

Bowel Management following Spinal Cord Injury

THE DIGESTIVE SYSTEM

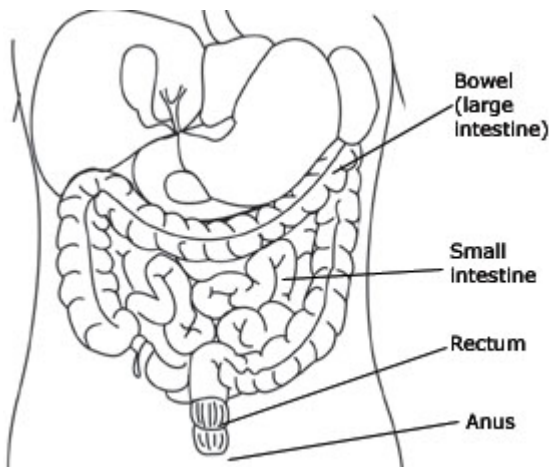
The digestive system has both upper and lower digestive tracts. The upper digestive tract breaks down the food that you eat into the nutrients that fuel your body. The digestion of waste begins in the lower tract small intestine and large intestine. In a wave-like action, called *peristalsis*, the waste is moved through the large intestine where water is removed, resulting in the left-over stool.

A bowel movement (BM) is normally initiated when enough stool collects in the rectum. The urge to empty your bowel intensifies as the rectum fills with stool. When you go to the bathroom, your brain then signals the release of the anal sphincter muscle, and muscle action pushes the stool out through the anus.

The frequency between each BM normally differs greatly among people. Some people will normally have 1 to 3 movements per day. Normal frequency for some people can be as few as 3 times a week.

Normal consistency of the stool can also vary. Although a normal BM should be easy to pass, some people may have harder or softer stools than others. Color ranges from brown to golden brown. The shape is usually similar to a sausage.

THE LOWER DIGESTIVE TRACT



Graphic Source: *Taking Care of Your Bowels - The Basics*

FOLLOWING SPINAL CORD INJURY

Following spinal cord injury (SCI), messages from your body are not able to reach your brain like before your injury. This usually means a loss of sensation that your bowel is full, the "urge" to empty your bowel, and loss of voluntary sphincter muscle control.

When normal bowel function is lost due to an injury to the nervous system (spinal nerves), bowel function is commonly referred to as a *neurogenic bowel*. In general, two types of neurogenic bowel can occur after SCI. The type depends on the level of injury.

A *reflex* bowel is common with injuries above T-12 (Upper Motor Neuron injuries). With a reflex bowel, the anal sphincter remains closed. However, a reflex BM can still occur at any time and without warning when the stool fills the rectum.

With injuries below T-12 (Lower Motor Neuron injuries), there is usually a loss of reflex response, or *flaccid* bowel. Although there is reduced peristalsis and a loss of anal sphincter tightness with a flaccid bowel, the bowel does not usually empty itself. However, the loose sphincter means mucus and fluid can seep around stool and leak out the anus.

BOWEL PROGRAMS

Stool absolutely must be removed regardless of your injury level. So, you need to establish a *bowel program* based on your bowel type.

A reflex bowel program may be done daily, every other day, or even as few as 3 times a week. There are 8 general steps in a reflex bowel program.

- 1 Wash hands thoroughly.
- 2 Prepare your supplies. You will need:
 - ◆ gloves (powder and latex free are preferable)

- ◆ lubricant (water-based or anesthetic only)
- ◆ toilet paper and/or blue underpads (Chux)
- ◆ stimulant (Enemeez® mini-enemas or Magic Bullet Suppositories® are generally accepted for regular use by individuals with SCI)
- ◆ assistive devices (a suppository inserter, finger extension, and digital stimulator)

3 Get into a comfortable position. When possible, it is best if you sit on a toilet or commode chair so that gravity can help move the stool down and out.

If you cannot sit, lay on your bed with your body turned on the left side. Use underpads (Chux). Do not use a bed pan because it may damage your skin.

4 Manual stool removal. The lining of the rectum is delicate. Insert a gloved, lubricated finger into the rectum and gently hook your finger around any reachable stool and remove it from the rectum.

5 Insert stimulant. Using gloved hand, gently squirt the lubricated mini-enema as high as you can into the rectum. Likewise, place the lubricated suppository high into the rectum, leaving the suppository touching the wall of the rectum.

6 Digital rectal stimulation. Sometimes referred to as "Digi-stim," this process promotes peristalsis and the relaxation of the sphincter muscle. A good time to begin digital rectal stimulation is once the stimulant starts to act. Mini-enemas will probably start to act within 15 to 20 minutes after the insertion. The suppository will probably start to act within 20 to 30 minutes after insertion. Passing of gas or stool may also indicate a readiness for digital stimulation.

Insert a gloved, lubricated finger into the rectum and gently start moving your finger in a circular pattern for 20 to 30 seconds, keeping the finger in contact with the rectal wall. Repeat the process every 5 to 10 minutes until the BM is complete.

7 Know when the BM is over. You can usually be fairly confident that the BM is over if:

- ◆ there is no more stool after 2 consecutive digital stimulations;

- ◆ there is mucus coming out without any stool; or
- ◆ the rectum is closed tightly around the finger.

8 Clean up. Wash and dry the anal area.

A flaccid bowel program is usually done one or more times daily. There are 6 general steps in a reflex bowel program.

1 Wash hands thoroughly.

2 Prepare your supplies. You will need:

- ◆ Gloves (powder and latex free are preferable)
- ◆ Lubricant (water-based only)
- ◆ Toilet paper

3 Get into position. Most individuals with a flaccid bowel are able to sit on a toilet or commode chair.

4 Manual stool removal. Stimulants are not usually effective for a flaccid bowel, so manual removal of stool is done (as with reflex bowel) about every 5 minutes until the BM is over.

Between each 5 minute removal time, you can promote stool movement by:

- ◆ digital rectal stimulation (as with reflex bowel);
- ◆ firmly rubbing (clockwise) your abdomen with your hand; and
- ◆ movement of the body. The four most common body actions are:
 - 1) leaning forward and side-to-side;
 - 2) body push-ups to reposition and vary pressure areas;
 - 3) tightening and releasing of abdominal muscles;
 - 4) "bearing down" to force stool out (known as a valsalva maneuver and should be avoided if you have a heart condition); and
 - 5) inhaling air deeply followed by forcing air out by increasing abdominal pressure.

5 Know when the BM is over. The BM is probably over when you have no stool results after 2 manual removals, which is about 10 minutes without results.

6 Clean up. Wash and dry the anal area.

BOWEL MANAGEMENT

Bowel management is essentially your ability to maintain control over your bowel movements. Simply put, bowel control means:

- ◆ retraining your bowel to empty at a planned, regularly scheduled time;
- ◆ avoiding any accidental, unplanned BM;
- ◆ avoiding leakage between each bowel program;
- ◆ maximizing stool removal during each bowel program;
- ◆ maintaining normal stool consistency;
- ◆ finishing each bowel program within a reasonable time (within 60 minutes);
- ◆ feeling secure to fully participate in all desired activities of daily living; and
- ◆ keeping your body's digestive system healthy.

As an individual with SCI, your bowel program is only 1 element of bowel management. There are other essentials to successful bowel management.

Schedule: Before your SCI, your body was probably trained to have bowel movements that were fairly predictable. For example, you may have had a BM each morning at roughly the same time of day or every other day. Following injury, you essentially retrain your body to respond with a BM only when stimulated during your bowel program.

You will need to select a time of day when having a BM best fits your lifestyle. If you are newly injured and it is at all possible, you should maintain the same schedule that you began during rehabilitation. You will need to follow your schedule until you are accident free between multiple bowel programs.

Once your body has adjusted and is well trained to respond with a BM only when stimulated, you may then adjust your bowel program schedule if needed. For example, you may prefer to change your bowel program from morning to night or choose to perform a bowel program every other day instead of every day. Whether you change your schedule or not, you should be able to eventually feel fairly secure in maintaining a regular, predictable bowel program.

Nutrition: When and what you eat greatly influences your bowel program. For example, eating a meal, high fiber snack, or drinking a warm liquid (such as hot tea, hot apple cider, etc.) initiates peristalsis in a reflex bowel. If you eat or drink something warm about 30 minutes prior to starting your bowel program, you will likely have more effective results.

Your *fiber* intake helps maintain the health of your entire digestive system. Although some individuals take a fiber supplement, vegetables, fruits and whole grain foods are the recommended sources for getting your daily fiber intake. 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 in fiber intake can cause diarrhea and decreases in fiber intake can cause constipation.

Some foods, especially eaten in excess, are more likely than others to cause common bowel problems. For example, dairy products, white potatoes, white bread and bananas can contribute to constipation. Fruits, caffeine and spicy foods can cause diarrhea. Beans, corn, onions, peppers, radishes, cauliflower, sauerkraut, turnips, cucumbers, and apples can cause excessive gas buildup.

Water should be your beverage of choice for many reasons. A big reason is that water helps regulate your body's digestive system, keeps your stool from getting too hard, and prevents constipation and impaction. Although fresh vegetables and fruits are good sources for water as well as fiber, you still need to drink the proper amount of water. Generally, your bladder management method will determine how much water you typically need daily.

- ◆ Indwelling Catheter - it is recommended that each day you drink about 3 quarts, or 15 (8oz) glasses of water.
- ◆ Condom and Intermittent Catheterization - it is recommended that you drink about 2 quarts, or between 8 to 10 (8oz) glasses of liquid per day.

Physical Activity: This promotes easier passage of food through your digestive system.

Medications: Many over-the-counter and prescription

medications can influence your bowel program. These include bowel-related medications that you take by mouth (orally) or by suppository, and some medications that you take for other reasons can influence your bowel function. Therefore, you should always talk with your health care provider before taking any medication.

Constipation and diarrhea are common side-effects of medications. For example, codeine, ditropan, probanthine, and aluminum-based antacids can cause constipation. Magnesium-based antacids can cause diarrhea.

Stool softener and *laxative* use are common among individuals with SCI. Although Colace® (stool softener) and Peri-Colace® (stool softener with added laxative) are mild and may be well tolerated by most people, too much or too little dosage may result in diarrhea or constipation.

Antibiotics, which are commonly taken to kill the bacteria that causes urinary tract infection, can also kill the “good” bacteria found in your digestive system. These bacteria are actually beneficial in maintaining the natural balance of organisms (microflora) in the intestines. Maintaining this proper bacterial balance is one key to maintaining and preventing bowel problems. Therefore, *probiotics* are dietary supplements containing potentially beneficial bacteria or yeast. Probiotics are sometimes recommended by doctors during and after a course of antibiotics to replenish and restore the numbers of beneficial bacteria lost to antibiotic use. A popular dietary source for probiotics is yogurt, but other dairy products such as cheese, milk, sour cream and kefir also offer probiotic benefits. A probiotic supplement (pill) is another option.

Regularity: Every individual with SCI is unique, but you will likely agree that an unplanned BM is one of the most embarrassing things that can happen. Your best chance to avoid accidents is with consistent bowel management and established bowel program. For example, you should maintain your routine even if your normal routines get interrupted by travel, sickness or the like. If you have an unplanned BM, you still need to continue your bowel program when it is scheduled. When you do need to make adjustments,

talk to your doctor first.

RESOLVING PROBLEM ISSUES

Problem issues can occur even with the best bowel management. It helps to know those common issues and how to manage occasional problems.

Although the following recommended actions are intended to help you resolve problem issues, you should consult your doctor if problems continue. You should also talk with your doctor if you are sick, making changes to your bowel management program, or you have questions.

Constipation: The prominent symptom of constipation is hardened, stone-like stool. Other symptoms of constipation include irregular bowel movements, no BM for several days, swollen or hardened abdomen, and lack of appetite.

Action list until the issue is resolved:

- 1) Increase your water intake.
- 2) Do your bowel program on a daily basis.
- 3) Add or slightly increase the dose of a stool softener (Surfak or Colace).
- 4) Increase your fiber intake by no more than 5 grams(g) every other day.
- 5) Increase your physical activity.
- 6) Avoid bananas, cheese and other foods that can harden your stool.

Impaction: The prominent symptoms of impaction (blockage) are relatively similar to constipation.

Action list until the issue is resolved:

- 1) Physical (manual) removal of the stool from the rectum. Using a gloved, lubricated finger, gently hook your finger around any stool and remove the reachable stool from the rectum.
- 2) Increase your water intake.

Diarrhea: The prominent symptom of diarrhea is watery or runny stool.

Action list until the issue is resolved:

- 1) Increase your water intake.
- 2) Increase the frequency of your program *only* if

you are having accidents,

- 3) Temporarily stop taking any stool softener or laxative (if effective, you may need to adjust your dose until your stool is of proper consistency).
- 4) Increase your fiber intake by no more than 5 grams(g) every other day.
- 5) If the diarrhea lasts longer than 24 hours or there is blood in the stool, call your doctor.

Diarrhea may even be caused by an impaction (blockage) of stool. This may be the case if you have recently had hardened, stone-like stool or no results from your past several bowel programs.

Autonomic Dysreflexia: AD is a response to a painful or irritating stimulation, which might include an over-extended bowel, rough digital rectal stimulation, or a number of other causes. If you are an individual with a T6 level of injury or above, you should know and be able to recognize the signs and symptoms of AD along with when to take emergency action.

Current research has shown that significant elevations in blood pressure can occur without the signs and symptoms of AD. Called "Silent" AD, it appears that people at risk for AD are also at risk for "Silent" AD, and it seems to be a common occurrence during routine bowel programs. Although "Silent" AD may not prove to be dangerous, you may want to take preventive actions if you are at risk.

Action list until the issue is resolved:

- 1) Talk to your doctor about prescribing an anesthetic lubricant such as Lidocaine Gel 2%.
- 2) Insert a small amount of anesthetic lubricant into your rectum prior to starting your bowel program.
- 3) Get into a comfortable position.
- 4) Increase the frequency of your bowel program to prevent rectal over extension.
- 5) Maintain normal stool consistency.
- 6) Contact your health care provider.
- 7) Always seek emergency treatment if needed.

Frequent Accidents: Once your bowels are retrained to empty at a planned, regularly scheduled time, unplanned bowel movements and mucus drainage should rarely occur. If there are more than 1 or 2 accidents per year, you should probably take action.

Action list until the issue is resolved:

- 1) With a reflex bowel, make sure you are completely empty of stool and mucus at the end of your bowel program.
- 2) Review your entire bowel management program and adjust your schedule (individuals with a flaccid bowel may consider a more frequent bowel program), food/water intake, physical activity and medications if needed.

Little or No BM: Again, the frequency between each BM differs greatly among people, so you will need to consider what is normal for you when determining if this is a problem. Although you will have occasions when you get limited or no BM results, you should probably be concerned if you have limited or no BM results after 2 days if you have a daily bowel program or 4 days if your bowel program is every other day.

Action list until the issue is resolved:

- 1) If you have little or no BM results 1-2 days past your normal bowel program schedule, follow the recommended actions for constipation.
- 2) Contact your health care provider after 3 to 4 days of little or no BM results past your normal bowel program schedule.

Bleeding: This is usually caused by hardened stool or too vigorous or under lubricated digital stimulation.

Action list until the issue is resolved:

- 1) Follow the recommended actions for constipation if your stool is hardened.
- 2) Keep fingers well lubricated when physically removing stool or performing digital stimulation.
- 3) Be less aggressive with digital rectal stimulation.
- 4) Keep finger nails trimmed.
- 5) Contact your doctor if there is heavy bleeding.

Excess Gas: Build-up of gas in the digestive system can result in feeling full, tight or bloated, and excess passing of gas is socially embarrassing.

Action list until the issue is resolved:

- 1) Limit yourself when eating gas causing foods (see page 3 for list)
- 2) Try eating cumin, coriander, or caraway because

these spices have been reported to counteract the production of intestinal gas.

- 3) Take an over-the-counter, anti-gas medication.
- 4) Add or increase your probiotic intake to help reduce flatulence by restoring balance to the normal intestinal flora.

Bowel Program takes too Long: Your bowel program should last no longer than 1 hour once you have worked out your bowel management routine.

Action list until the issue is resolved:

- 1) Review your entire bowel management program and adjust your schedule (individuals with a flaccid bowel may consider a more frequent bowel program), food/water intake, physical activity and medications if needed.

COLOSTOMY

A colostomy is a surgically-created hole leading from the large intestine to the outside of the abdomen. Typically, a bag is placed over the abdomen hole to collect the stool before it gets to the rectum.

Do not necessarily rule out a colostomy on first thought. They seem to be becoming more popular among individuals with SCI, especially people with constant bowel problems. In such cases, a colostomy

can greatly improve quality of life.

You might start by researching colostomy use and how it works as a bowel program option. If it is an option you are interested in, talk first with someone with SCI who has one. Then, talk to a physiatrist (doctor in rehabilitation medicine) to discuss your options.

GETTING OLDER

Like everyone else, individuals with SCI can experience changes in bowel function as they get older. Some changes such as the frequency of bowel movements can be common with aging. However, you should talk to your doctor if you notice any changes to make sure there is not some other problem.

CONCLUSION

Following SCI, bowel management is a life-long balancing act to maintain control over your bowel movements. You may work as long as a year to figure out what is and is not effective. Once you find that balance, however, you will see that it is one of the most important aspects to maintaining your quality of life.

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