Planes, Trains and Wheelchairs

"Planes, Trains and Automobiles" is a movie about a businessman's (Steve Martin) trip home for Thanksgiving. He meets a loud, loveable salesman (John Candy) along the way. Together, they turn a simple trip home into a nightmare.

The movie is a hilarious look at the very real hassles of traveling. Think about it! You have to plan a trip, pack suitcases with everything you need, get to the place you are going, and get back home. A lot can go wrong for anyone. Add the fact that you are an individual with spinal cord injury (SCI), and it is easy to see how one problem can turn a trip into a comedy of errors.

Preston Scarber (C5) knows the hassles of travel. He travels at least 8 times a year as part of his job. Most of his traveling is too far to drive, so he flies often. "A fair amount of thought must go into planning air travel," says Preston. "Airlines are generally very helpful in transferring me to the airplane seat. However, my power wheelchair has been the source of most of my problems. Airlines inspect batteries because wet cell batteries must be shipped in a separate container. I have to tell the baggage staff exactly how to remove the batteries to avoid damage to harnesses and wires. I found out about this too late. On one flight my charger port and battery cables were damaged. I could only make left turns during my entire stay! It was not exactly enjoyable, but it made interesting conversation."

For individuals with SCI, traveling is probably like your every day life. When you were first injured, you probably had a few problems soon after you went home from the hospital. Over time, you learned how to avoid some problems. As unexpected problems come along, you work them out.

It is the same with traveling. You will probably have a few problems on some of your trips. However, you will learn that many problems can be avoided with good planning. Start by reading and talking to others about their travel experiences. When flying, for example, Preston recommends that you stow all small or detachable pieces from your wheelchair (arm and leg rests, driving yoke, seat cushion, etc.) in the overhead bins. You need to also open the valve on your air cushion to prevent it from over expanding due to cabin pressure. These precautions can help avoid lost or damaged items.

Nickey LaVecchia (T12) is another experienced traveler. He has learned to use a travel agent to help avoid problems with accessibility. "I make sure the travel agent understands all my needs."

continued on next page
Accessibility is always a major concern for travelers who use a wheelchair. You know from your everyday living that some places are more accessible than others. Most of the newer hotels and cruise ships are designed for better accessibility. However, many of the older hotels and cruise ships may offer accessible rooms, but they may not be fully accessible. For example, there may be a bathroom with an accessible sink, but the bathroom door may not be wide enough for a larger wheelchair to enter. Some rooms may be too small or over crowded with furniture to allow easy wheelchair access.

You want to make the trip worth your efforts if you are going through all the hassles of taking a trip. You may want to avoid places that offer only partially accessible activities and attractions. For example, Biltmore House in Asheville, North Carolina is a popular tourist location. The entire Winery along with the first and second floors of Biltmore House are wheelchair accessible. However, the third floor, basement and sub-basement are not accessible. Some historic cities such as Savannah, Georgia and Charleston, South Carolina are similar. Many of their areas are accessible, but some of the more historical areas are not.

Instead of going somewhere with limited access, you can plan a trip to allow you easy access to most, if not all, of the activities and attractions that you want to do. If you want to go to the beach, make sure there is a beach wheelchair available. Check the accessibility of boats if you want to fish while you are at the beach. For example, Venice, Florida is ideal for a trip to the beach. It is a beautiful gulf coast community with accessible beaches and recreational activities such as fishing and sailing. In fact, Venice is the most “disability-friendly” community in the nation according to the National Organization on Disability.

You will need to also work out accessible transportation before you reach your destination. Many larger cities have accessible public transportation. Again, some places are more accessible than others. In Venice, Florida, for example, transportation is very accessible. If you can transfer with little or no assistance, you will probably have easy access to taxi or rental car services. In fact, most of the larger rental car companies offer vehicles with hand controls if given advance notice. However, people who cannot easily transfer may have to consider other options if public transportation is not available. There are some independent companies offering accessible van rentals, but they can be expensive and limited to the more populated cities. Some of the larger rental companies plan to offer accessible vans in the future, which may make van rental easier and more affordable. Until then, you may prefer to drive your own vehicle to a location close to home if you want to avoid problems with transportation.

Personal care is always an issue when traveling. It is essential for you to do regular weight shifts to prevent pressure sores, especially when you are on a plane. You have to also carefully plan your bladder management because most airplane restrooms are not easily accessible. Whenever possible, avoid changing planes, overly long flights and extended lay-overs. When you need special assistance, you need to make sure that you clearly instruct those assisting you.

Before you travel anywhere, you might want to make a list of vendors that are available at your destination. Then, you can easily call someone if you have a problem with your wheelchair or you need personal care supplies.

In short, you do not have to give up traveling simply because you have spinal cord injury. Many places offer the necessary accommodations to help make your trip more accessible. It is up to you to find the most accessible and enjoyable place for you.

When you do travel, it is a good idea to "expect" the unexpected. Even with the best planning, you will have problems. Before long, however, you can be an experienced traveler like Preston and Nickey. You will be able to avoid problems. Then, you can also share your experiences with other individuals with spinal cord injury.

Note

1 For more information on tickets and visiting Biltmore House, please call 800-624-1575 (toll free) or visit the website at www.biltmore.com.
2 For tourism information about Venice, Florida, go to the website at www.veniceflorida.com/links/tourism.htm or contact a local travel agent. Read about Venice in the June 2002 Issue of New Mobility in "A Tale of Two Cities." (www.newmobility.com/review_article.cfm?id=555&action=browse)
The Surgeon General has reported on the physical activity and health of people with disabilities. The report states that individuals with spinal cords injury (SCI) can benefit from physical activities much like people without a disability. Some types of activities might include sports, gardening, playing with kids, and exercise.

The problem is that individuals with SCI are less likely than people without disabilities to engage in regular physical activities. There may be a number of reasons for this inactivity. A lot of people may wrongly assume that they cannot participate in any physical activities because they have limited mobility. Some people may be unaware of the kinds of physical activities and programs that are available (see Physical Activity after SCI and Exercise after SCI on pages 4 and 5). There may be others who simply believe that physical activity offers them no benefit.

However, the Surgeon General reports that physical activity does not need to be strenuous to be beneficial. This means that most individuals with SCI can get significant health benefits from a "moderate" (20-30 minutes) amount of physical activity on a regular (every other day) basis.

Benefits of Physical Activity after Spinal Cord Injury

♦ Reduces risk for premature death and the development of heart disease, high blood pressure, respiratory illness, diabetes and some forms of cancer
♦ Improves muscle strength, endurance, mobility, self image, and ability to fall asleep and to sleep well
♦ Helps decrease feelings of anxiety, loneliness, depression, and stress
♦ Helps in management of weight and chronic neuropathic pain

An increase in length of time (duration), number of days (frequency), and/or amount of energy (intensity) spent at physical activity can improve health benefits. For example, a "moderate" activity might include pushing your wheelchair every other day for 30 minutes per day. But if you play wheelchair basketball, it may take only 20 minutes to get similar health benefits because basketball is a more intense activity than simply pushing. If you participate in activities every day instead of every other day, you will also get greater health benefits.

Even if you have been inactive for years, the Surgeon General reports that you can still improve your overall health with moderate physical activity. However, there are a number of things to remember:

1. Talk to your doctor before starting or changing any physical activity
2. Start gradually with a light activity for a short (5 - 15 minutes) amount of time every other day. As it becomes easier to do the activity, you can increase the time and intensity of what you are doing. Your goal should be to become at least moderately active on a regular basis.
3. Watch for danger signs such as headaches, chest pain, joint pain, or cramping. Pain and discomfort can be a signal that you have over exerted yourself. They can also be signs of more serious problems such as autonomic dysreflexia or injury. You should stop and evaluate whatever is causing a problem.
4. Have fun with whatever you do. It is important that you are motivated to participate in physical activity. This is why you want to do things that you enjoy. If you are doing things that you do not enjoy, you may not be motivated to continue the activities over a long period of time. You might want to participate in activities that allow you include your friends or meet new people. This may help to keep the activities fun.

Individuals with spinal cord injury who participate in moderate, regular physical activity will likely experience an improvement in their overall health and well-being. There may be greater benefits for individuals who increase the duration, frequency, and intensity of their activities. Individuals with little or no history of physical activity can also get similar health benefits.

Note
This article is based primarily on the Surgeon General's Report on Physical Activity & Health (Order Processing Code: *7864), 1996. For more information, go to www.cdc.gov/nccdphp/sgr/sgr.htm or call 202-512-1800.
As detailed on page 3 (Benefits of Physical Activity), most everyone can benefit from physical activity. It helps people live longer, healthier lives. It reduces the risk of developing health problems such as heart disease, high blood pressure, diabetes and some forms of cancer.1

For individuals with spinal cord injury (SCI), physical activity can have added health benefits. If you are physically active, you have a lower risk for developing secondary complications such as urinary tract infection, pressure sores and respiratory illness. Physical activity can help you better manage problems such as spasticity, weight gain and chronic pain. You can help improve your strength and endurance, which can improve your ability to accomplish every day tasks such as transferring and pushing a manual wheelchair. Plus, people who are physically active are less likely to experience feelings of anxiety, loneliness and depression.

You need only a moderate amount of physical activity to significantly improve your health. This means that you need at least 20 to 30 minutes of physical activity every other day. If you increase the length of time (duration), number of days (frequency), and/or amount of energy (intensity) that you spend doing activities, you will probably get greater health benefits.1

There are many ways to get a moderate amount of physical activity. Some people are active around the house when doing yard work or chores, and others enjoy activities with their children. You may have a job that is physical, or you may enjoy physical activities in your leisure time.

If you want to improve your participation in physical activities, you should first think about the types of activities that you enjoyed before your injury. Did you enjoy gardening? Fishing? Hunting? Exercise? Scuba diving? Horse back riding? Sports? Whatever activities you enjoyed before your injury, you will probably enjoy the same activity now.

Second, you can talk to other people to find out what activities are available in your area. Ask about organizations or foundations that offer an opportunity to participate in activities. If there are no organizations or foundations in your area, you can contact national organizations such as Wheelin’ Sportsmen (www.nwtf.org/wheelin). They offer programs to give people with any disability a chance to try hunting, fishing, shooting and other outdoor activities.

If you enjoyed sports before your injury, you can still participate in sports after injury. Wheelchair sports are a very popular way to improve your overall health. The number of sports offered to participants who are disabled has grown to rival that of sports offered to nondisabled participants. Individuals with SCI are now participating in everything from traditional wheelchair basketball to power wheelchair soccer.

Finally, do not limit your physical activities solely based on the fact that you have limited mobility. If you can think of an activity, there is a great chance that you will find that other people are doing what you want to do. When you consider the fact that some individuals with SCI are actually rock climbing, you quickly realize that anything is possible.

You may not be able to do some activities the exact same way as before your injury, but you may also be surprised by what you can do with a positive attitude and the proper equipment. For example, some individuals with tetraplegia may need a modified rod and reel for fishing or a modified ski to water or snow ski. However, you are still doing the same activity. The fact that you may need modified equipment does not mean that you will not enjoy fishing or skiing.

There are some foundations and organizations that will provide financial assistance for adapted equipment if you cannot afford the equipment on your own. Some programs like Wheelin' Sportsmen will provide the adaptive equipment needed to participate. You can probably participate at little or no cost to you.

Note
**Exercise after Spinal Cord Injury**

**Exercise** is a great way for most individuals with spinal cord injury (SCI) to improve their overall health and their ability to do everyday activities. Although you should first talk to a doctor before starting or changing an exercise program, most doctors recommend exercise as a way to improve health. They usually suggest that people start with 10 minutes of light exercise every other day. Then, you slowly increase the time and energy that you spend exercising to improve the overall benefits to your health.

**C1 - C4**

Exercise can be difficult for many individuals with high levels of injury. The types of exercises that you can do may be limited by your lack of mobility, but you do have options. There are exercises that you may be able to do by yourself, and there are some exercises others can help you do.

Breathing exercises can offer great health benefits for some individuals with injuries between levels C1 and C4. You can start by doing a set of 4 breathing exercises twice in the morning and twice at night. As a result, you can help keep your respiratory system* strong. You can increase your lung capacity and lung expansion, which makes it easier to take deep breaths. Plus, you can decrease your risk for respiratory complications such as pneumonia.

1. Take a deep breath and hold it for a 5 seconds before slowly breathing out
2. Take a deep breath as fast as you can bringing in as much air as you can before pushing the air out as fast as you can
3. Take a deep breath and hold it...take another breath and hold it...take one more breath before slowly breathing out
4. Take a deep breath in then breath out counting out loud as long and as fast as you can

Neck and shoulder exercises can improve your strength and endurance. You can start by doing 10 shoulder shrugs in the morning and 10 at night. If you have someone to help, you can ask them to hold your head and shoulders to provide some light resistance to your movements. Your assistant might also help with range of motion (ROM) exercises. When doing ROM, it helps if your arms and legs are lifted higher than your heart. This increases your heart rate because it is harder to push blood flow against gravity. Thus, you benefit more from the activity.

**C4 - C5**

In addition to breathing and shoulder exercises, individuals with injuries below C4 can exercise other areas. Although you may need help to set you up to exercise, you can do a lot on your own. For example, you can use elastic bands - easily found at many local retailers - to exercise your biceps. You can exercise your scapular (shoulder blades) muscles while you are sitting in your wheelchair.

**C6 - C8**

Individuals with injuries below C5 may find it better to exercise at the gym. Using modified gloves, you can probably exercise your shoulders, biceps and triceps on some exercise equipment. If you have finger or thumb movement, you may be able to use the equipment without the use of modified gloves. This use can improve strength in the fingers and thumbs. If you do not have access to a gym, you can do similar exercises at home or participate in other forms of physical activities.

**Individuals with Paraplegia**

If you have paraplegia, you can probably exercise and do most forms of strengthening, stretching and ROM exercises without the assistance of others. Whether you use exercise equipment or participate in other forms of physical activities, your focus should be keeping your body strong and flexible.

**Conclusion**

You should always be safe when you are doing any physical activity. Exercise can be great for promoting good health, but it can also lead to health problems if not done safely. If you experience pain, stop immediately and call your doctor. Pain can be a sign that you have serious problem. Otherwise, you should enjoy the health benefits of proper exercise for years to come.

* View an InfoSheet or slideshow on *Understanding and Managing Respiratory Complications after SCI* at [www.spinalcord.uab.edu](http://www.spinalcord.uab.edu). If you do not have Internet access, call the Office of Research Services at 205-934-3283 to request an InfoSheet or computer CD ($5).
Weight Management & Wellness Among Individuals with Spinal Cord Injury: Modification of the EATRIGHT© Program

This column provides an update of current research being conducted by the UAB Rehabilitation Research and Training Center on Secondary Conditions of Spinal Cord Injury. The work is supported by grant #H133N000016 from the National Institute on Disability and Rehabilitation Research, Office of Special Education and Rehabilitative Services, U.S. Dept. of Education, Washington, DC.

Introduction

Weight management is important for good health. People who are obese generally have an added risk for high blood pressure, diabetes, heart disease, and other health problems. People who are not overweight generally have fewer health problems.

As an individual with spinal cord injury (SCI), you are at an increased risk for obesity due to a number of factors after injury. For example, it may be hard for you to exercise at the level needed to burn excess calories. Plus, you probably have a slower metabolic rate (the speed at which the body burns calories) after injury than you did before injury. Thus, you need fewer calories to maintain your weight.

EATRIGHT© is a nationally recognized weight loss program developed by the University of Alabama at Birmingham (UAB) Department of Nutrition Sciences. The EATRIGHT program offers proper diet, nutrition, exercise, and stress reduction solutions for managing weight and is a proven success in the general population.

UAB's Department of Physical Medicine and Rehabilitation developed and studied a modified version of the EATRIGHT program to find out if it is an equally safe and effective weight management program for individuals with SCI. UAB's Department of Nutrition Sciences and The Lakeshore Foundation assisted with the study.

Objectives

The overall goal of this research project was to modify the established EATRIGHT program to create and evaluate a new weight management program for individuals with SCI. To accomplish this goal, the overall objectives included:

♦ understanding the food preferences, eating patterns, and unique nutritional and health demands of individuals with SCI, mainly those who are overweight;
♦ identifying physical and lifestyle characteristics associated with obesity;
♦ utilizing a small group of individuals with SCI to measure the feasibility of a new SCI EATRIGHT© program;
♦ revising the new program if needed;
♦ utilizing a larger group of individuals with SCI to examine the effectiveness and safety of the revised SCI EATRIGHT program; and
♦ identifying factors that are successful in weight management.

Participants

To date, 11 individuals with SCI have participated in this research project. Of those, 6 are men and 5 are women; 8 are white and 3 are black; 7 have paraplegia, 3 have tetraplegia, and 1 person has minimal deficit. Their ages range from 21 to 60 years, and they are all at least 1 year post injury.

Body Mass Index (BMI) describes a person’s weight in relationship to his/her height. A BMI of 25 or more is considered overweight, and a BMI of 30 or more is obese. The BMI of participants ranged between 29 and 42, so they were all overweight or obese.

BMI* is calculated the same for men and women. It is equal to weight in pounds divided by height in inches divided by height in inches multiplied by 703. For example, a person weighing 210 pounds and 6 feet tall has a BMI of 28.5 (210 divided by 72 divided by 72 multiplied by 703 = 28.5)

Methodology & Results

The research project included 3 phases.

1) Modification of the original EATRIGHT program
The dietary approach of the original *EATRIGHT* program promotes a low fat, high complex carbohydrate diet. Because individuals with SCI have unique health care concerns due to injury, the *SCI EATRIGHT* program also promotes adequate intake of protein, fiber, and fluid. These additions help improve or maintain skin integrity, bowel function, and urological status.

The original *EATRIGHT* exercise program begins in week 7 of the 12-week program. The aim is to start with a limited amount of aerobic exercise and slowly increase the time spent exercising each week.

The *SCI EATRIGHT* exercise program began in week 6. Because individuals with SCI are more prone to joint and muscle injury, the new program emphasized injury prevention to reduce risk to joints and muscles. Exercise was limited to stretching and strengthening. The *SCI EATRIGHT* also stressed the importance of regulating body temperature during exercise. Participants were asked to drink plenty of water, keep their skin cool, and avoid heavy exercise in hot, humid weather.

A physician, dietician, therapist, psychologist, and consumer adviser evaluated behavior modification and stress management components of the original *EATRIGHT* program. No initial modifications to these components were made. However, some text modifications were made in the accompanying instruction booklet to appeal to a target audience of persons with SCI rather than the general population.

### 2) Pilot test the modified program

Four individuals with SCI participated in the initial 12-week pilot group. The *SCI EATRIGHT* program was then evaluated using self-administered questionnaires, physical characteristics and medical examinations.

Based on the results of those evaluations, additional changes were made to the *SCI EATRIGHT* program prior to beginning the formal test. First, the start date of the exercise sessions was moved from week 6 to week 3, which allowed more time for exercise. The exercise program was also expanded to include aerobic activities. Second, participants were given a Dual Energy X-ray Absorptiometry (DEXA) scan to measure total body fat mass. Finally, a few minor changes were made in the way the program was presented to participants. One example is that the order of classes was changed.

#### 3) Formal test of *SCI EATRIGHT*

The measurements chart shows the effectiveness of the *SCI EATRIGHT* program. On average, participants’ body weight, BMI, waist size, total body fat, and blood cholesterol level were lower after 12-weeks. The range shows the greatest loss and gain made by participants in each measurement.

All participants were tested to find out if the *SCI EATRIGHT* program had a negative impact on their health. Their hemoglobin, hematocrit, and albumin were measured to evaluate the safety of the program. The results show it had no adverse effects on the health of participants. The program did not promote the development or advancement of pressure sores, constipation or infection.

**Discussion**

The *SCI EATRIGHT* program appears to be a safe and effective weight management program for individuals with spinal cord injury. They should, however, first talk to a doctor who is familiar with the unique health care concerns related to spinal cord injury before altering their current diet and exercise regimens.

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**Note**

If you are interested in more information about this research project or participating in future *SCI EATRIGHT* projects, you can contact Dr. Yu-ying Chen at 205-934-3329 or Yychen@uab.edu.

For information on *EATRIGHT* program, call the UAB Department of Nutrition Sciences at 205-934-7053 or go to [www.uab.edu/eatright](http://www.uab.edu/eatright).

For information on The Lakeshore Foundation, call 888-868-2303 or go to [www.lkshore.org](http://www.lkshore.org).

*A BMI greater than 25 may or may not be due to increases in body fat. For example, professional athletes may be lean and muscular, with little body fat, yet they may weigh more than individuals with the same height because of their muscle mass regardless of BMI.*
Pushin’ On is published twice a year and provides information on spinal cord injury to individuals with SCI, their family, and rehabilitation service providers. It is distributed free of charge. Reprints are permitted with prior approval. Alternate formats available on request.

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UAB wants women with disabilities and their caregivers to participate in Project CLUES (Caregiver Links to Understanding, Education, and Support), a study about caregiver stress and coping. Participation will consist of 4 at home visits to people in Alabama and neighboring states over a 12 month period and monthly telephone calls to monitor participant well-being. Caregivers and care-receivers must participate at the same time, and both will receive $75. For more information, contact Dr. Patricia Rivera at 800-405-2640 or 934-3464.

UAB is asking women with SCI/D to participate in a study concerning the impact of physical limitation on cardiovascular health. Women who participate will receive $100. For more details, contact Dr Yuying Chen at 934-3329 or email at vychen@uab.edu.

Pushin’ On and links to other information on spinal cord injury can be found on the SCI Information Network web site at www.spinalcord.uab.edu.

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