Introduction
Constipation is a problem for some people with osteogenesis imperfecta. Constipation is defined as a decrease in frequency of stools or bowel movements with hardening of the stool. As a consequence, people with constipation may have gas feeling bloated but find it difficult to pass stools. Because the stool becomes hard, passing it may be uncomfortable and lead to further unwillingness to try, especially in infants and young children. Fecal impaction, or clogging of the bowel with hardened stool, can be a serious complication. Treatment of constipation in people with OI is often challenging.

Causes of Constipation
OI may contribute to constipation especially in people who are short statured or have a pelvic deformity. The colon and bowel may be prevented from functioning normally if the hips and pelvis are narrow or deformed. A specific pelvic deformity known as acetabular protrusion is known to affect some people with OI Type III and causes a predisposition to constipation. Diminished mobility and low levels of physical activity and dehydration also contribute to constipation. Dehydration is a well-known contributing factor to constipation.

Other causes include diet or medications. Some medications, especially pain medications, can be constipating because they decrease bowel wall motion. Adults with OI and parents of children with OI are encouraged to check with their doctor and/or pharmacist about side effects from their medicines and dietary supplements or for possible drug interactions.

Managing Constipation
Managing constipation usually involves a combination of approaches. It is essential to determine the extent of the problem and develop a plan to correct it. Doctors advise:

- Keep a record of bowel movements, diet and fluid intake. Even when a child appears to be "regular," keeping records about diet, illnesses, exercise and bowel movements will help caregivers figure out if something in particular triggers the problem.
- Be consistent about diet, exercise and activity and fluids.

Children and adults with OI often respond to diet changes, a change in activity level, and mild home remedies. The primary care doctor should be consulted regarding the appropriateness of “home remedies.” A nutritionist or registered dietician may offer useful suggestions for modifying the diet. If the problem persists, a gastroenterologist may be needed. Over-the-counter products should be used with caution.

Diet and Fluids
Dietary changes can include the following suggestions.

- Gradually add fiber to the diet.
- Increase amount of fruits, fruit juice and vegetables.
- Reduce amount of processed foods and refined sugars.
- Include foods such as yogurt with active cultures that contain the bacteria lactobacillus acidophilus.
- Drink water throughout the day.

Strive for a diet that keeps the stool soft. Too much fiber has the secondary effect of creating too much bulk for someone with a connective tissue disorder. This can put pressure on the rectum. Pressure, plus the lax or elastic muscles seen in the pelvic floor of a person with OI, inactivity, too much prolonged sitting, and chronic constipation can lead to a more serious problem called rectal prolapse.
**Exercise and Activity**
Adding exercise and physical activity can help prevent and relieve constipation. Exercise helps move digested food through the intestines. Infants, children and adults who sit, recline, or use a wheelchair require regular position changes. People should consult with their primary care doctor and physical therapist about beneficial exercises that suit their particular needs and abilities. For example, infants benefit from water play that encourages them to kick. Children and adults can benefit from swimming, walking or bicycling.

**Home Remedies**
Home remedies can include:
- Allow enough time on the toilet. Some physicians suggests 10-15 minutes at least twice a day.
- Enemas should only be used with a physician's recommendation.

**Medications**
For some children, regular medication or even a prescription laxative may be necessary. **Use of medication, whether prescription or over-the-counter, must be discussed with your physician.** Children on a medication need to be carefully monitored. Taking a medication too often can reduce its effectiveness or aggravate negative side effects.

Confer with the doctor about all treatment options, including “home remedies.” Persistent, painful constipation should not be ignored, and a referral to a gastroenterologist may be required.

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