



## **Vomiting and Diarrhea (Acute Gastroenteritis)**

### **Description:**

Gastroenteritis in children is one of the more common illnesses we as parents and pediatricians deal with. It is usually caused by a virus, although occasionally can be due to a bacterial infection such as *Salmonella*, *Shigella* or *Campylobacter*.

Although it is commonly referred to as "The Stomach Flu", gastroenteritis is actually not related to "the Flu" or influenza at all. That illness is caused by a completely different family of viruses and has different symptoms altogether.

Gastroenteritis often can begin with a sore throat and a headache. Since the throat is the first part of the intestinal tract, this often shows the first symptoms. Because of this, it can be difficult to tell early symptoms of the stomach flu from strep throat which also can begin with a sore throat, headache and fever. While strep can cause nausea and occasional vomiting, gastroenteritis usually develops vomiting which, at least for a while, can be frequent and the most prominent symptom. Unlike strep throat, this then usually progresses to diarrhea. The illness usually progresses "top to bottom" with a sore throat coming first, vomiting next and diarrhea at the "tail end" (sorry) of the illness. The vomiting and diarrhea can occur simultaneously however.

### **Contagiousness:**

Viral gastroenteritis is usually caused by one of several families of viruses (enterovirus, rotavirus, adenovirus). One of the viruses that causes the most severe symptoms and has been responsible for cases of dehydration and hospitalization in children is rotavirus. There has been an oral vaccine we have been giving to infants for the past several years that minimizes the severity of this type of virus and has greatly reduced the number of ER visits and hospitalizations from gastroenteritis.

No matter what the cause, the illness is spread by touch and usually has an incubation period of 2-5 days. Thus, frequent hand washing and disinfection while around individuals with gastroenteritis is the most important means of limiting the spread from person to person and from household to household. Individuals are actually contagious the day BEFORE they come down with symptoms and continue to be somewhat contagious until the symptoms are completely resolved.

### **Treatment:**

The most important thing to do when managing a child with gastroenteritis is to maintain hydration. When a child's stomach is upset, it is normal to take in minimal to no food. Children have reserves and even if they lose a pound or two during the illness, they will make up for it in the week following their recovery.

Even though the child with vomiting and diarrhea may not be hungry it is important to maintain a slow but steady intake of fluid to make up for their increased losses. In a breastfeeding infant, it is usually recommended to continue breastfeeding but to decrease the length of feedings and to make them more frequent. Thus if an infant normally nurses for 30 minutes every 4 hours, they should be allowed to nurse 15 minutes every 2 hours instead. In this way, their stomach will never be too full but they will receive adequate intake to maintain hydration even if they still have intermittent vomiting.

If a baby is formula fed, then during the vomiting phase, the formula should be replaced with an electrolyte solution such as Pedialyte (or similar). A baby should never be given soda or any kind of solution made with honey. Once the vomiting has subsided, then the baby can be once again given formula. If they normally take a cows milk based formula (such as Similac or Enfamil) then a lactose free version should be considered to help minimize diarrhea (Soy formulas are already lactose free.)

Toddlers and older children are managed similarly during the vomiting phase. They can be given watered down Gatorade (or similar sport drinks) in small, frequent amounts during the vomiting phase (1 ounce every 10 minutes to start) until symptoms subside. Once the vomiting has resolved, then their diet can be advanced to include the BRAT diet (Bananas, Rice, Applesauce, Toast). Remember applesauce is binding but apple JUICE makes you go. Juices should be greatly limited until symptoms are resolved to minimize diarrhea.

### **Assessing Hydration:**

There are several ways to assess the level of hydration in a child. Most importantly is urine output. If your child is making urine 4 or 5 times in 24 hours, they are probably reasonably well hydrated. It can be hard to tell in children in diapers as, small amounts of urine are absorbed by the diapers and often times diarrhea gets mixed in. Sometimes putting a cotton ball in the front of the diaper will help parents to tell.

If a child makes tears when they cry, they are fairly well hydrated. If your child's mouth is moist and their hands and feet are warm, this is also reassuring.

### **When to Worry:**

Most children have about 48 hours of reserves in them when dealing with the stomach flu. High fevers and having "both ends" affected simultaneously can cause a

child to get dehydrated more quickly however. If you are unable to tell when your child last made urine, you should call or get seen by the doctor.

The vomiting phase of gastroenteritis usually lasts for less than 24 hours. If it goes on for longer than that, your child should be seen.

Abdominal pain is common with this illness. It is usually crampy and "on and off" in nature. If the pain becomes more constant or shifts to the lower right side, call right away as this can be a symptom of appendicitis. If it is the middle of the night, a trip to the ER may be needed.

--Be Well

Drew Nash, M.D.