

Let's Talk About...

pH Probe Study

When you eat, the food in your mouth goes through the esophagus (es-AH-fah-gus), and into the stomach (see Figure 1). The stomach has acid juices in it that help break up food into different chemicals so your body can digest them. A pH probe is a study of the acid levels in your child's esophagus.

What is reflux (REE-flucks)?

A muscle at the end of the esophagus allows food to go into the stomach and then closes tight. If that muscle does not work well, stomach juices can be pushed back up into the esophagus. This is called reflux.

Stomach juices irritate the esophagus and cause a condition called heartburn. This can result in crying, irritability, and vomiting. Sometimes, stomach juices can get into the mouth or lungs. This can cause hoarseness, pneumonia, or breathing problems.

Why does my child need this study?

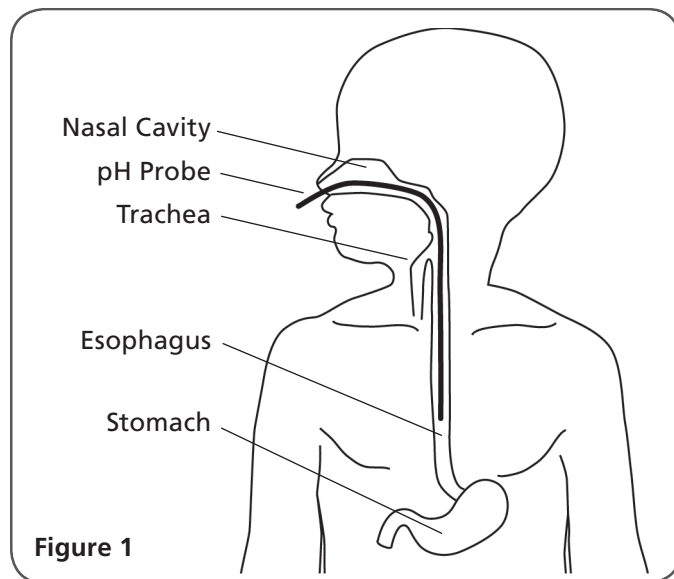
A pH probe study can tell if your child has Gastro-Esophageal (es-ah-fo-JEE-al) Reflux Disease, or GERD. It can let the doctor know if reflux increases or decreases when your child changes positions. He can also decide whether medicine would help or what treatment would be most helpful.

What is a pH?

The pH number is a way to indicate how strong an acid is. A pH test for acid measures a substance and gives it a number from one to seven. A substance with a number of one is a very strong acid. A substance with a number of six is a very weak acid. Anything with a number of seven isn't even considered an acid. It is neutral.

What is a pH probe?

A machine, called a Digitrapper®, can tell if there are stomach acids in the esophagus by measuring pH levels. Your child will be given unfiltered apple



juice. The machine will record the pH levels in her esophagus every thirty minutes.

Unfiltered apple juice has a pH of four. The esophagus has a pH reading of six to seven, and the pH of formula is also six to seven. If the probe were to detect a pH of six to seven, the doctor would not know whether the reading was from the walls of the esophagus or from formula refluxed back into the esophagus. The probe will detect a pH of four in the esophagus if there is unfiltered apple juice present. Any reading four or less indicates that there is apple juice or stomach acid in the esophagus.

What happens before the study?

Ask your doctor if your child should stop any medicine they are taking for one week prior to the test, especially if she is taking medicine for GERD. She should not have anything to eat or drink one hour before the test.

What happens at the hospital?

After you and your child check in to the hospital, you will be taken to the hospital room where your child will stay during the study. A tiny tube, called a probe, **1**



Figure 2

Your child will have to stay in the hospital for 24 hours while the study is taking place. The Digitrapper® comes with a holster, and can be worn on the shoulder. Your child can carry it around and play quietly or watch TV or even play video games while the Digitrapper® records information. She can also drink and sleep with the machine (see Figure 2).

What happens during the study?

During the next 24 hours, your child will drink unfiltered apple juice every four hours. Some reflux is expected during the first two hours, but not during the second two hours.

Your nurse will tell you how much juice your child needs to drink. She can drink more than that amount, but cannot drink less. If your child is unable to drink the least amount of apple juice in fifteen minutes, she may need to have a feeding tube placed. She can have food and medicines only with her doctor's permission.

Your nurse will record the numbers from the Digitrapper® and note if your child is crying, coughing, or vomiting.

What happens after the study?

After 24 hours, your child's nurse will remove the probe. Your child can go home. She can eat and drink as usual. Your doctor will tell you the results of the test in a few days.

will be placed into the esophagus and attached to the Digitrapper® machine.

A nurse will come in to place the tube. The tiny tube will go into your child's nose and down into the esophagus. She may feel uncomfortable as the tube passes through her nose. Swallowing will help the probe pass into the esophagus. She may cough, sneeze, or gag for just a short while.

It is important that your child does not pull out the probe. Your nurse or childlife specialist can help you come up with a plan to keep the probe in place. If it comes out, it will have to be put back in by a nurse.