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## Medical device developed by CWRU/UH researchers wins 2020 Edison Award

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*Getty Images*

A medical device based on technology developed by three faculty members from Case Western Reserve University and [University Hospitals Cleveland Medical Center \(UH\)](https://www.uhhospitals.org/) (<https://www.uhhospitals.org/>) has won a prestigious 2020 Edison Best New Product Award.

[EsoCheck \(http://www.pavmed.com/esocheck/\)](http://www.pavmed.com/esocheck/), a device designed to help detect precancerous changes in the esophagus, was named a “Silver” winner of the 2020 Edison Best New Product Awards in the “Medical/Dental – Testing Solutions” subcategory.

Esophageal adenocarcinomas have increased more than five-fold in recent years and are a highly lethal cancer, with less than 20% five-year survival. These cancers arise from a precursor lesion of Barrett’s esophagus (BE), which is an abnormal cell type that arises in the lower esophagus.

EsoCheck is a swallowable balloon-based device that, in a simple five-minute outpatient exam, can collect cells from the lower region of the esophagus to help determine if Barrett’s disease is present. Unlike endoscopy, the current method for examining the esophagus, EsoCheck does not require a patient to undergo sedation, lose a day of work or need a companion for transportation.

The EsoCheck device works together with EsoGuard, a companion molecular assay that tests the DNA from the cells retrieved by EsoCheck for the presence of genetic changes indicative of the presence or absence of Barrett’s disease

[Lucid Diagnostics \(https://www.luciddiagnostics.in/\)](https://www.luciddiagnostics.in/), a subsidiary of [New York-based PAVmed Inc \(http://www.pavmed.com/\)](http://www.pavmed.com/), licensed the EsoCheck and EsoGuard technology through the Case Western Reserve University Technology Transfer Office in 2018.

The EsoCheck device and EsoGuard DNA test were co-invented by Amitabh Chak, a professor of medicine at the Case Western Reserve School of Medicine and gastroenterologist at the University Hospitals Digestive Health Institute; Sanford Markowitz, the Ingalls Professor of Cancer Genetics and Medicine at the School of Medicine and an oncologist at University

Hospitals Seidman Cancer Center; and Joseph Willis, a professor of pathology at the School of Medicine and pathology vice-chair for translational research at UH.

The technology was developed as part of the Case Comprehensive Cancer Center's GI SPORE (Gastrointestinal Specialized Program of Research Excellence) and BETRNet (Barrett's Esophagus Translational Research Network) programs led by Markowitz and Chak, and was first tested in humans in a clinical trial led by Chak at University Hospitals.

Further support for the clinical assay development was derived from a National Cancer Institute award led by Willis. The development was also supported by the Case-Coulter partnership and the State of Ohio Third Frontier Technology Validation Start-up Fund.

Last fall, the new EsoCheck method for examining the esophagus received clearance from the U.S. Food and Drug Administration for clinical use, and, this February, the companion EsoGuard DNA test for Barrett's detection received breakthrough designation from the FDA.

Since 1987, the **Edison Awards** (<https://edisonawards.com/>), named after Thomas Alva Edison, have recognized some of the most innovative products and business leaders in the world. They're among the most prestigious accolades, honoring excellence in new product and service development, marketing, design and innovation.

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