INDIANA UNIVERSITY HEALTH

GI MOTILITY LAB
&
GASTRIC ELECTRICAL STIMULATION PROGRAM

ESOPHAGEAL IMPEDANCE MANOMETRY

ESOPHAGEAL IMPEDANCE MANOMETRY (HIGH RESOLUTION) - Your physician has ordered this test that measures the strength and function of the muscles in your esophagus (the "food pipe"), which work to push food and liquids from the mouth to the stomach. Impedance is used to detect flow of liquids through the esophagus. Manometry is used to detect the pressures throughout the esophagus.

How Do I Prepare For The Procedure?

1. Do not eat or drink anything for 6 hours prior to your test.
2. Medications that need to be taken regularly, such as high blood pressure and heart medications, can be taken when you awaken in the morning with small sips of water.
3. If you have diabetes, skipping breakfast may affect your need for diabetic medication. Generally one-half of your usual dose of diabetic medication is taken the morning of your test. This should be reviewed with your health-care provider.
4. ***Medications that should not be taken 48 hours before your test*** until after it is complete. These medications include:
    - ***a.*** Pain medicines such as oxycodone, codeine, morphine, hydrocodone, hydromorphone.
    - ***b.*** Antispasmodics, such as Bentyl (dicyclomine), Donnatal, Levsin (hyocyamine). Promotility agents such as Reglan (metoclopramide), Zelnorm (tegaserod), erythromycin, Motilium (domperidone).
5. You may drive yourself home, eat and go about your normal activity after the procedure is completed.

6. ***Please complete the enclosed forms and bring a list of all your medications. Bring all up-to-date insurance information and identification to your appointment, as well as complete names, addresses, phone and fax of all doctors you want to receive a copy of the report***. Medicare does not require preauthorization or precertification for this procedure; however, many private insurance carriers and managed care organizations do. We recommend you contact your insurance company prior to your procedure, if you have any questions about coverage.

7. ***PLEASE ARRIVE 30 MINUTES PRIOR TO YOUR SCHEDULED PROCEDURE TIME***.

- ***a.*** Check-in at the Front Admitting Area located on the first floor of University Hospital, 550 N. University Blvd, Indianapolis Indiana.
- ***b.*** Once registration is completed, the registration clerk will notify the Motility Clinic of your arrival. Proceed to the ***Central Elevators***.
- ***c.*** Take them to the 5th floor, (5601) and wait in the chairs immediately to the left of the elevators. The motility nurses will escort you to the Motility Lab.
- ***d.*** Please use valet parking, which is available under the glass canopy

What does the procedure involve?

Esophageal impedance manometry takes about 30 minutes. The motility nurse or technician will verify that you have not eaten anything within 6 hours of the study. At the start of the test, you will be sitting upright. One nostril is anesthetized with a numbing lubricant. A thin flexible tube approximately one-eighth inch in diameter is passed through the anesthetized nostril, down the back of the throat, and into the esophagus as you swallow. With further swallowing, the tube is passed down into the stomach. There may be some gagging during some of the passage, but it is easily controlled by following instructions. Occasionally, the tube is passed through the mouth and not the nose.

With the tube inside the esophagus, you will lie down on your left side. After a short rest, the test will begin. The pressures generated by the esophageal muscle will be measured when the muscle is at rest and during swallows. During the test, the nurse usually asks the patient to swallow on command with liquids (usually Powerade© or salty liquids like saline). Multiple swallows are tested to allow measurement of the lower esophageal sphincter (the barrier to reflux), the esophagus (the swallowing tube), and the upper esophageal sphincter (in the throat). Pressure recordings are made throughout the study and the tube is then withdrawn. Liquid flow is measured at the same time as pressure measurement using impedance sensors (resistance of liquid flow through the esophagus).

What are the side effects of esophageal impedance manometry?

Although esophageal impedance-manometry may be uncomfortable, the procedure is not really painful because the nostril through which the tube is inserted is anesthetized. Once the tube is in place, patients talk and breathe normally. The side effects of esophageal manometry are minor and include mild sore throat, nosebleed, and, uncommonly, sinus problems due to irritation and blockage of the ducts leading from the sinuses and into the nose. Occasionally, during insertion, the tube may enter the larynx (voice box) and cause choking. When this happens, the problem usually is recognized immediately, and the tube is rapidly removed. Care must be used in passing the tube in patients who are unable to easily swallow on command because without a swallow to relax the upper esophageal sphincter the tube often doesn't enter the esophagus but instead enters the larynx.

When is esophageal impedance manometry used?

Esophageal impedance-manometry is used primarily in several situations. The first is to evaluate the cause of reflux of stomach acid and contents back into the esophagus (gastroesophageal reflux disease or GERD). Symptoms of GERD include heartburn and regurgitation. The second is to determine the cause of problems with swallowing food, such as food or liquids getting stuck in the chest after swallowing. The third is to evaluate patients with chest pain that may be coming from the esophagus rather than the heart. Finally, the test may be needed to correctly place an acid sensing probe (pH probe) in the esophagus (see patient information sheet on esophageal pH monitoring).

****If you should have any questions regarding your medications please contact your prescribing doctor. If you need to change your appointment for this test, please contact the Motility Lab scheduler 317-944-7817. If you have any specific questions regarding the test, please contact the Motility Lab at 317-948-8137**.