



*Promoting Health and  
Preventing Complications  
Through Exercise*

*Rehabilitation Research and Training Center on Spinal Cord Injury*

*www.sci-health.org*

# Exercise and SCI

2005



What role does  
exercise play  
in health &  
wellness?

Why exercise?

**L**ow levels of physical activity and exercise can increase the chance that individuals with spinal cord injury (SCI) develop certain secondary conditions, such as coronary heart disease and osteoporosis, sooner than individuals without a SCI (for more information, please refer to our previous consumer fact sheets on “Coronary Heart Disease and SCI” and “Osteoporosis and SCI”). Unfortunately, persons with SCI tend to be less physically active because in addition to their physical limitations, they face additional environmental barriers, such as access to accessible exercise equipment and transportation difficulties. Regardless, physical activity and exercise is for EVERYONE -- especially if you have a SCI!

**A**chieving optimal health includes a balance of satisfying intellectual, emotional, spiritual and social activities—as well as practices that contribute to good physical health. Healthy physical habits can include:

- Regular medical care, including preventive and follow-up care
- Not smoking
- Limiting your alcohol and caffeine intake
- Eating a balanced diet
- Maintaining an appropriate body weight for your height and age
- Getting regular physical exercise as allowed by your level of SCI

**E**xercise contributes to good physical health and overall wellness. Not only does the body’s natural chemical reaction leave it feeling better when it is active and in good shape, but for individuals with SCI, the act of exercising can give them a sense of accomplishment and boost their self-esteem and confidence. This psychological aspect of exercise can be a great motivational tool for all individuals with a SCI.



In addition, exercise can result in:

- Improved heart and lung function
- Lower levels of cholesterol and blood pressure
- Increased muscular strength, flexibility and overall endurance
- Better weight control
- Less anxiety and depression
- Enhanced feeling of well-being
- Protection against chronic diseases
- Improved ability to perform activities of daily living

Persons with SCI who exercise or are physically active may also develop fewer secondary conditions, including coronary heart disease, respiratory disease, diabetes, osteoporosis, overuse injuries, muscular imbalance, and pressure sores.

## The A, B, C's of exercise

**T**o achieve the health benefits of physical activity and exercise, it is recommended that adults are active for 30 minutes at least 5 days/week. Either a single session of at least 30 minutes of continuous activity, or several shorter sessions during the day works well.

A typical long exercise session consists of a warm-up period of light activity, followed by a main activity consisting of cardiovascular, muscular strength or flexibility training. The session ends with a short cool down period of light activity. You can vary the routine by changing your exercise session's intensity (how hard you are exercising), duration (how long you are exercising) or mode (the kind of exercise you are doing). The activity can also be structured (laps around a track, hand-cycling, swimming, resistance training) or unstructured (gardening, household cleaning, getting to work).



Make exercise and physical activity fun, too! Many people enjoy therapeutic recreation activities such as basketball, tennis, cycling and sailing (using appropriate adaptive equipment) as part of their exercise program. In addition, there are many sports and leisure organizations that offer new and exciting pursuits (for example, horseback riding, skiing, and rugby) for individuals with disabilities, including SCI.

For an aerobic workout, you've got to work the large muscles of your body hard enough to get your heart rate and breathing rate up. Even exercise that feels about as strenuous as going for a brisk walk did before your injury can increase your endurance and cardiovascular fitness now. You can try hand-cycles, swimming, wheelchair sports groups, fitness videos, or yoga classes.

Doing work with your muscles – moving them against resistance, weight, or a counter force – is generally how you build strength. For some people, just getting around in a wheelchair is enough of a strength exercise. However, others prefer to lift weights. Although heavier

weights result in bigger, stronger muscles, heavier weights also increase the chance of injury. Be careful! Use a variety of exercises to work many muscles while reducing the risk of overuse—your muscles and joints have to last your lifetime!

“Range of motion,” or stretching exercises, can reduce pain and stiffness, improve posture, and allow you to use your muscles to their maximum. Passive range of motion, perhaps with the help of someone else, may be needed for those muscles you can’t move. Be careful, though, since over-stretching can result in muscle and ligament sprains and tears – or even in broken bones!



#### When Exercising...

- Empty your bowel and bladder prior to exercise
- Stretch your spastic muscle groups prior to exercise and avoid exercises that cause excessive spasticity
- Drink fluids often to prevent unsafe changes in blood pressure or body temperature, and to prevent dehydration
- Stop exercising if you notice severe joint pain
- Obtain medical help right away if you develop severe chest pain or headache, flushing, nausea or cramping
- Remember to do pressure release

## What role does my SCI play?

**A**lthough a SCI can make physical activity and exercise harder, it certainly does not make it impossible! Since the degree of functional loss due to a SCI injury depends on the level and extent of the injury, everyone is affected differently. Thus, your level of injury determines the physical activities and exercise programs that are right for you.

For example, breathing exercises can offer great health benefits for some individuals with injuries between levels C1 and C4. In addition to breathing and shoulder exercises, individuals with injuries below C4 can exercise other areas. Individuals with injuries below C5 may find it better to exercise at the gym.

In general, aerobic exercise will improve your heart and lung function, whereas strength training will keep your muscles strong, so you can perform activities of daily living. And flexibility training will improve your joint range of motion and reduce spasticity.

## How can I work with my doctor?

**I**f you are considering either starting an exercise program or changing your present one, talk with your doctor first! Because of your SCI, you may first need to be screened for secondary conditions such as cardiovascular disease and osteoporosis. The screening results will help your doctor, therapist or trainer design your exercise program since not all activities and exercises may be helpful to you.

Be sure to ask your doctor and therapist about the wealth of additional resources available to you. Many printed and on-line materials are out there to educate and inform you about interesting and exciting options for physical activity and exercise with a SCI.

## Take Home Tips

Remember that:

- Physical activity and exercise is for EVERYONE – even if you have a SCI!
- It is important to talk with your doctor BEFORE starting or changing your exercise program.
- You should THANK YOURSELF for making this giant step toward a healthier you!

For more information or alternative formats, please visit our website at [www.sci-health.org](http://www.sci-health.org) or call 1-866-380-4344.

### Disclaimer

This fact sheet only provides general information. It is solely intended for informational and educational purposes and is not intended nor implied to be the diagnosis or treatment of a medical condition or a substitute for professional medical advice relative to your specific medical conditions. Always seek the advice of your physician or other qualified health provider prior to starting any new treatment or with any questions you may have regarding your medical condition.

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