

Weight Management following Spinal Cord Injury



INTRODUCTION

Weight management is more than losing weight. It is a lifestyle that requires a commitment to promote improved long-term health. You have to learn and use skills to lose and maintain weight loss through proper nutrition, behavioral changes, participation in physical activities, and long-term planning.

As a person with spinal cord injury (SCI), you can benefit in many ways from a healthy weight management program. You may help...

- ... lower your risk for premature death and the development of some forms of cancer, heart disease, high blood pressure, diabetes, respiratory illness, pressure sores, urinary tract infection and urinary stones;
- ... decrease feelings of anxiety, loneliness and stress;
- ... improve muscle strength, endurance, self image, and your ability to fall asleep and to sleep well; and
- ... manage your muscle spasms, chronic pain and bowel program.

At this time there are no national guidelines on weight management for individuals with SCI. Therefore, it is essential that you talk to your doctor before changing or modifying your diet and exercise regimens. Everyone has individual health concerns. Your doctor can make suggestions regarding your individual situation and your specific medical conditions.

AFTER SPINAL CORD INJURY

People usually experience dramatic weight changes after SCI. The body is under great stress at the time of the initial trauma, so the body's metabolism (how fast the body burns calories) works quicker to provide energy and nutrients to try to heal the body and fight infections. As a result, individuals who are newly injured commonly experience weight loss. Over time, the body's metabolism slows due to inactivity and a decrease in muscle mass. The body needs fewer calories

each day. This change in the body's metabolism contributes to weight gain for many individuals living with SCI.

If you want to lose weight, you first reduce your daily calorie intake. Most men with SCI and women who are physically active can probably lose weight with a limit of 1,800 calories per-day. Most women with SCI and men with small body frames can probably lose weight with a limit of 1,500 calories per-day.

UNDERSTANDING NUTRITION

Most everyone benefits from proper nutrition. Overall, healthy nutrition can help to:

- ◆ give you energy;
- ◆ fight infections;
- ◆ maintain proper body weight; and
- ◆ keep all your body systems working properly.

Choosing Healthy Foods

You may not know it, but you can probably lose weight and improve your health by simply making healthier food choices. In general, there are 5 food groups. You want to choose foods that offer the greatest nutritional value with the fewest calories: you want to eat more vegetables than fruits, more fruits than starches, more starches than meat and dairy foods, and more meat and dairy foods than fats.

5 FOOD GROUPS

Vegetables
Fruits
Starches & Grains
Meats & Dairies
Fats & Oils

Your body actually needs vital nutrients from all 5 food groups, but you can make the healthiest choices within each group. Fresh vegetables and fruits are healthier than canned items that contain added salt and preservatives. Whole grain breads and cereals are healthier than regular. Fish, skinless poultry, lean meats, low-fat dairy and soy products are healthier than veal, peanut butter and regular eggs, cheeses and milk. Foods higher in monounsaturated and polyunsaturated (specifically omega-3) fats are healthier than foods high

Nutrient	Natural Function in Overall Health <small>(Source: Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, 2005)</small>
<u>Vitamin A</u>	Plays a significant role in vision, gene expression, cellular differentiation, morphogenesis, growth, immune function, and maintenance of healthy bones, teeth, and hair.
<u>Vitamin C</u>	As a dietary antioxidant, vitamin C counteracts the oxidative damage to biomolecules, strengthens blood vessels, maintains healthy gums, and aids in the absorption of iron.
<u>Vitamin D</u>	Helps maintain normal blood levels of calcium and phosphorus.
<u>Vitamin E</u>	As a dietary antioxidant, vitamin E counteracts the oxidative damage to biomolecules; in addition, vitamin E helps in the formation of red blood cells and muscles.
<u>Magnesium</u>	Plays a key role in the development and maintenance of bones, as well as activates enzymes necessary for energy release.
<u>Potassium</u>	Assists in muscle contraction, maintaining fluid and electrolyte balance in cells, transmitting nerve impulses, and releasing energy during metabolism. Diets rich in potassium lower blood pressure, blunt the adverse effects of salt on blood pressure, may reduce the risk of developing kidney stones, and may decrease bone loss.

in saturated and trans fats (any food having the word “hydrogenated” on its ingredients list contains trans fats, which are the unhealthiest of all fats).

No matter what your level of impairment, you can improve, control or prevent many health problems with a proper balance of nutrients. However, there are specific nutritional needs that you need to know.

Fiber

Vegetables, fruits and starches are the best natural sources for fiber. It helps maintain the health of the digestive tract and proper bowel functioning. You need about 25 to 35 grams(g) of fiber each day. However, you need to gradually make changes to your fiber intake because sudden increases or decreases in fiber intake can cause irregularities in your bowel program.

Protein

Meat, beans and dairy products are the main sources for protein, and the healthiest sources include eggs, fish, seafood, lean meats (90% fat-free by weight or higher), low fat milk (1%) and low fat cheese (2%). Protein is essential for healthy muscles and skin and helps fight infections. Normally, you need 70g to 90g of protein per day, but you need to avoid high protein, low carbohydrate diets because such diets put you at higher risk for kidney problems.

Calcium

Dairy products are the best source for calcium, which is the key nutrient in developing and maintaining bones mass. Calcium also helps in blood clotting and muscle and nerve functioning. In general, you need about 1,200 milligrams (mg) of Calcium daily. People with

osteoporosis as well as adults over 50 (especially women) need to consult their doctors regarding their daily calcium intake.

Sodium

Sodium (most commonly found in salt) is needed for the regulation of your body’s fluid balance, contraction of muscles and conduction of nerve impulses. Adults should normally limit sodium to between 500mg and 1,000mg per day. Too much sodium causes your body to retain water and puts you at higher risk for swelling, heart or kidney disease and stroke. Limited sodium intake reduces the risk for health problems and swelling.

Water

Water should be your #1 beverage choice! In general, water helps regulate the body’s temperature and the digestion of food. For individuals with SCI, water helps prevent urinary tract infections as well as kidney and bladder stones. Water is also important in regulating bowel management. Although fresh vegetables and fruits are good sources for water, it is generally recommended that individuals with SCI drink at least 8 cups (64 ounces) of water per day.

BEHAVIOR CHANGES _____

Planning Meals

Take a moment to think about how you prepare for a meal. You probably think about your meal when you are ready to eat. Few people actually plan for upcoming meals. However, people who have a good meal plan tend to make healthier food choices, have lower stress levels, and save time and money.

When you plan meals, you should consider 6 factors:

- 1) What is your lifestyle?
Before you actually write anything in your meal planner, think about how your meals can best fit your lifestyle. How much time do you have to prepare meals? Are you able to prepare your own food or do you rely on someone to assist you? What days do you want to eat at home and dine out? Are you planning meals for yourself or family? How often do you pick up food to bring home? What is your food budget? How much variety of foods do you want? What are your favorite foods or recipes?
- 2) Stick to a schedule.
Your body works best on a regular schedule. Ideally, you should eat something about every three to four hours each day. You want to plan your meals at around the same time every day whenever possible. You can plan healthy snacks between meals. Spreading your food intake throughout the day will help you avoid skipping meals and overeating.
- 3) Set aside planning time.
Pick a day that is your least stressful and allows you plenty of time to think without distractions. If you plan your meals immediately before you grocery shop, you will have an idea of what foods you need to buy. If you shop for groceries every two days, you might plan your meals two days at a time. If you shop for groceries weekly, you might plan your meals every week. At first it may seem like a big task to plan out all of your meals at one time. After a few weeks, however, you will find a menu planning method that works for you.
- 4) Choose healthier foods.
Again, you want to eat plenty of fruits and vegetables. Eat 100% whole wheat grains and lean meats. Cut fats from your diet by avoiding snack foods such as cookies, chips, and cakes. If you choose foods that are not the most nutritious, you simply limit how much you eat.
- 5) Plan for the unexpected.
Thoughts, feelings, and even events can trigger an “urge” for food when you are not actually hungry. You might have a habit of eating when you feel sad or lonely. You might want something to eat at a ball game or movie. You can avoid being caught off guard by recognizing your triggers and developing a plan to deal with urges.

- 6) Choose foods that you like to eat.
Generally the more you enjoy food, the less you really need to feel satisfied.

Shopping

In general, groceries have a similar layout. The outer perimeter of the store has fresh foods, which are usually the healthiest. Foods are usually not as healthy on inside aisles. Therefore, you want to buy most of your foods from the outer perimeter.

You might also buy convenience foods to keep on hand for quick meals. You might like healthy “ready made” meals that are easily cooked in the microwave. You might buy canned beans, vegetables, fruits, soups and tuna. However, you want to buy pre-cooked and canned foods with little or no salt and sugars added and avoid those foods with preservatives.

You need to compare Nutrition Facts labels of similar products to make healthier choices. In general, it is best to buy foods lower in cholesterol, fats, sugars and sodium. Compare labels and choose foods higher in the healthier monounsaturated and polyunsaturated fats and lower in the unhealthiest saturated and trans fats.

Cooking

The key to healthy cooking is to reduce the fat. While some fats are healthier than others, all fats are high in calories. The healthiest way to reduce fats is by eating more fruits and vegetables and less meats and dairy products. When cooking, you can substitute oil or butter by using a small amount of water, wine, flavored vinegar, or fruit juice. Instead of bacon or ham to add flavor, try bacon bits or lean lunch meat slices of ham. Fat-free chicken, beef, or vegetable broth is a great alternative for flavor. When oil must be used, olive and canola oils are more nutritional choices. Bake, broil, grill, roast, steam and sauté your foods. You might also use a rack or broiling pan when roasting meats and poultry to allow excess fats to drain away from meat.

Microwave cooking can also reduce fat. You can cook foods quickly without losing a lot of nutrients. You can cook healthy precooked meals or create your own microwave dishes. When you create great tasting dishes, write down and reuse your recipes.

Dining Out

Some foods are healthier than others no matter what

Sample of How Portion Sizes Have Changed

Food Item	Calories per Portion 20 Years Ago	Calories per Portion Today
Bagel	140 calories (3 in. diameter)	350 calories (6 in. diameter)
Fast food cheeseburger	333 calories	590 calories
Fast food French fries	210 calories (2.4 oz)	610 calories (6.9 oz)
Bottle soft drink	85 calories (6.5 oz.)	250 calories (20 oz.)
Turkey sandwich	320 calories	820 calories (10 inch sub)

restaurant you visit. One key to healthy dining is to avoid over eating. Many people like to visit family-style restaurants that feature food buffets. However, people who eat from buffets have a tendency to over eat. You want to also limit portion sizes when dining out. If possible, you might reduce your portion size by ordering an appetizer or lunch portion. You might split a main course with someone or eat half and have the rest wrapped up to take home. Never “up-size” meals!

It is best to order from the menu. Ordering from the menu allows you to ask questions about how a food is prepared. You can ask for healthier changes if needed. For example, you can request that meats or seafood be grilled instead of fried. Ask to have your food prepared without butter or have sauces served on the side. Ask for a substitute item such as a vegetable in place of fries, or you can ask the server not to bring items that you do not want to be tempted to eat.

The average fast food meal contains about 1200 calories! It is best to limit your meals to approximately 500 calories and 15 - 20 grams of fat. You should ask for the nutritional guide and select foods lower in calories, cholesterol, fat, sugar, and salt. Add flavor and bulk to sandwiches with lettuce, tomatoes, sprouts, pickles, peppers, or onions. Choose grilled chicken, baked potato, or salad instead of hamburgers and fries.

You also want to make healthy beverage choices. Water is best. You might try 1% or fat-free milk, low-calorie soft drinks or unsweetened tea or coffee. Avoid high-calorie soft drinks, milkshakes and drinks with alcohol.

Improving Self-Talk

The way you think directly impacts how you feel and what you do. If you feel good about yourself, you are more likely to take care of your overall health. On the other hand, your self-talk can hold you back. This happens when we have thoughts like;

- ◆ “I can’t exercise because I’m in a wheelchair” or
- ◆ “I’ll never be healthy because of my condition.”

Self-talk is a learned process based on personal beliefs developed through life experiences. Because self-talk is a learned process, you can re-learn and improve your self-talk. The goal is to have your self-talk work for you, not against you. For example:

- ◆ “I can be healthy by eating nutritional foods and being active,”
- ◆ “It may take time and hard work to reach my goals but I can do it,” or
- ◆ “I didn’t accomplish everything today but I will work harder tomorrow.”

In addition to your own thoughts, outside influences can impact your weight control program. Friends and family can be a wonderful source of reinforcement if you give them suggestions on ways they can support you. Ask for feedback, praise and comments on changes they notice in you. A diet partner can be another source of support. A partner can be a friend, co-worker, or family member. You can encourage each other while you shop and exercise together.

Ultimately, it is really up to you to take control of your life. With practice, you can improve your self-talk to improve your overall health.

- Be honest with yourself.
- Do not try to be perfect.
- Avoid over exaggerations.
- Do not try to predict future.
- Keep a positive attitude.
- Do not be self-critical.
- Recognize the good with the bad.
- Pat yourself on the back for a task well done.

Reducing Stress

Managing stress is an important key to maintaining healthy behaviors because your eating behaviors often change when you’re under stress. People who constantly experience symptoms of stress are often at higher risk for serious health problems including illness, addiction and depression.

Symptoms of Stress

Anxious	Startling easily
Scared	Crying for no apparent reason
Irritable	Trembling
Moody	Perspiration /sweaty hands
Low self-esteem	Increased heart beat
Fear of failure	Nervous ticks
Inability to concentrate	Tiring easily
Embarrassing easily	Dryness of throat and mouth
Worrying about the future	Sleeping problems
Forgetfulness	Diarrhea/indigestion/vomiting
Grinding your teeth	Butterflies in stomach
Increasing smoking	Headaches
Increased drug/alcohol use	Premenstrual tension
Acting impulsively	Neck and or lower back pain
Loss of appetite or overeating	Susceptibility to illness

Setting Goals

Realistic goals help give you direction and purpose. Short-term goals usually take no more than a couple of weeks to achieve, and long-term goals take longer.

Losing weight is difficult, especially for individuals with SCI. It is not reasonable to expect to lose 20 pounds in 2 weeks. In fact, losing weight too quickly puts you at risk for health problems such as gallstones, electrolyte imbalance, and lean muscle loss. Instead, you need to set realistic short-term weight loss goals, such as losing one or two pounds a week. It may take 6 months or a year to lose 20 pounds.

Research also shows that carrying extra fat around one's midsection can have a negative effect on health.

No one is going to be stress free, but you can minimize the impact of stress. There are many things you can do to feel better emotionally and physically.

- Get enough sleep.
- Eat regular, healthy meals and snacks.
- Participate in regularly physical activities because your body can fight stress better when it is fit.
- Cut down or cut out use of caffeine and tobacco.
- Seek a balance of work and play.
- Hug somebody!
- Be assertive with your feelings, opinions, or beliefs instead of becoming angry, defensive, or passive.
- Be socially active with friends and family.

Because most everyone with SCI has a loss of some or all use of their abdominal muscles, you probably have more fat in your midsection. However you can still set a goal to reduce your waist size. A healthy waist size for men is below 40 inches and below 35 inches for women.

Body Mass Index, or BMI, describes your weight in relationship to your height. You can find your BMI using the BMI table below. At the bottom of the BMI table, you can see that your BMI is classified as normal (healthy), overweight (at risk for health problems) or obese (at high risk for health problems). If your BMI is 25 or higher, you can improve your health by setting a goal to lower your BMI.

Body Mass Index

BMI	19	20	21	22	23	24	25	26	27	28	29	30	35	40	
WEIGHT IN POUNDS															
HEIGHT	5' 0"	97	102	107	112	118	123	128	133	138	143	148	153	179	204
	5' 1"	100	106	111	116	122	127	132	137	143	148	153	158	185	211
	5' 2"	104	109	115	120	126	131	136	142	147	153	158	164	191	218
	5' 3"	107	113	118	124	130	135	141	146	152	158	163	169	197	225
	5' 4"	110	116	122	128	134	140	145	151	157	163	169	174	204	232
	5' 5"	114	120	126	132	138	144	150	156	162	168	174	180	210	240
	5' 6"	118	124	130	136	142	148	155	161	167	173	179	186	216	247
	5' 7"	121	127	134	140	146	153	159	166	172	178	185	191	223	255
	5' 8"	125	131	138	144	151	158	164	171	177	184	190	197	230	262
	5' 9"	128	135	142	149	155	162	169	176	182	189	196	203	236	270
	5' 10"	132	139	146	153	160	167	174	181	188	195	202	207	243	278
	5' 11"	136	143	150	157	165	172	179	186	193	200	208	215	250	286
6' 0"	140	147	154	162	169	177	184	191	199	206	213	221	258	294	
6' 1"	144	151	159	166	174	182	189	197	204	212	219	227	265	302	
N O R M A L							O V E R W E I G H T					O B E S E			

Source: National Heart, Lung and Blood Institute

PARTICIPATING IN PHYSICAL ACTIVITIES _____

Physical activity is any bodily muscle movement that uses energy. When you increase your energy output, you burn calories quicker and lose fat while gaining muscle mass. People who participate in regular physical activity usually feel better, have more energy, and are healthier than people who do not.

No matter what your level of impairment, do not limit your physical activities solely based on the fact that you have limited mobility. You can get substantial health benefits from 20 to 30 minutes of moderate physical activity every other day. Moderate activities require some physical exertion, but you should be able to comfortably carry on a conversation while participating.

There are many ways to get a moderate amount of physical activity. Some activities are available through local and national organizations and foundations that offer activities such as hunting, fishing, shooting, fitness classes, seminars, and competitive athletics. In fact, wheelchair sports are another way to get physical activity. The number of sports offered to participants who are disabled has grown to rival that of sports offered to nondisabled participants. You can participate in everything from traditional wheelchair basketball to power wheelchair soccer. In some cases, organizations and foundations will even provide the adaptive equipment that you need to participate.

Physical activity can also be a part of your everyday life. For example, you may have a job that keeps you physically active by regularly lifting or pushing. Even adding some routine activities around the house beyond

what you are currently doing can go a long way in improving your overall health. Such activities include cleaning, gardening and playing with children. You might have physically active hobbies such as art, fishing and hunting. You can even stay physically active by biking or pushing a wheelchair.

MAINTAINING LONG-TERM SUCCESS _____

When you reach your goals, you need to re-evaluate your situation. For example, you may reach a goal of losing 10 pounds and decide to simply work to maintain your weight. You may need to set a new goal. Again, it depends on what you want.

You may have problems with your transition from weight loss to weight maintenance. The common problem is that people fail to properly adjust their daily calorie intake. For example, you might lose weight with a daily intake of 1,800 calories but swing to 2,500 calories per day after you reach your weight loss goals. Instead, you need to gradually increase your daily calorie intake. You can do this by adding between 200 and 250 calories per day to your diet. If you continue to lose weight after a week, you can increase your daily intake by another 200 calories. When you increase your calorie intake to a level where your weight is stable, you can stop increasing your calorie intake.

As an individual with SCI, you need to also visit your doctor at least once per year. Your body changes as you get older. You may experience other health concerns, which may mean you need to change or modify your nutritional needs. Your doctor can best prevent and manage problems if you are seen regularly.

This InfoSheet briefly outlines the *EatRight™ Home-Based Weight Management Program for Individuals with Spinal Cord Impairment* funded by the PVA Education Foundation and developed by the UAB Department of Physical Medicine & Rehabilitation in cooperation with the Department of Nutrition Sciences. *EatRight™* is a comprehensive program on the 12 proven elements of effective weight management. The home-based program utilizes video lessons and workbook assignments to guide consumers through the 12-week weight management program. It can be purchased from the UAB Office of Research Services at 205-934-3283.

This information sheet is not intended nor implied to be a substitute for professional medical advice. Always ask a physician or other qualified health professional about any matter concerning individual health prior to starting or changing any medical treatment. Nothing contained in these columns is intended for medical diagnoses or treatment purposes.

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619 19th Street South - SRC 529
Birmingham, AL 35249-7330
(205) 934-3283 or (205) 934-4642 (TTD only)
[www.spinalcord.uab.edu / sciweb@uab.edu](http://www.spinalcord.uab.edu/sciweb@uab.edu)

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Edited by: Phil Klebine, MA; Linda Lindsey, MEd; Yuying Chen, MD PhD;
Suzanne Henson, MS RD LD; Christina Oleson, MD; Shirley Estill, BA
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