



Valley Children's Healthcare  
MEDICAL MINUTE- Constipation and Children with Down syndrome  
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## What is constipation?

**Constipation** is generally defined as an abnormally delayed or infrequent passage of dry, hardened **feces** (stool or poop). In more severe cases, children will have difficulty passing stool on their own. The dry, hardened stool results from too much water being absorbed from the large intestine. This can happen if there is not enough water in the diet, there is not enough water-retaining fiber in the diet, or when stool is kept in the **colon** (large intestine) too long. The longer stool stays in the colon and **rectum** (the last portion of the large intestine), the more water is absorbed from the stool and the harder it becomes.

## Constipation and children with Down syndrome

Children with Down syndrome are more likely to suffer from constipation for two reasons. First, children with Ds have lower muscle tone. They are also, generally, less physically active. Both of these factors can lead to stool staying in the large intestine for longer periods of time, resulting in more water absorption and harder stool.

## Complications from constipation

Constipation, if not treated properly, can lead to several complications: 1) Passage of large, hard stool can cause tears in the rectum, also known as **rectal fissures**. Passage of these stools is quite painful, and there may be bright red blood on the surface of the stool and toilet paper, with wiping. Blood mixed in with the stool is not due to a fissure. 2) The rectum, if not emptied by regular bowel movements, can become overly distended or stretched out. This can lead to loss of sensation and weakening of the **anal sphincters** (muscles which help control the passage of stool). This, in turn, can lead to worsening constipation and **encopresis**, or involuntary, uncontrolled passage of stool. With chronic constipation, this is usually in the form of liquid stool. 3) **Fecal impaction** (hard stool which becomes stuck in the intestines) is also a result of chronic constipation.

## Treatment

Constipation is generally treated through increasing dietary fiber, and ensuring adequate fluid intake. Fiber is generally added to the diet through some fruits, vegetables and grains. Fiber can also be added through dietary products such as Metamucil™ or Citrucel™. Fiber is not a laxative, but it does aid in digestion and helps maintain the consistency of stool. Some individuals do experience increased gas and bloating with increased fiber. The addition of home remedies such as Karo™ syrup is not recommended, and additional water is not recommended for babies under the age of 6 months. For more severe constipation, your doctor may recommend additional treatments such as suppositories, enemas and laxatives. However, these should not be used without first talking to your child's doctor.

## Other Considerations

There are three additional medical problems which require further discussion, as these conditions can present as constipation.

**Hypothyroidism** - The thyroid is a gland in the neck region which produces hormones that help to regulate many body functions including metabolism and growth. The thyroid gland is particularly important for brain growth and development in infants and children. Hypothyroidism occurs when the thyroid gland does not produce enough hormones. This is a condition that is seen more commonly in children with Down syndrome. The symptoms of an underactive thyroid can include constipation. Other symptoms can be subtle and difficult to detect. For this reason, all children with Ds are recommended to have routine blood tests to check their thyroid hormone levels.

**Hirschprung Disease (HD)** - Another important condition to consider in children with Down syndrome is Hirschprung disease. This is a condition where an individual is born lacking the nerve endings in the end of the colon which normally help push food through the large intestine. This can lead to trapped stool, infection, pain, as well as other intestinal problems. Individuals with Hirschprung disease are born with this defect, and babies with this condition usually do not pass stool in the first 24 hours of life, and may not pass stool until after 48 hours of life. Children with Down syndrome do have an increased risk of Hirschprung disease, and any infant with constipation should be evaluated promptly by a medical professional.

**Celiac Disease** - Individuals with celiac disease have difficulty digesting certain foods, particularly barley, wheat, and rye. This leads to inflammation of the gastrointestinal tract, which in turn, causes damage. This can lead to malabsorption of certain nutrients. While many individuals will have diarrhea and difficulty gaining weight, a small percentage of individuals with celiac disease may suffer from chronic constipation.

