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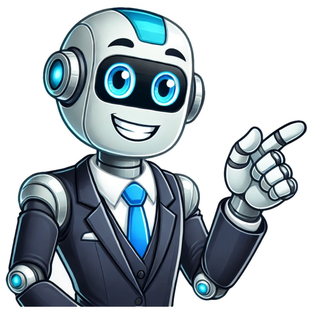

Manometry esophageal test

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he procedure involves the insertion of a pressure-sensitive tube into your nose that is then fed into your throat, esophagus, and, stomach. Esophageal manometry is used when you have a chronic reflux or swallowing problems that cannot be explained. Esophageal manometry can help determine whether your problem is associated with the esophagus itself and, if so, in which part and to what degree. Specifically, it is used to detect esophageal motor dysfunction. This refers to problems involving peristalsis (the involuntary, rhythmic contraction that helps propel food to the stomach) or the valves, called sphincters, which open and close whenever you eat or drink. The esophagus contains two such sphincters: Indications Esophageal manometry may be recommended if you have dysphagia (difficulty swallowing), odynophagia (painful swallowing), or symptoms of reflux that resist treatment (including heartburn and chest pain). However, esophageal manometry is usually not the first test used to diagnose these conditions. Rather, it would be performed after X-rays and other tests, such as endoscopy have ruled out more likely causes, including esophageal obstruction, esophageal stricture, hiatal hernia, grade C or D reflux esophagitis, or heart disease. Esophageal manometry may be used to help diagnose: Achalasia, the dysfunction of the LES in which food is unable to pass into the stomach Eosinophilic esophagitis, an allergic cause of dysphagia Ineffective esophageal motility Jackhammer esophagus (hypercontractile peristalsis), characterized by esophageal spasms in an abnormal sequence Nutcracker esophagus (hypertensive peristalsis), characterized by rapid esophageal contractions in a normal sequence Scleroderma, a rare disorder that causes the chronic tightening of tissues, including the throat The test is not used to diagnose gastroesophageal reflux disease (GERD) but rather to characterize the nature of the disease. It may be recommended if you fail to respond to GERD therapy or if anti-reflux surgery is being considered. Limitations While manometry is useful in identifying motility problems, it does have its limitations. Given that spasms and swallowing problems are often transient, there is no guarantee they will occur during the test. This may lead to inconclusive or ambiguous results. Because of this, many people with esophageal dysfunction will have normal motility parameters after testing. By contrast, abnormal findings may sometimes have no relation to the symptoms you're experiencing. It is for this reason that expert consultation is needed if the findings are anything less than conclusive. Alternative Tests While a conventional esophageal manometry is the best method for assessing motility dysfunction, there are other tests that may be more appropriate for other conditions. Among them: Barium swallow studies may be used to evaluate the function of the esophageal sphincter by recording the movement of the liquid with a live X-ray video camera. High-resolution manometry, which is more costly, works similarly to a conventional manometry but uses more sensors to create a three-dimensional map to pinpoint asymmetrical sphincter problems. EndoFLIP: A distensible balloon is used while the person is asleep to measure secondary peristalsis. While the very thought of esophageal manometry may seem off-putting, it is a relatively safe procedure and usually nowhere near as uncomfortable as you might think. Occasionally, during insertion, the tube may enter the larynx (voice box) and cause choking. Complications are rare but may include: Many of these can be avoided by following the pre-test instructions provided by your healthcare provider. Testing is contraindicated if there is any obstruction of the pharynx or upper esophagus, including benign or malignant tumors. An esophageal manometry does require some preparation on your part. While intubation (having a tube inserted into your throat) may seem awkward, every effort will be made to ensure that you are as comfortable and relaxed as possible. Timing The test itself takes around 15 to 30 minutes to perform. Barring delays, you should be in and out of the office within 60 to 90 minutes. Esophageal manometry is often performed in the morning to ensure your stomach is empty. It is best to arrive a half hour in advance to sign in and settle. Location Esophageal manometry is an in-office typically performed by a specially-trained nurse or tech and interpreted by a gastroenterologist. The test is performed with a manometry unit consisting of a computerized module, a digital display screen, and a 2.75- to 4.2-millimeter flexible nasal catheter. The catheter itself is equipped with eight sensors able to detect subtle changes in esophageal pressure. What to Wear It is best to wear a loose-fitting outfit. You won't be asked to undress but will be provided a hospital gown to protect your clothes from water and gels used for the test. Food and Drink To avoid aspiration, you will be asked to stop eating or drinking anything, including water, four to six hours before the test. If this instruction is not followed, the healthcare provider may have to cancel and reschedule your appointment. Medications There are a number of medications that can affect the motility of your esophagus. Some need to be stopped to ensure they do not interfere with the testing. To this end, always advise your healthcare provider about any drugs you are taking, whether they be pharmaceutical, over-the-counter, traditional, homeopathic, or recreational. The healthcare provider will be able to tell you which, if any, need to be stopped and for how long. Among some of the classes of drugs that may be problematic: Anticholinergics, such as Spiriva (tiotropium), Atrovent (ipratropium bromide), and Ditropan (oxybutynin) Calcium channel blockers, such as Norvasc (amlodipine) and Cardizem (diltiazem) Nitrates, such as nitroglycerin, Viagra (sildenafil), and Cialis (tadalafil) Promotility agents, such as Reglan (metoclopramide) Sedatives, such as midazolam and Ativan (lorazepam) Cost and Health Insurance The cost of a conventional esophageal manometry test can run from around $500 to $1,000, depending on the provider and location. These costs may be covered in part or in full by your health insurance. The test requires insurance pre-authorization, which your gastroenterologist can submit on your behalf. If approved, it is important to know what your co-pay and out-of-pocket expenses will be. If you cannot afford these costs, insured or not, speak to the gastroenterology administrator about a monthly repayment plan. If you are denied coverage, ask your insurer for a written reason for the denial. You can then take the letter to your state insurance consumer protection office and ask for help. Your gastroenterologist should also intervene and provide additional motivation as needed. Other Considerations Sedatives are not used for an esophageal manometry test. As a result, you can usually drive yourself to and from the healthcare provider's office without concern. On the day of your test, after signing in and confirming your insurance information, you may be asked to sign a liability form stating that you understand the purpose and risks of the test. You would then be taken to an examination room. Pre-Test The esophageal manometry test is usually performed by a specially trained gastrointestinal (GI) motility nurse. Either a doctor or a GI registered nurse (certified by the Society of Gastroenterology Nurses and Associates or other certifying bodies) is qualified to oversee the procedure. A nursing assistant may provide support. Upon entering, you will be provided a hospital gown and asked to sit on an examination table. You will need to remove your glasses and anything in your mouth that could be dislodged, such as a tongue piercing. Sedatives are not used because they can over-relax the esophagus and interfere with the test results. A topical numbing agent may be used to help ease discomfort. You will likely be given the choice of which nostril to use for the test. (The nasal route is preferred as it is less likely to cause gagging than the throat.) A GI motility nurse is highly trained in this procedure. Try to relax by slowing your breathing, relaxing your shoulders, and unclenching your fists. If you feel any discomfort, let the nurse know without panicking. Throughout the Test An esophageal manometry test can vary by the type of equipment used but more or less follows the same basic steps: Before inserting the catheter, the tip is lubricated with the topical anesthetic. Your nostril may also be lubricated.As the catheter is inserted, it will reach a point of resistance as it makes an acute angle into the throat. You may be asked to tilt your head down to help ease the catheter in.To move the catheter past your UES, you will be asked to sip water through a straw. Doing so opens the sphincter, allowing the catheter to enter with minimal resistance. Once the catheter is past the UES, it is quickly fed into the esophagus and stomach. The catheter is then taped in place and you are asked to lie on your side.The healthcare provider then starts to calibrate the catheter sensors. At this point, you need to refrain from swallowing to ensure the calibration is correctly set.Testing begins when the two last sensors are correctly positioned in the stomach. The sensor is set at zero to serve as the baseline for comparison.As the catheter is withdrawn to the LES, you are asked to take several sips of water. Doing so allows the healthcare provider to measure changes in the sphincter pressure from a closed state (before swallowing) to an open state (after swallowing).You will take additional sips of water to measure changes in esophageal pressure as you swallow. If peristalsis is normal, your healthcare provider will see rhythmic changes in pressure moving downward.Finally, to test the UES, you will be asked to sit up. The catheter is gradually withdrawn to compare the pressure at the UES with that of the esophagus and throat.The catheter is then be gently removed. Post-Test Once completed, you will be given a tissue to blow your nose but otherwise will be well enough to return home. You can resume your normal diet and any medications you regularly take. Side effects of esophageal manometry tend to be minor and may include a mild sore throat, coughing, minor nosebleeds, and sinus irritation. If your throat is sore following an esophageal manometry test, you can either gargle with salt water or use a benzocaine throat lozenge like Cepacol. The irritation will usually go away in a day or so. It is also not uncommon to have blocked sinuses and minor nosebleeds. You can often help clear sinuses with an over-the-counter corticosteroid nasal spray or a sterile saline nasal spray. Antihistamines don't usually help since the swelling is due more to inflammation than allergy. Nosebleeds can be treated by pinching the soft part of your nose above the nostril and breathing through your mouth. While serious side effects are uncommon, you should call your healthcare provider immediately if you experience any unusual symptoms, including fever, severe reflux, vomiting, arrhythmia, shortness of breath, or bloody sputum. A few days after the test is performed, your healthcare provider will review the results with you. While the tests can provide valuable insights into how well your esophagus and sphincters are functioning, clinical judgment may be needed to interpret the results. At times, the answers may not be so clear. Esophageal manometry is a technically challenging test prone to variables that can sway the results. While the tests may provide irrefutable evidence of a motility problem (such as dysphagia), other conditions (like achalasia) may be far more difficult to pin down. Clinical experience and expertise are, therefore, central to obtaining an accurate diagnosis. If you are not fully convinced of what is being told you, do not hesitate to seek a second opinion. Sometimes a fresh set of eyes can add new insights and bring you that much closer to an effective treatment. If you are feeling nervous about undergoing an esophageal manometry, don't wait until last minute to share these concerns with your healthcare provider or a member of the medical staff. Sometimes it helps to be walked through the procedure and see what the catheter actually looks like. Knowing what to expect can relieve a lot of the fear. Try to focus on the benefits and aims of the test. As a relatively fast and safe procedure, the benefits of esophageal manometry will almost always outweigh the downsides. Frequently Asked Questions The esophageal manometry test is not typically needed to diagnose gastroesophageal reflux disease (GERD). However, if the condition doesn't get better with treatment, manometry can identify any issues with the esophagus that might be contributing to the GERD. An esophageal obstruction is when food, a foreign object, or an esophageal diverticulum causes partial or complete blockage in the esophagus. An esophageal diverticulum is a small pouch that can develop in weak areas of the esophageal lining. The exact cause of esophageal spasms is unknown. Some researchers believe it occurs due to faulty nerves that control the muscles of the esophagus. Spasms may also be caused by too much acid in the esophagus due to heartburn. The most common use for oesophageal manometry is to evaluate the lower oesophageal sphincter in patients who have gastro-oesophageal reflux disease (GORD). Manometry often can identify weakness in the lower oesophageal sphincter that allows stomach acid and contents to back up into the oesophagus. Manometry can diagnose several oesophageal conditions that result in food sticking after it is swallowed. For example, achalasia is a condition in which the muscle of the lower oesophageal sphincter does not relax with each swallow. As a result, food is trapped within the oesophagus. Manometry reveals an absence of the waves and the contraction of the muscle everywhere in the oesophagus at the same time. Abnormal function of the body of the oesophagus may result in food getting stuck. In patients with scleroderma the waves of muscular contractions fail to occur. With oesophageal spasm the entire oesophageal muscle may contract at one time which can cause discomfort, pain and obstruct food passage. Oesophageal manometry is performed for the following reasons: To evaluate the cause of reflux (regurgitation) of stomach acid and other contents back up into the oesophagus (gastro-oesophageal reflux disease or GORD). To determine what the cause is of difficulty with swallowing food. To determine the cause of non-cardiac chest pain. Esophageal manometry is an outpatient test used to identify problems with movement and pressure in the esophagus that may lead to problems like heartburn. The esophagus is the "food pipe" leading from the mouth to the stomach. Manometry measures the strength and muscle coordination of your esophagus when you swallow.During the manometry test, a thin, pressure-sensitive tube is passed through the nose, along the back of the throat, down the esophagus, and into the stomach.The esophageal manometry test may be given to people who have the following conditions:Your esophagus moves food from your throat down to your stomach with a wave-like motion called peristalsis. Manometry will indicate how well the esophagus can perform peristalsis. Manometry also allows the doctor to examine the muscular valve connecting the esophagus with the stomach, called the lower esophageal sphincter, or LES. This valve relaxes to allow food and liquid to enter the stomach. It closes to prevent food and liquid from moving out of the stomach and back up the esophagus.Abnormalities with peristalsis and LES function may cause symptoms such as swallowing difficulty, heartburn, or chest pain. Information obtained from manometry may help doctors to identify the problem. The information is also very important for surgery to treat reflux.Before you have an esophageal manometry test, be sure to tell the doctor if you are pregnant, have a lung or heart condition, have any other medical problems or diseases, or if you are allergic to any medications.There are some medications that may interfere with esophageal manometry.It is very important that you talk to your doctor about all drugs you are taking prior to your test. Do not discontinue any medication without first consulting with your doctor.Do not eat or drink anything eight hours before an esophageal manometry.You are not sedated during an esophageal manometry, although a topical anesthetic (pain-relieving medication) may be applied to your nose to make the passage of the tube more comfortable.A small, flexible tube is passed through your nose, down your esophagus, and into your stomach. The tube does not interfere with your breathing. You are seated while the tube is inserted. The tube is connected to a machine that records the contractions of the esophageal muscles on a graph.You may feel some discomfort as the tube is being placed, but it takes only about a minute to place the tube. Most patients quickly adjust to the tube's presence. Vomiting and coughing are possible when the tube is being placed, but are rare.After the tube is inserted, you are asked to lie on your left side.A small sensor records each time you swallow. During the test, you will be asked to swallow water at certain times.The tube is then slowly withdrawn. The gastroenterologist (a doctor who specializes in conditions of the gastrointestinal tract) will interpret the esophageal contractions that were recorded during the test.The test lasts from 30 to 40 minutes.You may resume your normal diet and activities after an esophageal manometry.You may feel a temporary soreness in your throat. Lozenges or gargling with salt water may help.If you have any unusual symptoms or side effects after an esophageal manometry, call your doctor or go to the emergency room immediately.