



## **Helping Canadians with Disability/Chronic Disease Get Physically Active: Tip Sheets for Intermediaries**

*For Canadians with a disability, regular physical activity may be even more important than it is for the rest of the population. For a person with a disability, an active lifestyle can open doors to increased health, social inclusion and self-empowerment - doors which might otherwise remain closed. Access to physical activity can eliminate the likelihood of acquiring secondary health conditions like diabetes, high blood pressure or heart disease. Being active builds resiliency and can provide an all-important outlet for a person with a disability.*

*These tip sheets are designed to provide general information in support of Canada's Physical Activity Guidelines, developed by the Canadian Society for Exercise Physiology.*

# **SPINAL CORD INJURIES**

## **General Information**

### **Facts and Figures**

- Over 86,000 Canadians have a spinal cord injury (SCI);
- An estimated 4300 new SCI's occur in Canada annually;
- Approximately 51 % of SCI's are due to a traumatic injury or accident. The remaining 49 % are due to illness or disease;
- Approximately 3.6 billion dollars are spent annually in Canada on traumatic SCI's. 1.8 billion dollars are spent in direct health care costs;
- A manual wheelchair costs between \$4000 and \$5000. A power chair can cost between \$10,000 and \$15,000.

### **What is a Spinal Cord Injury?**

A spinal cord injury is trauma or damage to the spinal cord which results in a loss or impairment of function, leading to a reduction in mobility or feeling. Traumatic SCI's can occur through car accidents, falls, gun shots or sport injuries among other causes. SCI's can also occur through diseases such as Transverse Myelitis, Spina Bifida, or Polio.

A loss of function can occur without the spinal cord being severed. It is cellular damage which leads to a loss in function. A person can break their neck or back, yet not sustain a SCI if the bones around the spinal cord are damaged without impact to the spinal cord itself.

Traumatic SCI's can include Paraplegia, Quadriplegia, Tetraplegia and Hemiplegia. Congenital SCI's can include Spina Bifida and Osteogenesis Imperfecta (a congenital bone disease sometimes known as Brittle Bone Disease). Other SCI's can include muscle weakness, Injury, and strains.

## **Impact of SCI**

Individuals with a SCI are often less physically active and as a result, may miss out on the health benefits gained through physical activity. A person's level of fitness, independence, ability to interact within their community, and their overall quality of life may be negatively impacted as a result of physical inactivity.

Regardless of their physical ability or degree of health, a person with a SCI can benefit a great deal from regular physical activity. These individuals have more to lose from being sedentary.

Among other areas, a SCI can effect:

- Bladder control – an individual's brain may not control the bladder as before since the message carrier (the spinal cord) has been injured;
- Bowel control;
- Skin sensation;
- Circulatory control;
- Respiratory system;
- Muscle tone;
- Fitness and wellness;
- Sexual health;
- Muscle, nerve or joint pain;
- Depression

## **Working with a Person who has a SCI**

### **Tips for getting Active**

The benefits that an individual with a SCI can gain from physical activity will largely depend on their starting point, and the degree of effort which they are willing to put into an exercise program. The choice of physical activity should be matched with the individual's needs and their abilities. The individual will move and participate in their own way. The types of assistive equipment which individuals with a SCI may use to participate in physical activity include a manual, sport or power wheelchair, a cane, crutches, walker, brace, and orthotics.

\*Note: Wheelchairs or assistive devices vary in size, shape and design to accommodate the individual's needs and interests. Sport wheelchairs are available for individual sports, i.e. wheelchair rugby, tennis, athletics or basketball.

Recently, the first evidence-based physical activity guidelines were created to support adults with spinal chord injuries in living healthier lives. To improve fitness, these guidelines prescribe a minimum of 20 minutes of moderate to vigorous aerobic activity twice weekly, as well as strength training to be carried out two times per week. The guidelines can be found by visiting [www.sciactioncanada.ca/guidelines](http://www.sciactioncanada.ca/guidelines).

When working with a person who has a SCI, consider the following:

- Create a welcoming environment – customer service focus;
- Ask the individual what their needs and interests are – never assume;
- Reminder: privacy/ disclosure policies ensure individuals share information at their discretion and comfort;
- Focus on what the individual can do rather than what they cannot;
- Think safety first;
- Encourage the individual to consult with a medical professional prior to starting a physical activity program;
- An individual's spinal chord injury could have been the result of an accident, injury or progressive condition – be patient and supportive;
- Consult with resource agencies with expertise in areas of inclusive physical activity – training or professional development materials may be beneficial;
- Ensure staff and volunteers receive adequate training to be able to deliver quality customer service, gain equipment knowledge/ use and learn about available resources – on/ off-site;
- Ensure wide aisles and uncluttered work areas

### **Teaching and Communication Technique**

- Offer assistance and support as required or when asked;
- Reminder – do not touch an individual or their assistive device or service animal without their consent;
- Create space for easy movement and participation;
- Match the individual with activities which meet their needs and abilities. Some individuals may be experienced athletes while others may be new to physical activity;
- Make it fun – having fun and socializing are important benefits to physical activity experienced by people who are active;
- Develop activities at the level of the individual, focusing on endurance, balance, strength and flexibility. Enhancing these areas can be helpful with everyday activities: i.e., walking or wheeling instead of driving, do-it-yourself house renovations, getting dressed or carrying groceries;
- When leading activities outdoors, ensure participants wear sun screen, protective clothing, sunglasses and a hat;
- Make it interesting – exercise and every day activities, such as gardening or walking a dog, can easily go together.



### **Physical Activity Tips and Modifications**

- Ask the individual to consult a medical practitioner prior to involvement;
- Provide a facility without barriers to participation, thus creating access to the venue, equipment or activity (this could include: accessible parking spaces, ramp access or flat access to the front door, remove obstacles in hallways – signage, garbage/ recycling bins, automatic or wide frame doorways to enter/ exit)
- Allocate additional staff or volunteers to the area where the participant will be taking part in an activity, where possible;
- Ask first, do not assume that the individual needs or would like help;
- Avoid slippery surfaces and raised obstructions;
- If available, provide adapted equipment;
- As with every individual, other considerations should be discussed (i.e. pain, fatigue and the individual's expectations).

## Resources

Rick Hansen Institute - [www.rickhanseninstitute.org](http://www.rickhanseninstitute.org)

Active Living Alliance for Canadians with a Disability – [www.ala.ca](http://www.ala.ca)

Variety Village – [www.varietyvillage.ca](http://www.varietyvillage.ca)

[SCI Facts: Spinal Cord Injury Canada - http://sci-can.ca/resources/sci-facts](http://sci-can.ca/resources/sci-facts)

[Physical Activity Guidelines for Adults with Spinal Cord Injury -  
www.sciactioncanada.ca/guidelines](http://www.sciactioncanada.ca/guidelines)

[What is a Spinal Cord Injury -  
www.apparelyzed.com/spinal\\_cord\\_injury.html#spinal-cord-injury-overview](http://www.apparelyzed.com/spinal_cord_injury.html#spinal-cord-injury-overview)

Wikipedia: Osteogenesis imperfecta -  
[http://en.wikipedia.org/wiki/Osteogenesis\\_imperfecta](http://en.wikipedia.org/wiki/Osteogenesis_imperfecta)

Spinal cord injury: Complications - [www.mayoclinic.com/health/spinal-cord-injury/DS00460/DSECTION=complications](http://www.mayoclinic.com/health/spinal-cord-injury/DS00460/DSECTION=complications)

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