

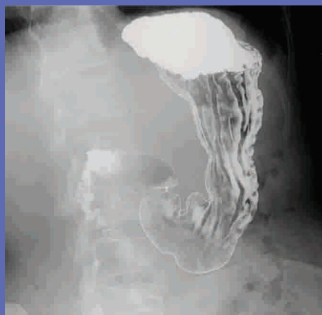
# Barium Study



# What is a Barium Study?

**Barium Study** is an x-ray examination of the esophagus, stomach, small and large intestine whereby the gastrointestinal tract must be coated or filled with a contrast material called barium, an element that appears bright white on radiographs or – x-ray films. Additionally, some gas is introduced to further improve the images; this procedure has the modified name of “air-contrast” or “double-contrast study.”

For the upper gastrointestinal study it is called Barium Meal or if it is required to visualize the small intestines, Barium Meal with Follow Through. For the lower gastrointestinal study, it is called Barium Enema.



# What are the common uses of this procedure?

- For Barium Meal, to observe digestive function or to detect abnormalities such as ulcers, tumors or inflammation of the esohagus, stomach and duodenum.
- For Barium Enema, to observe the large bowels to look for ulcers, benign tumors (polyps, for example), cancer, or signs of certain other intestinal illnesses.

# How should I prepare for the examination?

- For Barium Meal, fasting should begin from midnight the day before the examination. This will include not having food or drinks.
- For Barium Enema, you will be given medications and specific instructions to clear your bowels before the examination. Details can be obtained when you make your appointment.



# What is the procedure like?

## BARIUM MEAL

- A nurse will give you a muscle-relaxing intramuscular injection before the procedure.
- You will be asked to step on the pedestal of the x-ray machine.
- You may be asked to swallow baking-soda crystals (sometimes called “fizzies”) to create gas in your stomach. You should try not to belch.
- Then you will be asked to drink a cup of liquid barium, which resembles a light-colored milkshake. The liquid barium has a chalky taste although the taste can be masked somewhat by added flavors such as strawberry or chocolate.
- The radiologist will note the passage of barium into your oesophagus and stomach on the fluoroscopic monitor.
- The table will then be moved to a horizontal position and you will then be lying down as the radiologist obtains pictures of your oesophagus, stomach and duodenum.
- You will be asked to hold your breath to prevent blurring of the still images. Also, periodically you will be asked to move into different positions while standing and to roll into different positions while lying on the examining table.
- The examination is usually completed within 20 minutes.
- If a follow through is required you will be asked to wait from about 30 minutes to a few hours to follow the passage of barium through your intestines. X-rays of your abdomen will be periodically taken.

## BARIUM ENEMA

- A small intramuscular relaxant may be given to you.
- You will be positioned on your side on the x-ray table.
- A rectal tube is then introduced into the rectum.
- The radiologist will introduce a mixture of barium and water into the patient’s colon through the tube.
- Air may also be injected through the tube to help the barium thoroughly coat the lining of the colon.
- You may be repositioned frequently to enable the radiologist to capture views of the colon from several angles. When images are taken, you will be asked to stop breathing to ensure clear pictures of your colon is recorded.
- Once the x-ray images are completed, most of the barium is drawn back into a bag, and the patient is directed to the washroom to expel the remaining barium and air.
- The examination usually takes about 20 minutes.



## What happens after the procedure?

- You can resume a regular diet and take orally administered medications unless told otherwise by your doctor.
- You are encouraged to drink additional water for 24 hours after the examination to avoid constipation.
- The barium may color stools gray or white for 48 to 72 hours after the procedure.
- The radiologist (specialist doctor) will report on your x-ray films and the result will be given to your doctor.

## What are the benefits and risks?

### BENEFITS

- This is an extremely safe, noninvasive procedure with rare complications.
- You may return to normal activity following the examination.
- The imaging process is fast and well-tolerated.
- Radiology examination can often provide enough information to avoid more invasive procedure such as colonoscopy.

### RISK

- Some patients may be allergic to the flavoring added to some brands of barium. If you have experienced allergic reactions after eating chocolate, certain berries or citrus fruit, be sure to tell your doctor or the technologist before the procedure.
- There is a slight chance that some barium could be retained, leading to a blockage of the digestive system. Therefore, patients who have an obstruction in the gastrointestinal tract should not undergo this examination.
- The effective radiation dose from this procedure is about 2-4mSv, which is about the same as the average person receives from background radiation in every year.



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