



Functional Lumen Imaging Probe (FLIP)

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International Foundation for Gastrointestinal Disorders (www.iffgd.org)

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What is Functional Lumen Imaging Probe (FLIP)?

Impedance –
measures how easily
electricity travels.

The Functional Lumen Imaging Probe (FLIP) is a new FDA-approved technology that uses a method called impedance, which measures how easily electricity moves throughout a catheter,

used in the digestive tract to obtain the width of the esophagus. It correlates this with pressure to see how stiff or flexible the muscle is (distensibility).

How Does This Test Work?

A very thin tube (catheter) with a very soft balloon gets filled with salt water. Inside of the balloon are 16 impedance sensors (to measure the dimensions of the esophagus) and one pressure sensor in the tip.

The catheter is placed during an endoscopy while the patient is asleep and comfortable, so there is no pain. The flip is very soft and will not cause damage when inflated. Once the balloon is inflated and is able to distend the esophagus, it measures how the lower esophageal sphincter opens (how stiff it is). Because the balloon also distends (stretches) the esophagus, it causes it to squeeze to relieve the pressure (which is called “secondary peristalsis”), allowing the healthcare provider to evaluate the motor response of the esophagus. Once the measurements are obtained, the balloon is deflated and the catheter removed. The FLIP measurements usually take about 5 minutes or less.

What does this test show?

Taking all this information together, FLIP can help your healthcare provider evaluate for structural or functional problems of the esophagus, which is very useful to screen for motility disorders like achalasia, and can help evaluate patients with tracheoesophageal fistula, esophageal strictures, or eosinophilic esophagitis. It can also help surgeons during procedures like achalasia surgery or fundoplication.

Certain anesthesia drugs, like gas and other medications, can interfere with the test, so it is preferred that patients have an IV placed before the procedure.

Flip can be used beyond the esophagus and has been used to evaluate the stiffness of the pylorus (which is the muscle that controls the emptying of the stomach). This is new technology, and new applications are being actively researched.

Learn more about eosinophilic esophagitis with IFFGD
Fact Sheet No. 580B
Eosinophilic Esophagitis (EoE)

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