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Bowel-Spinal Cord Injury Manual

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Regional Spinal Cord Injury Center of the Delaware Valley
NIDRR-designated

Spinal Cord Injury Manual

A publication of the Regional Spinal Cord Injury Center of the Delaware Valley

The Regional Spinal Cord Injury Center of the Delaware Valley provides a comprehensive program of patient care, community education, and research. It is a federally designated program of Thomas Jefferson University and its affiliated institutions of Thomas Jefferson University Hospital and Magee Rehabilitation Hospital.

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Spinal Cord Injury
Patient-Family Teaching Manual

A Publication of the
Regional Spinal Cord Injury Center
of the Delaware Valley

Researched and prepared by the clinical personnel of Thomas Jefferson University Hospital and Magee Rehabilitation Hospital

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Dedication

The Handbook Committee of the RSCICDV gratefully acknowledges the assistance and dedication of all who contributed to this manual, and all the others who worked so hard to make this Handbook a reality.

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Bowel

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Bowel

Introduction

Spinal Cord Injury (SCI) changes the way your body works, especially your bowels. After a spinal cord injury, bowel movements (or stool) require more time, thought and planning. Usually, people with SCI cannot feel when stool is ready to come out; therefore, their bowels need re-training.

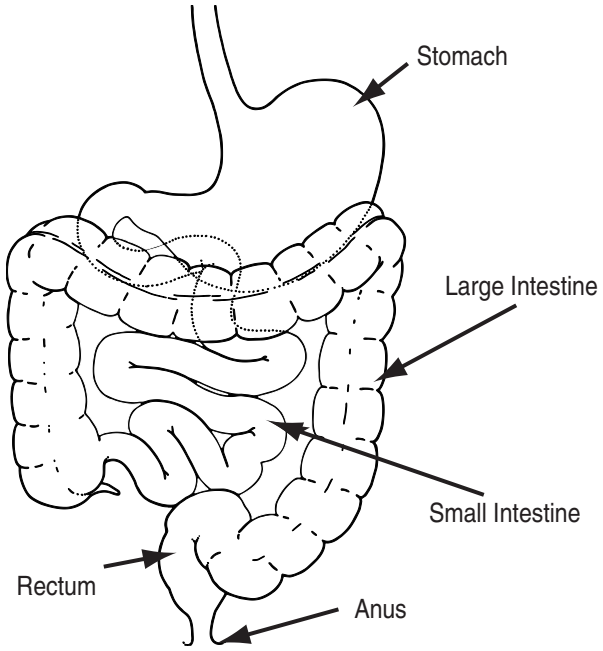
Anatomy

What Is the Bowel, and What Does It Do?

The bowel is the last portion of your digestive tract and is sometimes called the large intestine or colon. The digestive tract as a whole is a hollow tube that extends from the mouth to the anus (see illustration below).

The function of the digestive system is to take food into the body, provide it with nutrients and get rid of waste. The bowel is where the waste products of eating are stored until they are emptied from the body in the form of a bowel movement (stool, feces). A bowel movement happens when the rectum (last portion of the bowel) becomes full of stool and the muscle around the anus (anal sphincter) opens (see diagram below).

The Bowel



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Types of Neurogenic Bowel with Spinal Cord Injury

Two types of neurogenic bowel can occur after a spinal cord injury. The type of neurogenic bowel you have depends on which area of the spinal cord was injured.

With a spinal cord injury, damage can occur to the nerves that allow a person to control bowel movements. If the spinal cord injury is above the T12 level, the ability to feel when the rectum is full may be lost. The anal sphincter muscle remains tight. However, bowel movements will occur on a reflex basis. This means that when the rectum is full, the defecation reflex will occur, emptying the bowel. This type of bowel problem is called an upper motor neuron or reflex bowel. It can be managed by causing the defecation reflex to occur at a socially appropriate time and place.

A spinal cord injury below T12 level may damage the defecation reflex and relax the anal sphincter muscle. This is known as a lower motor neuron or flaccid bowel where normal reflexes to empty the bowel are not working. Management of this type of bowel problem may require more frequent attempts to empty the bowel and bearing down or manual removal of stool.

Both types of neurogenic bowel can be managed successfully to prevent unplanned bowel movements and other bowel problems such as constipation, diarrhea and impaction.

What Is a Bowel Program?

A spinal cord injury can damage the nerves that help control the rectum. A bowel program is a method to regain control of bowel function. Results of a bowel program can vary from person to person in amount of stool and frequency. An effective bowel program consists of complete emptying of the bowel at a predictable time so that a reliable pattern is established. Effective bowel programs can take anywhere from 15 minutes to one hour to complete and can occur daily, every other day or every two days. A spinal cord injured person whose bowels do not move within three days is at risk for impaction and autonomic dysreflexia. Dysreflexia is an exaggerated and potentially dangerous response of the autonomic nervous system to a stimuli. One of these stimuli, can be a full bowel.

The type of neurogenic bowel that you have will determine what type of bowel program you have.

Reflex or spastic bowel type pattern affects the storage and elimination of stool from an injury to the spinal cord in the cervical (neck) or thoracic chest area. A spinal cord injured

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person with this type of neurogenic bowel pattern will not feel the need to have a bowel movement. The reflexes, however, are still there and the bowel will empty with the assistance of an enema or suppository that triggers the reflex.

The areflexic or flaccid bowel type pattern usually occurs with an injury below the T12 level where damage has happened at the bowel reflexes area and involves the anal sphincter muscle. This muscle doesn't close tightly. Therefore, it can be characterized by oozing of stool or the need to manually remove the stool.

Tips to Effectively Manage a Bowel Program

Positioning

Sitting up in a commode chair rather than lying in bed will have gravity help empty the lower bowel. If you must be in bed, turn to the left side to place enema or suppository. The bowel will empty easier when lying on the left side but this is not mandatory. The important thing is to maintain a regular bowel routine.

Proper Diet / Fluids

It is important to notice how your diet and fluid intake will affect your bowel program. Lack of water will make your stool hard and bowel program sluggish. Ideally, two to three quarts of fluid are recommended every day (or what is allowed by your bladder management program). Non-caffeinated, non-alcoholic liquids are best. Caffeinated and alcoholic drinks can cause dehydration.

Timing

Eating a meal may stimulate the bowel to make a bowel movement because of the stomach's reflexes. Beginning your bowel program 30 minutes after you eat may help it go faster and give you better results. A regular set-time for your bowel program will help retrain the muscle.

Digital Rectal Stimulation

Digital rectal stimulation is a method to start a bowel movement by stimulating the rectum to empty.

Digital stimulation is when a lubricated, gloved finger is **gently** inserted into the rectum. Note: Use only water soluable lubricant for lubrication. The finger is gently rotated in a circle motion. This should only be done for 10 to 20 seconds at a time and every 5 to 10 minutes until you have a bowel movement.

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This can trigger autonomic dysreflexia (pounding headache caused by rapid increase in blood pressure, sweating and chills) in some persons with spinal cord injury. If this occurs, stop the rectal stimulation. You may need to instill some lidocaine jelly into your rectum before your bowel program if this is a constant problem.

This method of gentle rectal stimulation relaxes the anal muscles and increases the colon to have contractions, which in turn makes the stool move through the bowel.

Time of Your Bowel Routine

The time of the bowel routine is very important.

You will have to consider:

- **The length of time involved:** Generally, a bowel routine will last 45 minutes from start to finish.
- **Your lifestyle:** Should it be morning or evening? Can you do your routine independently? What kind of assistance do you need? Is this assistance available at the time of your routine?
- **Dietary factors:** How much you eat daily and what you eat will partly determine whether you need a bowel routine daily or every other day.
- **Gastrocolic reflex:** Gastrocolic reflex is a normal process when the body starts to digest food. The Gastrocolic reflex is the natural stimulation of the gastrointestinal tract that is a result of food and drink entering the system. Remember, this is most active one-half hour after meals.

Placing the Suppository

Before you give your suppository, check your rectum. Take out (by using the same technique as digital rectal stimulation) any stool that is there (disimpaction).

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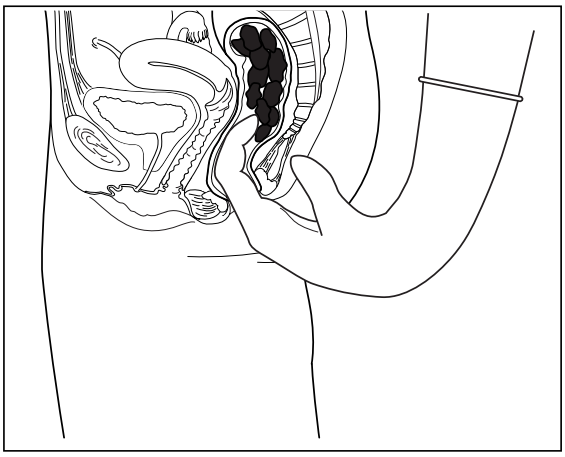
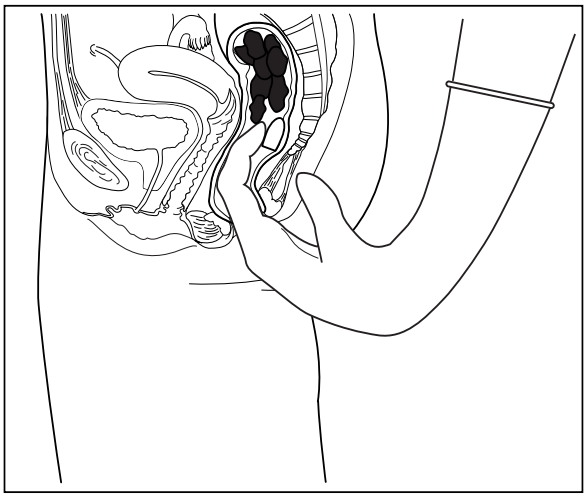


Put the suppository in as far as you can, and be sure it is against the wall of the rectum.



Medications

Your bowel program may be managed through the use of medications, as well as diet, and the other factors that have already been presented. Different medications will have different affects on your bowel.

Commonly, if you have an upper motor neuron bowel, it is not uncommon to start out with a stool softener, mild laxative and a suppository (the suppository may be solid or liquid). These medications will be adjusted depending on how your body

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reacts to them. Let your doctor, nurse or the Spinal Cord Injury Follow-Up Clinic know if you are having difficulties regulating your bowel program. There are no right or wrong combinations that can work, but the information that you give to your health care professionals will help them work better with you. Remember, it takes time to get your bowel program regulated, but it is not an unrealistic goal. Sometimes, it is helpful to have a bowel calendar to keep track of your results.

If you have a lower motor neuron bowel, it is common to start the medications using a stool softener and solid suppository. Again, these medications will be adjusted depending on how your body reacts to them. Let your doctor, nurse or the Follow Up program know if you are having difficulties regulating your bowel program. There are no right or wrong combinations that can work, but the information that you give to your health care professionals will help them work better with you. Remember, it takes time to get your bowel program regulated, but it is not an unrealistic goal!

Whether you have an upper motor neuron bowel or a lower motor neuron bowel, the program that you use may change over time. For some people, the goal may be to get off as many of the medicines as possible, while others may find that they do better with changing the medications that they use. Again, your program will be different from other people with spinal cord injuries and may be changed over time with your input as to what works for you and what doesn't. Communication is the key to making your bowel program work for you.

(See Medication Chart for further information.)

Conclusion

In summary, neurogenic bowel is a common problem after a spinal cord injury. It may take time to get a program that works for you, but with information from you, your health care professionals can help to design a program that will give you confidence in yourself.

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Complications of Bowels Associated with SCI

Complication/Problem	Most Common Cause	Solution
Constipation • Stool too hard	**Poor eating habits / diet** • A low-fiber diet slows the time it takes food to move through the intestines. • Not drinking enough fluid can cause stool to get hard.	• Eat foods high in fiber. • Drink 2 to 3 quarts of water a day.
	Lack of exercise • Less activity slows the bowel.	• Exercises regularly assist to move stool through the bowel.
	Bowel Habits • Normal bowel habits can be changed by travel or lack of privacy.	• Set unhurried time for bowel movement . • Be patient in adjusting bowel habits. • Go to the bathroom when the urge happens.
	Medications • Some medications cause constipation. For example, some antacids, pain medications, iron pills, some cough and cold medications and antidepressants.	• Talk about medications with your doctor, nurse or pharmacist. • Report changes in bowel movement to your doctor or nurse.
	Laxatives • Using laxatives can cause long-term constipation • Strong laxatives completely empty the bowel. The bowel then needs a few days to collect enough stool to have a normal bowel movement. The bowel then gets lazy and responds only to strong laxatives.	• Stop taking laxatives. • Try natural fiber laxatives (Metamucil ®). • Try stool softeners.

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Complication / Problem	Most Common Cause	Solution
Constipation • Stool too hard	**Impaction** • Hard stool in the rectum that will not move. • Liquid stool may ooze around the impaction • Diarrhea may be a sign of constipation or impaction.	• Try a suppository. You may need to use a few days in a row. If no results, try an enema. • Call a doctor or nurse practitioner if unable to get rid of impaction.
Diarrhea • Loose watery stools, usually three or more times a day.	**Diet** • Spicy or greasy foods can lead to an irritable stomach. • Drinks with caffeine (coffee, tea, cocoa and soft drinks) can also irritate the stomach.	• Stay away from foods that can irritate your bowel. • Eat foods that can help such as rice, cereal, whole grain bread and yogurt without fruit. • Drink plenty of water, especially since you are losing some in your stool.
	Overuse of laxatives and bowel softeners.	• Stop taking any bowel medications. After the diarrhea stops, you may start taking them again slowly.
	Severe constipation and impaction.	• If you have an impaction, your diarrhea may be very watery. Stool hardens and forms before evacuation can occur. New stool in the form of diarrhea oozes around the hard stool and comes out watery.
	Antibiotics	• Try eating yogurt every day. If it continues, don't stop the antibiotics, but call your doctor or nurse practitioner.

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Complication / Problem	Most Common Cause	Solution
Autonomic Dysreflexia • An abnormal response to a problem in the body below the level of your spinal cord injury. The body responds by increasing your blood pressure. Occurs in individuals with an SCI at T6 level or higher. Common sympton is a pounding headache.	**Diet** • Low-fiber diet can slow the time it takes to move food through your bowel. • Not enough fluid can make your stool hard.	• Increase intake of high-fiber foods. • Drink enough fluid a day.
	Stool • Hard stool is harder to empty.	• Take stool softeners as prescribed.
	Digital stimulation • Performing an unlubricated digital stimulation can cause "shock" to your system.	• Use Xylocaine jelly (prescribed by doctor) for digital stimulation. • Insert some of the jelly from your finger into your rectum before beginning your bowel program.
Rectal Bleeding • Check your stool for signs of rectal bleeding, including blood in your stools, dark black stools or blood on the toilet paper after a bowel movement. • If bleeding persists, contact your doctor. It could be something more serious.	**Digital Stimulation** • Excessive roughness during digital stimulation can cause trauma to the rectum.	• Perform digital stimulation gently and with significant, water soluable lubrication. • Keep your fingernails short.
	Hemorrhoids • Small pockets of irritated tissue around the rectum can cause irritation, pain, bleeding or both.	• Use more lubrication with digital stimulation if hemorrhoids are present. • Reduce rectal straining. • Treat with over the counter hemorrhoid preparation such as Anusol ®. • Keep bowel movement soft by using stool softener, drinking enough liquid and eating a high-fiber diet.

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Medications for Bowel Program

Medications	What	Use	Possible Side Effects	Tips
Colace ®	Stool Softener	• Softens bowel movement. • Helps prevent constipation.	• Mild cramping • Diarrhea	• Works within one to three days of first dose. • Drink adequate fluid.
Senokot ®	Mild Laxative	• Prevents constipation by stimulating the bowel wall.	• Abdominal cramping • Gas • Diarrhea	• Works within 6 to 10 hours. (Take at noon for evening bowel program or at bedtime for morning program.) • Drink adequate water.
Dulcolax ® Tablets	Strong Laxative	• Relieves constipation by emptying bowel completely.	• Cramping • Diarrhea • Nausea	• Don't take within one hour of antacid or milk. • Works within 6 to 12 hours. • Continue regular bowel routine. • Prolonged use may lead to dependence.

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Medications	What	Use	Possible Side Effects	Tips
Metamucil ®	Bulk-Forming Laxative	• Relieves constipation by moving stool.	• Nausea • Diarrhea (with excessive use)	• Mix with cool water or fruit juice. • Drink immediately or it will become cement-like. • Works within 12 to 24 hours. • Drink adequate fluid.
Dulcolax ® Suppository (bisacodyl)	Laxative that causes contractions that move the stool down and out of the rectum.	• Emptying of the bowel	• Cramping • Nausea • Diarrhea • Rectal burning, itching or both	• Never insert with stool in the rectum. • Do a digital check before inserting the suppository. • Lubricate with water-based jelly before inserting into the rectum.
Fleets Bisacodyl Enema ®	Laxative that acts directly on the sensory nerve endings of the bowel wall.	• Emptying of the bowel; quick-acting	• Nausea • Vomiting • Abdominal pain	• If in a bed, use it by lying on your left side with your left leg slightly bent and the right leg drawn up.
Therevac Mini Enema ®	Laxative that contains docuate sodium and glycerine.	• Evacuation of the bowel; quick-acting	• Mild abdominal cramping	• Usually effective within 15 minutes.

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Glossary

Areflexic	Flaccid bowel where the muscle has no tone. This is marked either by constant oozing of stool or digitally removal of stool.
Bowel	The organ through which solid waste passes out of the body.
Bowel Routine/Bowel Program	The method and scheduled time of day that bowels are emptied.
Constipation	Difficulty in the elimination of stool from the bowel, resulting in a very hard stool.
Diarrhea	Very soft, watery bowel movements.
Disimpaction	Manual removal of stool from lower bowel.
Digital Stimulation	Gently rotating a finger in a circular motion against the anal sphincter wall to relax the muscle. This relaxation helps stimulate the bowel to have a timely and complete bowel movement.
Hemorrhoids	Enlarged veins in the rectum and anus due to hard stools, straining or pressure during elimination.
Impaction	Stool blockage that occurs if bowels are not routinely emptied or regulated.
Incontinence	Lack of control of bowel that leads to bowel accidents.
Laxatives	Medications used to help evacuate stool. Ordered by a physician or nurse practitioner. (Ex: Senokot ®)
Rectum	Lowest part of the bowel.
Reflexic	Spastic bowel with reflexes still present. Muscle has tone.
Sphincter	A muscle surrounding the anus that allows expansion and contraction, causing it to open and close.
Stool (Bowel Movements)	Solid waste eliminated by the body.
Stool Softeners	Medication used to soften stools and prevent impaction or constipation. Ordered by a physician or nurse practitioner. (Ex: Colace ®)
Suppository	Medicine that is inserted into the rectum, which irritates or stimulates the nerve endings to promote a bowel movement.

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References

1. Consortium for Spinal Cord Medicine. Neurogenic bowel management in adults with spinal cord injury. Washington, DC: Paralyzed Veterans of America, 1998.
2. Schryvers O, Nance PW. Urinary and gastrointestinal systems medications. *Physical medicine and rehabilitation clinics of north america,* 10(2), 473-492, 1999.
3. Consortium for Spinal Cord Medicine. Acute management of autonomic dysreflexia: Adults with spinal cord injury presenting to health-care facilities. Washington, DC: Paralyzed Veterans of America, 1997.
4. Edwards PA. (Ed.) *The specialty practice of rehabilitation nursing: A core curriculum*. p.117-120. Skokie, IL: ARN, 2000.
5. Consortium for Spinal Cord Medicine. Neurogenic Bowel: What You Should Know. Washington, DC: Paralyzed Veterans of America, 2003.

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Comments and Feedback

The staff of the center has recently spent a lot of time and effort in revising this manual. However, we realize that those who are actively reading and using the manual can improve it. As a part of our program of continuous quality improvement, we ask you to help guide our efforts to improve the manual.

In the next section of the chapter are two forms. The first form is an overview by chapter that seeks to identify those areas of the manual that could benefit the most from additional work. We also seek to identify any major areas of concern that have not been addressed.

The second section is a more focused questionnaire that has as its goal the specific items that should be targeted. For example, should an item be added to the glossary or the definition changed. Should a drug be added to the discussion of bowel programs?

The more specific the comments are the more likely that we will be able to make the improvements that form the basis of your idea. By communicating with the Regional Spinal Cord Injury Center of the Delaware Valley, however, users grant us permissionto use any information, suggestions, ideas, drawings or concents communicated for any purpose we choose, commercial, public or otherwise, without compensation or acknowledgement whatsoever.

Thank you for taking the time to assist us in improving this manual.

Sincerely,

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Suggestions and Comments

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Any terms that need to be added to the glossary? How would you define the terms?

Any section or paragraph that was not clear?

Any drawing or sketch that would help to illustrate the material being covered?

Any additional topic that should be covered?

Any questions you have that you feel should have been answered by the manual?

What is the question?

What is the suggested answer?

Any references that should be added? Any other resources that should be mentioned?

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