesterol." Treatment is aimed at prevention and may include a healthy diet, weight control, and exercise. However, we should always consult with our doctor before

trying any treatment.

One extremely important issue to be aware of is our skin. Everyone's skin gets weaker, thinner, stiffer, and less elastic as they age. Because people with SCI spend a lot of time sitting, we must be especially diligent in caring for our skin. Poor circulation is a result of SCI, so doing pressure releases as often as possible is important. We need to eat a healthy diet with a lot of protein, drink a lot of water, keep our skin clean and dry and not smoke. If we start getting red skin or a sore, we must see a doctor and stay out of our chair as much as possible – and that is not always easy if we lead active lives.

Osteoporosis in post-menopausal women is common in the non-SCI population. In the SCI population, however, bone density reduction occurs within the first 1-2 years post injury. There are various treatment options that may help avoid fractures, such as weight bearing, functional electrical stimulation, calcium supplements and bisphosphonates (prescription medications like Boniva and Fosamax). Your doctor can help you determine which would be best for you.

Arthritis and pain in our joints, particularly in the upper extremity joints, is common as we age. In individuals with SCI, it differs from typical arthritis because it is often caused by soft tissue damage to structures such as the rotator cuff of the shoulder girdle. This is often the result of overusing muscles from pushing a wheelchair and doing transfers, especially in paraplegics and low level quadriplegics. Treatment for upper

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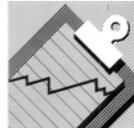
HABILITATION AND REHABILITATION SERVICES



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GUARDIANSHIP AND TRUST SUPPORT



INTO THE FUTURE
Planning Care Today for a Secure Life Tomorrow

extremity pain in SCI usually involves modifying our activities, using power-assist wheels or switching to a power wheelchair. Physical therapy and physical therapist recommended exercises might help as well as doctor prescribed medications, such as non-steroidal anti-inflammatory drugs.

Another common issue of aging with SCI is deterioration in the efficiency of the bowel program. The gastrointestinal tract slows down in everyone as we age and constipation becomes a problem; this is often already a problem in the SCI population so figuring out how to handle the changes is crucial to maintaining a good quality of life. We may need to perform our bowel program more often to avoid becoming constipated and we may need to change our diet to include more fiber and roughage.

Hemorrhoids are a problem in about half of the SCI population. They're due to bowel program stimulation, prolonged sitting, and vascular congestion. In some people it only occurs periodically; in others it is chronic. When the problem is out of control and there is bleeding, discomfort or autonomic dysreflexia, we should contact our doctor for other medication or surgical options. Autonomic dysreflexia is a complication which occurs in people with SCI at or above the level of T6. It is the result of impaired function of the autonomic

nervous system. It's basically an overreaction in the body to a noxious stimulus, such as a distended bladder, that results in a sudden rise in blood pressure, among other symptoms.

The majority of persons with SCI use some form of catheter that inserts into the bladder to drain the urine. The act of inserting something into the bladder greatly increases the risk of introducing bacteria into the bladder, which causes urinary tract infections; chronic urinary tract infections increase the likelihood of developing bladder cancer. Bladder cancer prevention efforts should include attempts to minimize the frequency of urinary tract infections and careful consideration of management options. The risk of bladder cancer is much greater in those who have an indwelling catheter.

Preventive measures for women, like yearly mammograms and pap smears, are crucial to early cancer detection, but for us wheeler girls, these procedures are quite challenging to say the least. Getting close enough to the mammogram machine and in the right position can be very difficult. It, like most things, is designed for people who stand. Ask your gynecologist if a breast MRI or ultrasound would be a viable alternative. In regard to pap smears, if your wheelchair does not recline, you need to transfer to the exam table. Some offices do have height-adjustable

tables, you just need to call around or ask other women with disabilities whom you may know.

Although there are many potential health risks associated with having a spinal cord injury, it is not a fatal condition nor is it a sentence of life-long misery. By using good common sense, educating ourselves about our condition, consulting with our physicians regularly, learning about new treatment options and simply living life to its fullest, we can live long, fruitful lives. Medicine and technology allow us to live much longer than our SCI predecessors, and for that, we should be grateful.



Who's Who at CRC

Cynthia W. Kovacs,
Case Manager

Written by Patricia Evans, MS

"I love the challenge of empowering others to make the best of tough situations."

This line, from Cyndi Kovacs, Case Manager with Comprehensive Rehabilitation Consultants, illustrates the impact of her role at CRC, as well as how she has embraced the personal challenge of living with a spinal cord injury.

Born and raised in New Jersey, Cyndi sustained a spinal cord injury in a diving accident at the age of 20. Following acute rehabilitation, she made the bold decision to move to Miami to complete her undergraduate degree in Psychology and to acquire her masters in Mental Health Counseling. While in school, she continued her rehabilitation each summer, participating in the Shake-A-Leg program in Rhode Island. This connection to Shake-A-Leg resulted in her first employment opportunity in Miami in 1999 – as Volunteer Coordinator with the newly-founded Shake-A-Leg Miami. On one fateful day, a case manager from CRC called Shake-A-Leg to inquire about whether a sailing opportunity could be set up for one of its clients. Cyndi answered the phone and found that she was curious about the services CRC provided, and she thought how interesting it would be to work for a company whose job it is to help improve the lives of individuals with disabilities. As luck would have it, a case manager position opened up several months later for which Cyndi applied and was ultimately hired.

Each day brings many challenges in Cyndi's interactions with her clients and their families. Cyndi has found that her own experiences, given her spinal cord injury, have been her best tools in counseling and empowering her clients to live full and successful lives. Initial contacts with clients and families are usually filled with fear and trepidation on their part, with great sense of feeling overwhelmed as to how to move forward. Cyndi shares her own experiences with them as a way to illustrate how living a full life is possible. A great deal of research and ongoing education is done to provide them with all the resources and tools to empower themselves and their families to regain control of their lives. Cyndi shares with us her gratification in knowing that she and CRC are a part of the support network making a difference in our clients' lives. We celebrate her 10th anniversary at CRC grateful for the gift of working with her and of being witness to her life as a beautiful woman, wife, mother and professional case manager.

Rehospitalizations After a Spinal Cord Injury

Darlene Carruthers, MEd, CRC, CDMS, CCM, QRP, FIALCP

Zarahi Nunez, MPH, CDMS, QRP



Spinal cord injury (SCI) is the second most expensive condition treated in United States hospitals. The high costs associated with SCI are directly related to the length of hospital stays, as SCI is ranked third among conditions requiring the longest hospital stays. Upon discharge, individuals with SCI require a great deal of specialized care, which may vary depending on the individual's condition (e.g. quadriplegic, paraplegic). Regardless of condition, an individual with SCI faces a lifetime of medical complications that will require frequent medical attention and have a direct impact on the individual's quality of life.

Individuals with SCI now have a longer life expectancy due to recent advances in trauma treatment and improved long-term care, but may also expect to experience more rehospitalizations. An Australian study published in 2004 and conducted over a 10-year period found that the average number of hospital days for SCI patients who were readmitted was 15.5 days, with a median of 5 days. This study also concluded that the highest number of hospital readmissions tends to occur within the first 4 years following injury. A study of rehospitalizations among work-related tetraplegics conducted in 2006 revealed that rehospitalization occurred in 51% of patients in the first year after SCI and in 36% of the patients in the fifth year.

An analysis of data from the Model Spinal Cord Injury Systems' 2009 NSCISC Annual Statistical Report revealed that the number of rehospitalizations in the first year after injury was greater than in subsequent years. 32.7% of those in the study were rehospitalized at least one time during the first post-injury year, with a length of stay (LOS) between 12.1 days and 33.0 days. At a 15 year follow-up, 23.1% of the subjects were rehospitalized at least one time within the 15th year post-injury, with an average LOS of 21.8 days. During the 35th year, 33.4% of the subjects were rehospitalized at least one time, with an average LOS of 9.8 days. Diseases of the genitourinary system remain the leading cause of rehospitalization, followed by "diseases of skin and subcutaneous tissue including pressure ulcers, diseases of the respiratory system, other unclassified reasons, and diseases of the musculoskeletal system", (Cardenas, Hoffman, Krishblum, & McKinley, 2004; Model Spinal Cord Injury Systems 2009). The effects of these complications on the individual with SCI extend beyond noticeable physical ailments. In a study performed in 1998 by JS Krause, "persons with pressure ulcers had lower levels of subjective well-being and activity, as well as greater health problems compared with those without pressure ulcers". In another study "Spinal Cord Injury and Mental Health" published in 2008 in the Australian and New Zealand Journal of Psychiatry, it was found that "nearly half (48.5%) of the population with spinal cord injury suffered mental health problems of depression (37%), anxiety (30%), clinical-level stress (25%) or post-traumatic stress disorder (8.4%)" and "overall, there was a twofold or more increase in the probability of emotional disorders compared to the general population." Additionally, chronic pain and fatigue negatively impact quality of life and combined with stress and secondary complications, result in a compromised immune system and greater

susceptibility to infection.

As a result of technological advances, life expectancy for individuals with SCI is now only slightly less than for individuals without SCI. Because of this, however, pulmonary, genitourinary and skin issues are now more frequent causes of morbidity. Furthermore, age, the perception of accelerated age, and fatigue also exert negative effects upon the quality of life of individuals with SCI. Despite being able to look forward to a longer life as a result of medical advances, a person with SCI can expect significant health complications and frequent rehospitalizations, especially in the years immediately following injury.



**Parking here for
"Just a Minute..."
...is 60 seconds too long!**

NEVER park in a space reserved for people with disabilities **UNLESS** you have a permit, placard or handicapped parking plates. It's the courteous thing to do—and it's the law.

REMEMBER: Do not park in the striped access aisles next to spaces reserved for people with disabilities, even if you have a permit or plates. Access aisles provide room for wheelchair users to transfer safely to and from their vehicles.

Learn more about the laws on reserved parking for people with disabilities. Contact United Spinal Association at:



**United Spinal
Association**

**National Headquarters
75-20 Astoria Boulevard
Jackson Heights, NY 11370
(800) 404-2898
www.unitedspinal.org**



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Working with Tommy....

Many of my clients have similar injuries, in terms of level of function, to my own, which enables them to relate to me on a certain level. One of my dearest is Tommy. He was injured when he was 8 years old when he was hit by a truck; he's now 19. I started working as his Case Manager 3 years ago. I have enjoyed watching him grow and become an adult who has taken charge of his life; he had to do so earlier than most due to the dysfunction of his family. He has always had a strong determination to be as independent as possible. I have helped him when asked and when necessary, trying not to take away from his ability to handle most of his own affairs. I have had to learn to let go as he's gotten older and that has not always been easy for me. He has been like my own child, in a way, and I am very fond of him. We may not always see eye to eye but I have tried to impart as much of my 22 years of "living with a spinal cord injury" wisdom onto him as possible without overstepping my bounds. I know that he must learn from his own mistakes, but I will continue to guide him as much as he will allow me. I truly look forward to watching him continue along the path he has laid out for himself.

- Cynthia W. Kovacs, M.S.Ed., CRC, CDMS, CCM, QRP

Technology in Action for Individuals with Spinal Cord Injuries

Zarahi Nunez, MPH, CMDS, QRP

Not so long ago, some believed that by the year 2000 we would be traveling in flying cars, living on the moon, and catastrophic diseases and illnesses would be distant memories....

Now, although these ideas are still for the most part, just that, here are a few devices that are in development or that are available right now for individuals with spinal cord injuries.

- Emotiv Brain Computer Interface Technology - By sensing electrical signals in the brain and responding to the wearers' thoughts or even to their facial expressions, this headset allows an individual to control a computer. Developers have also programmed the headset to control games, programs, and the motion of a power wheelchair. All of this without wires or hands, and already available to the public! ¹
- Active Book Implant – Electrical stimulation has been used for some time in the rehabilitation and maintenance of muscles, but people with spinal cord injuries usually don't benefit from it too often because of cost, availability, and the large preparation time it demands. This may change, however, as pilot studies begin this year on a chip which can be implanted directly into the spinal canal, eliminating the need to place electrodes all over the muscles or to purchase costly stimulator units. ²
- Terrain Sensing Wheelchairs – The US military is providing funding to further development of a technology initially used on military devices. It would allow a power wheelchair to be capable of detecting whether it is on dangerous terrain, and then adapt the movement of the wheelchair accordingly. ³

We hope you're curious or even excited, because at CRC we're both, and are following up on these types of advancements all the time!

¹ Information/images obtained from www.emotiv.com

² Information obtained from <http://www.eprc.ac.uk/newsevents/news/2010/Pages/spinalimplant.aspx>

³ Information obtained from <http://www.engadget.com/>



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