FUNCTIONAL CONSTIPATION AND STOOL RETENTION

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Your child has been referred to Pediatric Gastroenterologist for problems of constipations. To begin with, we would like to reassure you, that this is not a serious medical disease and is curable but may take some time to resolve. Also it is a very common clinical problem affecting as many as 10 percent of the Pediatric population. In almost all cases this is not due to an underlying anatomic or structural abnormality. In children with anatomic, structural or obstructive problems constipation starts from the very first weeks of life and is often associated with poor growth and poor nutrition.

To understand your child's problem it would be important to study the normal method of defecation. Our intestine is constantly moving in a rhythmic fashion more like a wave form. After ingestion our food is digested in the stomach and the nutrients are absorbed in the intestine. After absorption of the nutrients, stool is formed in the colon and descends into the rectum. With the accumulation of the stool in the rectum, pressure sensation is perceived and we get an urge to defecate. At which point, we can expel the stool. This involves contracting the abdominal muscles so as to raise the pressure and relaxing the anal sphincter (so that stool can be expelled)... However if we do get the urge to defecate at an inopportune moment, we (adults and children after 1 yr. of life) have the capability to withhold the process of defecation by relaxing the pelvic musculature and contracting (closing) the sphincter.

At birth and for the first few months of life defecation is an involuntary process, as the infant defecates in diapers. As the stool accumulates in the rectum, increased pressure sensation is transmitted to the brain which in turn involuntarily relaxes (opens) the sphincter and stool is expelled. Infant has no voluntary control on this process. At one or two years of age, we acquire the voluntary control over the defecation process. During this period, at any given time, if the expelled stool is hard, it causes pain during defecation. This painful defecation leads to a negative learning process. We are all aware that painful experiences leave a negative impact on our brain. We will do anything to prevent pain. Hence when the child realizes that stooling is a painful process he or she develops a methodology to hold stools, so as to avoid pain. This involves a tremendous effort involving pelvic muscles and sphincter. Often it appears child is trying very hard to push the stool. It often appears that your child is trying very hard to expel the stools, with posture changes, grunting, standing on his toes etc. It has also been described as "poop dance". Finally after a few days (3-7 or more) stool is expelled as it becomes unbearable. This stool can appear very large and often exceeds one's imagination.

This phenomenon of stool retention or holding can be seen between 1-14 years of age. As the child gets older the periods of stool holding increase and in many cases child may not have a bowel movement for days to weeks. During this time he/she has a good appetite, continues his normal activity and stools continue to accumulate. This increased retention of stools leads to rectal dilation. Finally after many days defecation occurs which is again painful and thus reinforcing once again in the child's mind that defecation is unpleasant and painful process further reinforcing the same process. Rectal dilation is associated with relaxation of sphincter leading to involuntary defecation also known as soiling or encopresis.

After a few days when a bowel movement occurs it leaves behind a dilated rectum. Next the descending stool is not perceived as an urge because by now rectum is stretched to a larger size. This can be explained easily on the basis of pressure sensation. If the rectum is dilated, as stool arrives it does not generate a pressure sensation, a very important initiating step in defecation. Hence it is important to defecate daily, to keep the rectal vault size within the normal range.

At times your child may appear to be very uncomfortable and in pain. This always makes one think of medical conditions such as blockage etc.
You may have read on the web about constipation in children can be due to Hirschsprungs or Hypothyroidism
Hirschsprungs is a rare disorder that a baby is born with and hence the symptoms start in first week of life. Many infants with Hirschsprungs disease do not pass meconium (first stool) for the first 48 hrs. of life. Also in Hirschsrungs disease soiling or accidents are not described.
Many times one may think that the child has complete blockage of intestines. But intestinal blockage is an acute condition, which presents very rapidly and is associated with severe vomiting. Also it is a rare condition... At times it is difficult to differentiate and in those cases we need to obtain x-rays. Other than that unnecessary exposure to x-rays is not advised.

Management:

Following are the important steps of management:

1. Clean out(Disimpaction): Removing the retained stools for the last few days
2. Prevent future stool retention
3. Stool charting
4. Toilet training (age dependent)
5. Behavior modification/Reward therapy
6. Dietary modification

1. Disimpaction:

As your child has not been having regular bowel movements, this often leads to accumulation of large amounts of stools in rectum and colon. Hence our first goal is to remove all the impaction in the rectum and colon completely.
This is often accomplished by using a dual approach.

a) Rectal disimpaction; best achieved by fleets enema (adult size after one year of age). Your child may need more than one enema to disimpact. In moderately severe cases 2-3 may be required.
_____ enemas
b) Disimpaction of stool in the colon may be done by any of the following methods. Your Physician will advise which option to follow
   i) Ex lax tablets/ senna tablets at night 2-3 days (No of tabs _____)
   ii) Dulcolax tablets 5 mg tabs at night (no of tabs_____) Also they can be crushed
   iii) Miralax ____ caps mixed with _____ ozs of Gatorade over 3-6 hrs.

This treatment usually leads to defecation anywhere from 2-5 stools (size of a fist or so) telling us the retained stool has been expelled. It is very important to clean out effectively. They are often large in size. Stools may be formed or liquid. If there is a doubt please repeat Miralax dosage. You cannot dehydrate your child as long as the child is taking fluids and not vomiting.

Telephone consultations are usually not helpful in these cases as it is difficult to judge over the phone. Hence if in doubt repeat the miralax.

2. **Prevent future stool holding:**

Stool retention is due to fear of pain. If the stools are very soft and semi formed, your child will not be able to hold stools and will not have a painful experience during defecation. Over the next 2-4 months if your child has a pain free bowel movement, he or she will forget stooling is painful and will start having spontaneous bowel movements without any help.

Miramax: ____ caps daily
It is imperative, during this time period, to chart medications and bowel movements to prevent stool holding.

Miralax is given for 3-6 months. This often leads to daily bowel movements, which are soft and easy to expel. During this period toilet training can be accomplished.

Subsequently Miralax is gradually weaned and discontinued.

During this process it is very helpful to develop a dedicated time for defecation on a daily basis. This often relieves you from thinking all the time whether he or she had a bowel movement or not. It also helps the child in resolving this difficult control issue.

3. **Stool charting**

Stool monitoring and charting are probably the single most important part of the program. With our busy schedules and as the children get older; most of us are unaware as to how often our children have a bowel movement. He sits on the toilet for a long time and the house smells are not definite proofs of Bowel movements. Children may have hard stools and sit on the toilet for a long time and pass gas and no stools. Hence it may be important for an adult to flush the toilet to ensure adequate defecation in the initial part of the treatment. During the treatment program, an adult should flush the toilet each time to ensure the child is going and chart accordingly. It is absolutely impossible to remember these events next week. **Hence a charting is very important.**

4. **Toilet training**

Toilet training: May be defined as acquiring voluntary control of defecation at desired times. This is usually initiated at 2-3 years of age. The terrible 2 yrs. of age is also associated with the child doing opposite of what the parents tell them. They may very often refuse to do what they are told to. Hence during the toilet training period children often begin to hold stools. If your child is between 2-3 years of age so discontinue the toilet training for the time being. Ensure the child

has had soft painless defecation for few weeks with the usage of Miralax and then begin toilet training.

5. Behavior modification/Reward therapy

We are familiar with positive reinforcement theory. A reward after a desired action gives reinforcement to the child's mind. Hence it is an important part of the program to praise or reward the child. At the same time a reward everyday may turn out to be quite expensive. Another way to promote regular bowel movement pattern is to chart the bowel movements on a daily basis. If the child has a bowel movement for 7 days consecutively, he or she is rewarded. Hence the child participates in the calendar record and looks forward to the reward and may work towards the goal. "Excess of everything is bad" and overemphasis and constant talking may lead to attention seeking and the child may start holding stools as he gets attention.

6. Dietary modification

Dietary modification is often emphasized in the management of constipation. Increasing fiber in the diet leads to increased bulk in the stool, which in turn leads to an urge to defecate. But in functional constipation or stool holding, children do have the urge but decide to hold the stools. Hence increasing fiber never solves the problem. Nevertheless fiber is an important constituent of our diet and we should encourage high fiber diet.