

Simple test may ease management of esophagitis

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A simple new test, in which the patient swallows a string, can monitor treatment of eosinophilic esophagitis as effectively as an invasive, expensive and uncomfortable procedure that risks complications, particularly in children.

Researchers from the University of Illinois at Chicago College of Medicine, working in collaboration with clinician-investigators at the University of Colorado Denver/Children's Hospital Colorado and Lurie Children's Hospital in Chicago, reported their findings in a study published recently online in the journal *Gut*.

[Eosinophilic esophagitis](#), or EoE, is a food-allergy inflammatory disease of the esophagus in both children and adults. While rare, it is steadily increasing in incidence. In EoE, inflammatory cells in the body called eosinophils attack the esophagus. The esophagus narrows until food cannot pass, causing painful impactions.

"Most cases are first encountered in the emergency room, where a child is brought in because something he ate is caught in his esophagus," says Steven Ackerman, UIC professor of biochemistry and [molecular genetics](#) and co-principal investigator on the study.

Eosinophils produce specific proteins. Because these [inflammatory cells](#) are not normally found in the esophagus, these proteins serve as [biomarkers](#) and can indicate the extent of inflammation in the esophagus.

Currently, physicians diagnose EoE and monitor its treatment by endoscopy. A lighted, flexible instrument is inserted down the esophagus and used to obtain six to eight [tissue samples](#) for biopsy from sections along its length from throat to stomach.

A child may require 10, 15, or even 20 such procedures over three or four years, say two of the report's authors, co-principal investigator Dr. Glenn Furuta, professor of pediatrics at the University of Colorado at Denver, and Dr. Amir Kagalwalla, associate professor of pediatrics at Northwestern University.

The new method, the Esophageal String Test, or EST, uses a capsule containing a yard-long string. One end of the string is taped to the patient's cheek before the capsule is swallowed, and the string spools out of the dissolving capsule, stretching through the esophagus, the stomach and the small intestine. The string becomes coated with digestive tract secretions and can be removed for analysis.

Ackerman and Furuta tested samples from the string in the [esophagus](#) region looking for eosinophil proteins to show evidence of inflammation. Levels detected by the string test and by biopsy were both shown to indicate disease accurately.

The researchers recruited 41 patients ages 7-20, who were to undergo endoscopy and biopsy. Participants swallowed the capsule the night before endoscopy, and the string was removed just prior to that procedure. The researchers believe the string may not need to remain in place for so long, and the test could be performed in a single visit to the doctor's office.

Although the string test may never completely replace endoscopy-with-biopsy, particularly for diagnosis, the authors conclude, "it certainly has the potential to significantly improve the evaluation and treatment of

patients who require repeated assessments."

Provided by University of Illinois at Chicago

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