Barium Enema Examination

Introduction

The barium enema examination demonstrates your large bowel (colon). This examination is performed when patients have a change in bowel habits, experience abdominal pain or rectal bleeding, or if your doctor suspects you may have diverticulitis or polyps.

Patient Preparation

For the barium enema examination to be successful, your intestines must be completely empty. Typically, you will be asked to follow a restricted diet for two days prior to the examination. This may include a soft diet or a liquid diet. You also will be required to take a laxative the evening before the examination, and you also may be asked not to eat or drink anything after midnight the night before the exam. Your doctor will give you specific instructions, which you should follow closely. Any residue in your lower digestive tract will show up on the x-rays and could be mistaken for an abnormality in the colon or rectum.

Before your examination, a radiographer will explain the procedure to you and answer any questions you might have. A radiographer, also known as a radiologic technologist, is a skilled medical professional who has received specialized education in the areas of anatomy, radiation protection, patient care, radiation exposure, radiographic positioning and radiographic procedures. As part of his or her duties, the radiographer will determine the amount of radiation necessary to produce a diagnostically useful image.

Prior to performing your barium enema examination, the radiographer will give you a hospital gown to wear. This gown has no metal snaps on it, because metal can interfere with the accuracy of the image. It is important that everything underneath this gown be removed, including jewelry and underwear.

If you are a woman of childbearing age, the radiographer will ask if there is any possibility you are pregnant. Because this examination exposes the pelvic area to radiation, it is important that you tell the radiographer the date of your last menstrual period and whether there is a chance that you may be pregnant.

During the Examination

Inside the x-ray room, you will be asked to lie down on a tilting table attached to a fluoroscope, which is a x-ray unit combined with a television screen. The radiographer will take an x-ray of your abdomen to make sure that your intestines are clean. Next, the radiographer will insert a lubricated enema tip into your rectum. A radiologist will come into the room and begin the examination. Liquid barium will begin to flow through the enema tip, a little at a time. Barium is a special compound that allows radiographic visualization of the gastrointestinal tract. It coats the walls of your lower digestive tract, casting shadows that can be recorded on x-ray film. The radiologist will watch the television screen to observe the flow of barium, and films will be taken throughout the process.

As the barium is being delivered, the radiologist will ask you to turn from side to side. This allows the barium to coat the walls of your colon. If you feel uncomfortable or are not able to turn over, you should tell the radiographer or radiologist. Their goal is to make you as comfortable as possible and at the same time perform a successful examination.

After the barium has been administered, the radiographer will take a series of x-rays of your large intestine. You will be asked to hold your breath and remain still during the exposure. It also is important that you try to hold in the enema. Once the films are complete, the radiographer will show you to the toilet facilities so you can expel the barium. After you have expelled the barium, the radiographer may take another x-ray to assess whether any barium remains.

In some cases, the radiologist may introduce air along with the barium solution. This examination is called a high-density, double-contrast or air-contrast barium enema examination. The air will be inserted through the
same enema tip as the barium. During the procedure, you may experience cramping or a sensation of being bloated. It is important that you try not to expel the air or the barium. Because barium used in this procedure is thick, it clings to the walls of the colon rather than filling the colon itself. The air is used to expand the walls of the colon and allow the radiographer and radiologist to get more detailed images.

Once the examination is complete, the radiographer will process your x-ray films and determine whether they are technically acceptable. The films then will be given to a radiologist to interpret. Radiologists are physicians who specialize in the diagnostic interpretation of medical images.

**Post-examination Information**

After your radiographs have been reviewed by a radiologist, your personal physician will receive a report of the findings. Your physician then will advise you of the results and discuss what further procedures, if any, are needed.

The barium will make your stools white for a few days. This is normal. If you experience constipation following the examination, tell your doctor. He or she may advise you to take a laxative. You also should increase your water consumption in the days following the examination.

The radiation that you are exposed to during this examination, like the radiation produced during any other x-ray procedure, passes through you immediately. You are not "radioactive," and it is not necessary to take any special precautions following your examination.

Please remember that the material presented here is for informational purposes only. If you have specific questions about a medical imaging procedure, contact your physician or the radiology department of the institution where your test will be performed.

*Source: Exam Descriptions developed by the American Society of Radiologic Technologists, www.asrt.org*