

Barium Studies: Barium meal

Introduction

This leaflet will explain how a barium meal is performed and will answer some of the most commonly asked questions.

It is not meant to replace informed discussion between you and your doctor, but it can act as a starting point for such discussion.

What is a barium meal?

A 'barium meal' is an examination of the lower oesophagus, stomach and duodenum (first part of the small bowel) with the help of X-rays and barium contrast. The test is carried out by a radiologist (a doctor who uses X-ray to diagnose and treat conditions), and a radiographer (a health care professional that helps facilitate the X-ray images safely). Sometimes, an assistant or a student radiographer may also be present.

Normally, your stomach and bowel do not show well on X-ray on their own. Barium contrast, a thick white chalky liquid, can be seen on X-rays and when swallowed it coats their wall making them visible. On occasion, a different, clear liquid may be used.

After you swallow the liquid, the radiologist takes X-ray images and examines the shape and movement of your stomach and duodenum looking for potential problems.

Why do I need this procedure?

Your clinical doctor has referred you for a barium meal to help make a diagnosis or to guide further treatment plans.

This test is commonly performed on people with swallowing difficulties, sensation of food being 'stuck', pain on swallowing, indigestion or regurgitation of stomach contents (reflux). It may also pick up hernias, ulcers, abnormal growths, narrowing or blockages of the gullet, stomach or bowel.

Your radiographer or radiologist will discuss the procedure and your symptoms as well as any concerns you may have with you. If you don't want to you can opt not to go ahead with the barium examination and we will write to your referring doctor to let them know.

What are the alternatives?

There may be alternatives available such as gastroscopy, capsule endoscopy, computed tomography (CT) or magnetic resonance (MRI) imaging among others, which come with specific advantages and drawbacks.

Currently, a barium study has been considered as the most appropriate test for you or may be part of a range of examinations needed to get a diagnosis.

If you have any questions regarding what is the most fitting test for you, please speak to your referring clinical doctor to explain to you the available options.

What happens at your barium meal examination?

Before you are brought to the X-ray room you will be requested to change into a hospital gown. You may also be asked to remove jewellery, dentures, glasses or other metal objects which may show up on the X-rays.

Once in the X-ray room, a brief history will be taken; please tell the radiologist what medication, severe allergies, choking episodes or other medical conditions, such as thyroid disease and diabetes, you may have.

Initially, you will be asked to drink the barium contrast standing in front of the X-ray machine. The barium is used to coat the inside of the stomach and you may be given a fizzy powder, to swallow with a small amount of lemon juice-like liquid, which produces a harmless gas. This will fill your stomach and helps make the detail on the X-ray clearer. You must try not to belch as this will let the gas escape.

Several X-ray images will then be taken while you are lying in different positions on your back and front on the X-ray couch which may move or tilt too. You may also be asked to hold your breath for a few seconds or to produce a 'cough' while on your back. The radiologist and radiographer will be there with you at all times to help you.

Sometimes, a different clear liquid may be used especially if you have had previous surgery or if you have frequent choking episodes that may have caused you pneumonia.

If you have difficulty standing for a prolonged period please let us know

How long will I be in the hospital?

The test usually takes no longer than 30 minutes, but please allow up to one hour for everything to be completed.

How do I prepare for my barium study?

It is important that your stomach is empty for your examination. Please do not eat or drink anything for six hours before your appointment. If you become very thirsty you may take small sips of water up to two hours before your appointment.

If you take morning pills or tablets it is best if you take these after you had your exam so, make sure you bring these with you.

If you are unsure if you should do so or have concerns contact your doctor or the X-ray department for advice.

Allergies

If you have asthma or any allergies especially to iodine or X-ray contrast (CT or coronary angiogram dye) you should inform us in advance.

If you have diabetes

If you have diabetes and not eating may be a problem for you, talk to your diabetes team for advice on how to maintain your blood sugar. If you are on insulin please inform the X-ray department as you may need an early morning appointment.

Consider if you would like a friend or relative to accompany you and make sure you bring your medication and an appropriate snack with you.

Can I bring a relative or friend?

Yes, but for safety reasons, they will not be able to accompany you into the X-ray room except in very special circumstances.

Are there any risks?

As with every procedure, there are some risks associated with barium studies.

X-ray radiation

All x-ray procedures involve exposure to radiation in varying amounts. The dose you get from a medical x-ray is very low and your doctor has determined that the benefits of having the barium meal outweigh potential risks.

The radiographer is present throughout your test making sure that the dose is kept as low as reasonably possible and the duration and level of x-rays are kept to a minimum.

Contrast

Having a barium study means it requires you to drink small amounts of barium contrast or rarely of iodine-containing contrast.

There are usually no risks associated with barium contrast as it is not absorbed into the blood. It functions only to coat the food pipe, stomach and bowel.

Very rarely, you may have an allergic reaction to the iodine contrast medium. At any point, if you develop itching or difficulty breathing, tell your radiographer or doctor immediately.

Aspiration

Some people with swallowing difficulties may find that sometimes food or water goes down the "wrong way" and into their windpipe. This is called aspiration and may also happen with the contrast liquid during the examination. Although unlikely, the risk of aspiration increases if this has happened to you in the past or if you have had choking episodes in which case we may decide to use an alternative iodine-containing contrast.

If you aspirated contrast, sometimes we may need to organise some physiotherapy to help you cough this back up.

Female patients

X-rays can be harmful to an unborn baby and should be avoided by women who are or may be pregnant.

It is recommended that the examination is performed within 10 days of the first day of your menstrual period. If your appointment is not within this time or if you think you may be pregnant, please contact the X-ray department before your appointment.

When you arrive for your test, you will be asked when your last period started. If it is more than 10 days earlier, your appointment may be postponed.

Where do I go when I arrive at the hospital?

Please report to the reception desk in the Radiology X-ray Department with your appointment letter 10 minutes before your appointment.

What happens after the test?

At the end of the test, you will be able to go home immediately or when you feel ready. You can eat or drink normally and take your normal medications.

How will I feel afterwards?

The examination should not be painful. Some people may feel bloated after their barium examination. However, most people have few if any side effects.

Barium can cause constipation. To help prevent this **drink plenty of clear fluids** to flush the barium through your system. Your stools may appear pale for 2-3 days after the procedure.

When will I get the results?

After the procedure, the radiologist will examine the images, write a report on the findings and the results will be sent to the referring doctor. While every effort is made for this to take the least amount of time possible please allow for a week if you are an outpatient.

Sources of information

For further information regarding your condition please refer back to your doctor.

Information regarding barium examinations can be obtained from the British Society of Gastrointestinal and Abdominal Radiology (BSGAR - <https://www.bsgar.org/>).

Patient information - <https://patient.info/digestive-health/acid-reflux-and-oesophagitis/barium-tests-swallow-meal-follow-through>.

Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments, please contact the Patient Experience Team – Tel: 0300 131 4731 (direct dial) or by email at: esh-tr.patientexperience@nhs.net

Hand hygiene

The Trust is committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available at the patient bedside for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

Other formats

If you require any of the Trust leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department.

Tel: 0300 131 4434 Email: esh-tr.AccessibleInformation@nhs.net

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

Reference

The following clinicians have been consulted and agreed this patient information:

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The directorate group that have agreed this patient information leaflet:

Core Services

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