

## **Bowel Function**

The bowel is the last section of the digestive system. Bowel function is controlled by the nerves that are located in the bottom section of the spinal cord. In children with spina bifida, bowel function is almost always affected. The digestive system (which is made up of the mouth, stomach, small intestine and large intestine) digests the food we eat, absorbs the nutrients needed by the body, and eliminates the waste in the form of stool. As the waste moves through the large intestine, water is absorbed into the body and the waste (stool or feces) becomes formed and solid. When the last segment of the bowel (rectum) is full it sends messages through the nerves of the spinal cord to the brain. The brain responds by sending messages back along the spinal cord to the bowel. These messages cause the bowel muscles to tighten (contract) while the anal sphincter muscles relax, opening the sphincter causing stool to empty out. This process is called a bowel movement.

### *How Does Spina Bifida Affect Bowel Function*

The amount of bowel muscle control and sensation in each individual varies greatly depending on the level of the lesion. When the muscles of the bowel are weak, the waste material moves more slowly through the bowel and more water is absorbed by the body. The longer stool stays in the bowel, the harder and dryer the stool becomes. This is called constipation. The anal sphincter muscles are often weak which causes bowel accidents. This is called fecal incontinence. Due to decreased sensation due to nerve damage, it may not be possible to “feel” the need to have a bowel movement. This may also result in bowel accidents.

### *Managing Bowel Function*

It is important to make sure your child’s stool stays soft to prevent constipation. Most infants have several bowel movements per day but infants who are breast-fed tend to have softer and more frequent stools than bottle-fed infants. It is important to work on a bowel routine early on, depending on your child’s individual level of readiness.

Signs of readiness by your child to begin a bowel routine include:

- Asking about the potty or toilet
- Knowing what the toilet is for
- Showing willingness to sit on the toilet or potty for 5-10 minutes.

There are special considerations for toilet training a child with bowel incontinence such as establishing a regular, timed bowel emptying routine. It is also important to recognize that it will take extra time to establish a bowel routine for a child with spina bifida and that the training process may not work in the usual, expected way.

As part of the toilet training process, it’s important to teach your child about personal hygiene and the need for privacy. Any attempt by your child to use the toilet should be praised and never punish a child for being unable to pass stool. When toilet training, the child should be positioned comfortably on the toilet so that he/ she feels secure. Both feet should rest firmly on the floor or on a step-stool and knees should be slightly higher than the hips.

An inexpensive child’s toilet seat can provide greater stability during toileting. If bowel movements cannot be regulated with diet, fluids and toileting alone, it may be necessary to use one or more of the following techniques, on a regular basis, to help the bowel empty completely at a predictable time:

- A diet high in fibre and lots of water intake
- Medications (e.g. laxatives, softeners, bulk formers)
- Suppositories - capsule shaped medication that is inserted into the rectum to stimulate a bowel movement
- Digital stimulation - inserting a gloved finger into the anus to stimulate a bowel movement
- Manual disimpaction - using a gloved finger to remove the stool from the rectum
- Cecostomy – a procedure where a thin tube is surgically inserted through the right side of the abdomen and into the bowel by a doctor. The tube remains in place, enema fluid is administered through the tube every two days and all stool is flushed out of the bowel through the anus while sitting on the toilet.

## Importance of Avoiding Constipation

A successful bowel continence routine involves regular emptying of the bowel and freedom from accidents. Keeping the stool soft is the first step in developing a successful routine. If the stool is constipated it is difficult to get the bowel to empty regularly and effectively. When constipation occurs, the stool may “back-up” in the bowel. Once this happens, it is more difficult to develop a successful bowel routine. Constipation can cause the following to occur:

- Incomplete emptying of the bowel
- Bowel blockage (impaction)
- Bowel incontinence
- Decreased appetite
- Shunt blockage
- Further weakening of the bowel muscles due to over stretching
- Urinary incontinence and bladder infections – due to pressure on the bladder from the full bowel.

### *Constipation symptoms may include:*

- Bowel movements that do not seem frequent enough
- Frequent small, hard “rabbit-like” stools
- Hard, round balls of stool
- Difficulty pushing stool out
- Frequent, watery stools

## What To Do if Symptoms of Constipation Occur

For infants, offer frequent drinks of sterilized water between regular feeds. There should be no need to sweeten the water. If needed, fibre can be added to the diet. The following strategies can be used to add fibre to the diet of infants under six months of age:

- Give the infant a bottle of 1 oz of prune puree diluted with 2 oz of sterilized water.
- At three months of age, gradually introduce vegetables and prune puree.
- pureed vegetables or fruit.

As your child gets older, the following strategies may be used:

- Serve a diet that is high in fibre and fluids (with water is best) to prevent constipation and help keep stools soft and formed. Beginning this dietary habit early in life will increase the chance of it being accepted by your child.
- Choose breads and cereals made of whole wheat or bran, and fruits and vegetables as they are high in fibre. Some fruits and vegetable have more fibre than others; therefore, eating a variety of foods is the best way to ensure a balanced high fibre diet.
- Add raw bran to baked foods, cereals, casseroles, stews, sauces, meat loaves, and patties for an added fibre boost.
- Provide adequate water to accompany a high fibre diet. Fibre without water can actually increase constipation. For more information about water intake, speak to your health care professional in the spina bifida service.
- If your child develops severe constipation (no bowel movement for three to four days and your child is uncomfortable), or your child is vomiting or not eating, seek help from your nurse or doctor immediately.
- If eating a high fibre diet is new, add fibre slowly to help prevent gas, cramping and diarrhea.

## Hydrocephalus Canada

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Canadians living with hydrocephalus and spina bifida.

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We do this by establishing environments that protect, support and enhance the lives of those living with, or at risk of developing, these conditions.

Our work focuses on four areas of influence – Education, Support, Awareness and Research.



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