There are few subjects that are less appealing to delve into than the bowel; however, for persons with Spina Bifida, bowel management is essential in maintaining good health, functioning comfortably in public and social situations, and preventing other secondary issues that can affect a quality of life. Bowel management programs are important to develop and maintain throughout the lifespan, especially during childhood. To understand why effective bowel management is necessary, it is helpful to understand how the whole system works, and the effects of Spina Bifida on the digestive process.

Non SB-Affected Digestion
The digestive process begins when anything is taken into the mouth. Saliva starts to break down the food in the mouth, and as it passes down the esophagus and into the stomach, further breakdown occurs. It then passes into the small intestines in a semi-liquid form. The body begins to absorb nutrients through the small intestine wall, leaving behind waste products. Waste material is stored in the large intestine, and is then pushed down into the rectum by peristalsis, a reflex motion of regular waves and contractions of the intestinal walls. The internal anal sphincter, which is a muscle located below the rectum, opens automatically when it senses that there is stool in the rectum. A message is sent to the brain by nerves located in the anal canal that it is time for a bowel movement. The bowel movement does not necessarily occur at that particular moment because of the external sphincter, a muscle we usually learn to control as young children. When the individual decides the appropriate time, this muscle will relax and a combination of rectal contractions and tightening of the stomach muscles will push the stool out of the body.

Spina Bifida and the Digestive Process
For individuals with Spina Bifida, bowel problems are a result of damaged nerves in the lowest level of the spinal cord. Nerve damage generally affects three areas of the bowel: the mechanism which signals that the rectum is full, the external anal sphincter, and the muscles which aid the body in removing fecal waste.
In a normally operating bowel, the external sphincter will contract when the rectum is full and hold the feces in the anal canal. However, because there is little or no control over the external anal sphincter for a person with Spina Bifida, feces are often forced out of the body involuntarily. Limited sensation affects the ability to realize when the rectum is full. Nerve damage prevents the brain from receiving the message to empty the bowels. If it is not realized that the bowel is full and there is no control of the external sphincter, then the bowels may open at an inappropriate time.

Many people with Spina Bifida also have weak stomach and pelvic muscles. These muscles are used to push the stool out of the body. The combination of limited sensation in the nerves of the lower digestive system, weak muscles, and decreased physical activity can lead to a series of problems such as constipation, fecal impaction (partial blockage due to hard stool), or rectal prolapse. Not only that, but, a common brain abnormality which occurs in people with Spina Bifida can make swallowing difficult. This can result in a low-fiber diet, which contributes to constipation. "Being constipated can make one feel nauseated and grouchy and, generally, very sick. Constipation occurs when the stool is unable to be removed from the body and becomes hardened because the water it contains is absorbed back into the body."

Other concerns related to neurogenic bowel are associated with:
• Decreased muscle tone. As constipation is a consistent issue with SB, the ability for an individual to control the bowel muscles is further compromised.  
• Urinary issues. A bowel full of stool can consume so much space that the bladder is unable to fill or empty effectively, resulting in urinary tract infections and urinary incontinence.  
• Complications from other medicines. Medicines for high blood pressure, pain, and anesthesia often have constipation as a side effect.

Bowel Management
A bowel management and continence program can prevent constipation and bowel accidents. It is critical in managing proper health care. Since constipation is an ever-present issue for the person with Spina Bifida, eating properly, exercising, and having a bowel program is very important. It is important to note that children who have never experienced long periods of constipation achieve bowel continence with fewer problems than chil-
Children who have been constipated. This is why an individual should begin a bowel management program during infancy or as early as possible, and why it’s important to make the effort to make it successful.4

A bowel management program should be tailored to fit each individual and can include any of the following components: manual removal of stool, digital stimulation in the rectum causing the anal sphincter to relax, suppositories such as dulcolax (to stimulate nerve endings in the rectum causing bowel contractions) or glycerine (to draw water into the stool to stimulate evacuation), and mini-enema (to draw water into, soften, and lubricate stool for evacuation). There are a variety of factors that can affect the success of a bowel management program, including timing, fluids, positioning, medication, etc. It is important to develop a consistent schedule, and understand how the body reacts to certain foods, as well as many other factors that can affect the digestion and voiding processes.

Habits to avoid:

• **Overuse of Laxatives:** Becoming overly reliant on a laxative or an enema (as opposed to a mini-enema) can make the bowel dependent on these stimulants to void stool. As a result, eventually stronger laxatives will be needed to get the bowel to work at all. Thus, laxatives should be balanced with other methods of a bowel program.
• **Inconsistency:** Getting on a schedule will help the body maintain regular bowel movements. Skipping or changing times could increase the risk of constipation and accidents.
• **Improper digital stimulation:** Avoid using more than four fingers in rectal stimulation and keep fingernails short to protect the rectum from tears, fissures, hemorrhoids, bleeding, e-coli infection, and other complications.

Who is qualified to help develop a Bowel Management program and address related issues?

Of the utmost importance to individuals with SB is seeking proper medical attention. General gastro-intestinal doctors and general practitioners who have not had experience with neurogenic bowel/bladder can actually prescribe treatment plans that will work against the system of a person with Spina Bifida. For example, an individual with SB may go to a GI doctor because they believe they are having an issue with diarrhea. The doctor may treat them for diarrhea, but because they are unfamiliar with neurogenic bowel, they may not conduct a sonogram or take other measures to discover if the person is, in fact, impacted with fecal matter, a common occurrence with SB. As a result, the treatment plan may solve the issue of diarrhea but jeopardize the health of the individual. (It is important to note that constipation for a normal functioning bowel is not treated the same as constipation in a neurogenic bowel.)

Individuals should seek out medical professionals with a specific background in neurogenic bowel/bladder, which can include physiatrists and/or urologists. SBRN has created a member-generated list of medical professionals specializing in Spina Bifida and SB-related issues. Contact info@thesbrn.org or 908-782-7475 for a copy of this list of qualified medical professionals.

A Note About Impaction:

Persons with SB should be aware of impaction and the symptoms. Because of frequent constipation, fecal matter becomes impacted in the intestine. Water is drawn out of the stool and reabsorbed into the body making it hard and virtually immovable. As a result, new matter is unable to be properly processed and flows around the impacted fecal matter causing diarrhea and/or bleeding. This is a potentially dangerous situation that can cause anal fissures and internal obstruction that can lead to severe and possibly fatal infection, and it can also cause the colon and bowel muscles to expand, which decreases the already compromised muscle control.

REFERENCES


Signs of Constipation

- Has stool that is hard (small hard balls)
- Has intermittent diarrhea
- Incontinent of stool
- Goes 3 days or more in between bowel movements