

GASTRIC EMPTYING STUDY

AT CHILDREN'S HOSPITAL OF PITTSBURGH OF UPMC, we believe parents and guardians can contribute to the success of this test and invite you to participate. Please read the following information to learn about the test and how you can help.

Fast Facts About Gastric Emptying Solid and Liquid Studies

- Gastric emptying is a test that measures the time it takes for food to empty from the stomach and enter the small intestine.
- The test often is used to find out why your child is vomiting, having stomach pain or not gaining weight.
- The test can be done as an inpatient or outpatient. If your child is an outpatient, he or she may go home once the test is completed.
- There are special rules for eating and drinking before the test.
- This test is pain-free.

What Is A Gastric Emptying Study?

Your child's doctor may order a gastric emptying study if he or she is having stomach pain, nausea (feeling sick to the stomach), vomiting, weight loss, or the feeling of being very full (bloated) after eating. The test, done by the nuclear medicine department, will let the doctor see how fast food in the stomach empties into the small intestine. Nuclear medicine is the best way to watch how food is emptied and how well the stomach and smaller intestine are working.

For older children and teenagers, a very small amount of tasteless radioactive material is added to a solid meal. For babies, the radioactive material is added to formula or milk. The amount of radioactive material is very safe and has about the same amount as an X-ray. The energy that comes from the radioactive material can be seen by a special camera that creates images (pictures) for the radiologist to study.

If your child eats the solid meal, many images will be taken of the stomach over the course of approximately 3 hours. Each set of scans takes about 1 minute, but they must be repeated every 20 minutes and then every 30 minutes for about 3 hours. If the liquid study (MILK Study) has been ordered for your child, he or she will have images taken continuously for a little over 1 hour. A nuclear medicine doctor will look at the images and give your child's doctor a report, which will help him or her decide what treatment is best for your child.



The Gastric Emptying Solid Study

After you arrive in the Nuclear Medicine Department and before the test begins, your child will be seated at a table and served a meal of scrambled eggs, toast, a slice of deli turkey and a milkshake. The scrambled eggs will contain a very small amount of radioactive material.

- The amount of radioactive material your child will swallow is far below the level that would cause any side effects. This radioactive material usually will clear your child's body within 24 hours.
- It is very important that you encourage your child to eat or drink as much of the meal as possible within 10 minutes. If your child does not eat or drink enough, you may need to come back another day to try again.
- **It is important to let your doctor know ahead of time if your child is allergic to eggs.**

Once your child has finished eating, a technologist will bring him or her into a room with scanner, which looks like a large camera. Your child will stand in front of the scanner for the test. The scanner does not move, touch the body or contain any radiation.

- **It is important that your child stays very still for the scans or some of them may need to be repeated.**
- A scan will be taken from the front of the stomach, and then the technologist will have your child turn around so one image also can be taken from the back. The set of two images takes 1 minute.

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- After this first set of images, more sets will be taken every 20 minutes for 1 hour, and then every 30 minutes for the next 2 hours.
- In between scans you will need to remain in the nuclear medicine area. For your child's comfort, we recommend that you bring an iPod or MP3 player, books, a movie or a few of your child's favorite toys to help pass the time.
- The study takes 3 hours of imaging, plus the time it takes to register and eat the meal. You should plan on being at the hospital for at least 4 to 6 hours.

MILK (Liquid) Study

When you arrive in the nuclear medicine department, a technologist will bring you and your child into a room with a scanner that looks like a large camera, and an exam table.

- A very small amount of radioactive material will be added to your child's formula, milk or juice. Formula, milk or breast milk is preferred over juice.
- Parents or guardians need to bring an 8-ounce bottle from home of the child's own formula or breast milk with them for the test. This will limit the chances of him or her being allergic to the liquid used for the test. **The Nuclear Imaging Department does not have formula available, so it is very important to remember to bring it with you.**
- A very small amount of radioactive material will be added to the liquid in the bottle. The amount used for the test is far below any level that would cause side effects and is cleared from your child's body within 24 hours after the test.
- The technologist will place your baby flat on the exam table. The scan will begin while you are feeding your child his or her bottle while lying down. It is important that you try to get your baby to drink as much liquid as possible within 7 minutes.



- While your child is being fed, he or she will have continuous scans taken of the stomach. By taking the images while your child is drinking, the radiologist can actually see the liquid moving through the stomach to the small intestine.
- The scans will continue for a little more than 1 hour. Neither you nor your child will be exposed to any radiation from the camera. The only radioactive material that is used is the very small amount added to the formula or milk.
- **It is important to let your doctor know ahead of time if your child is allergic to milk, formula or juice.**

Home Preparation (Solid and Liquid Studies)

Have your child wear clothing without zippers, metal or belts on the day of the test so he or she can keep on his or her regular clothes for the test. If your child's clothes contain metal, he or she will need to change into a hospital gown for the test.

For both the solid and liquid studies, your child should not eat solid food and liquids, including baby formula and breast milk, for 4 hours before the test.

A Parent's/Guardian's Role

The most important role of a parent or guardian is to help your child stay calm and relaxed. The best way to help your child stay calm is for you to stay calm.

- When your child is served his or her meal and/or liquid, please encourage him or her to eat or drink as much as possible. If there is not enough food or liquid in the stomach, it will not be possible to get the best images.
- One parent or guardian may accompany your child in the nuclear medicine imaging room
- Please stress to your child the importance of staying very still for each scan. If he or she moves too much, the scans may need to be repeated.
- It is helpful to bring something to keep your child occupied between each imaging session, such as CDs, books, movies, pacifiers or toys. You may also bring along a favorite "comfort" item—such as a stuffed animal or "blankie"—for your child to hold during the test.

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After the Gastric Emptying Study

- If your child is an outpatient and has no other appointments scheduled, you may take him or her home once the test has been completed.
- Your child may resume all normal activities once the test is done.
- Your child may return to school or daycare.
- A nuclear medicine physician will look at all of your child's images and then give the results to the doctor who ordered the test. You should call your child's doctor to get and discuss the results of the test.



Special Needs

If your child has special needs or health issues you feel the doctor needs to know about, please call the Division of Nuclear Medicine at Children's Hospital **before** your appointment and ask to speak with the technologist. **It is important to notify us in advance about any special needs your child might have, especially if he or she is allergic to eggs, milk or formula.**

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To see the list of all available patient procedures descriptions, please visit www.chp.edu/procedures.