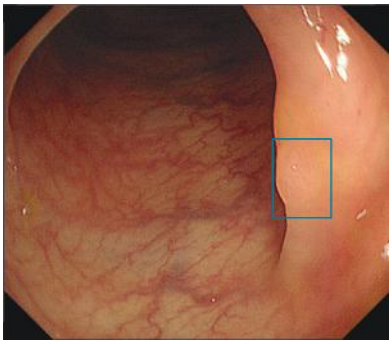
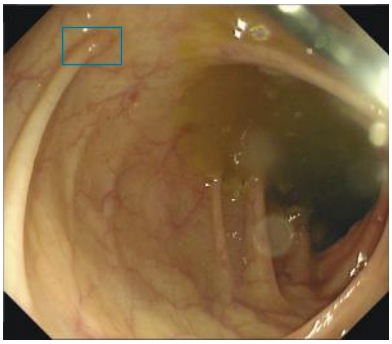
MICRO-TECH ENDOSCOPY

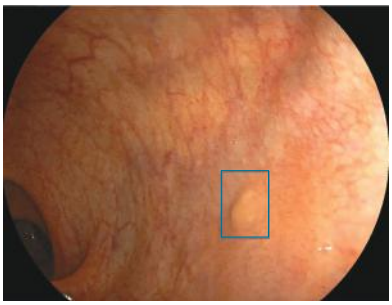
EXCEPTIONAL ENDOSCOPIC SOLUTIONS

ENDOSCREENER COMPUTER AIDED POLYP DETECTION SYSTEM

ARTIFICIAL INTELLIGENCE CADe







CONSISTENT POLYP DETECTION – ALL THE TIME

Human Central Vision Has A Tight Focus Of Around 13°[1]
Computer Vision Does Not Have That Limitation
EndoScreener® Focuses On 100% Of The Screen - 100% Of The Time

Always On – Always Focused – Doesn't Get Tired

EndoScreener® software utilizes deep learning artificial intelligence (A.I.) and Computer Aided Polyp Detection (CADe) systems to efficiently analyze and identify local abnormalities in the lining of the colon, significantly improving the detection and precision capabilities of a standard colonoscopy.

EndoScreener, a **software as a medical device (SaMD)** product, is compatible with most mainstream endoscope systems.

NO ADDED SECURITY RISKS | NO INFORMATION SAVED | NO INTERNET CONNECTIVITY | NO INFORMATION TRANSFERRED

TECHNOLOGY IS A GREAT LEVELER

Introducing EndoScreener - A Technologically Advanced AI Polyp Detection System

Conventional AI systems employ an **Object Detection Approach,** that is focused on a lesion's general appearance.

EndoScreener utilizes advanced mathematical modeling and **Pixel Level, Image Segmentation** to produce an algorithm focused on **Local Features**

Pixel level awareness of local features can improve an AI polyp detection system's ability to be **more sensitive to difficult lesions** while producing **fewer false positives**[2]

In clinical use, a local-feature oriented algorithm, like EndoScreener, considers details that are less obvious to the human eye and may be more effective in difficult cases, such as:

- Sessile serrated lesions that have fewer macro features
- Obscured / partially appearing lesions
- Flat lesions

EndoScreener Algorithm Segments and Identifies **All** Pixels In A Frame That May Be Associated with a Polyp Before Drawing The "Alert Box"

STRIKING A BALANCE BETWEEN USEFUL AND DISTRACTING

How well does AI Find the target?

Sensitivity is a measure of a systems ability to identify the presence of a polyp in the visual field

Frame based sensitivity is the most important metric for an AI polyp detection system

	GI Genius™	EndoScreener
Per Frame Sensitivity	47.73%[3]	91.64%[2]

ENDOSCREENER'S SUPERIOR SENSITIVITY MAY HELP TO:

- Find difficult to detect flat, subtle, and laterally spreading lesions
- Alert the user to partially appearing polyps
- Alert the user sooner when the polyp enters the visual field

FEWER FALSE POSITIVES

- EndoScreeener Focuses On Polyps Not Non-polyp Objects Like Folds, Feces & Bubbles

	GI Genius™	EndoScreener
False Alarms Per Colonoscopy	101[3]	26[4]

PROVEN CLINICAL PERFORMANCE – SUPPORTS HIGH QUALITY OUTCOMES

- More Than 5,000 Patients In Six Rigorous, Randomized Controlled Trials (RTCs)
- Two Tandem Colonoscopy Randomized Controlled Trials
- Double Blind Randomized Controlled Trial

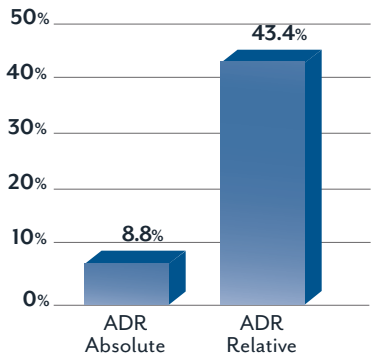
In A Back-To-Back, Tandem Study, EndoScreener Increased Adenoma Detection Rate (ADR) by 8.8%. A 43.4% Relative Increase Compared With Traditional White-Light Colonoscopy[5]

A 1% increase in ADR results in a 3% decrease in the risk of interval cancer and a 5% decrease in the risk of a fatal interval colorectal cancer[6]

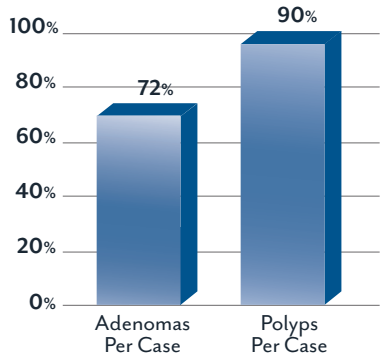
"Sessile Serrated Lesion (SSL) miss rate was significantly reduced in our US Trial.

The world's 1st Randomized Controlled Trial That Demonstrated Statistically Measurable Improvement In SSL Metrics[7]"

ADR Improvement[5]

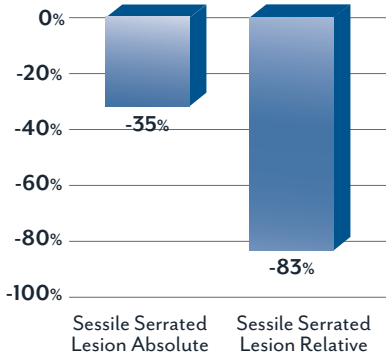


Improved Lesion Detection[5]



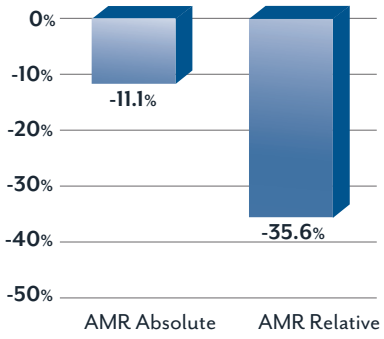
1.7 -Fold Increase APC
1.9-Fold Increase PPC

Sessile Serrated Lesion Miss Rate[7]



EndoScreener use resulted in 35% fewer missed Sessile Serrated Lesions in physicians with a high baseline ADR[7]

Adenoma Miss Rate[7]



EndoScreener use resulted in 11% fewer missed adenomas in physicians with a high baseline ADR (44%)[7]

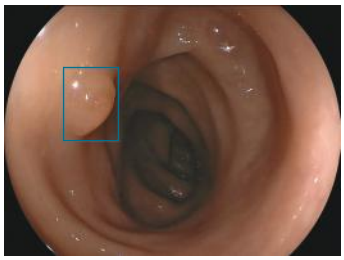
COLONOSCOPY COMBINED WITH AI MAY SIGNIFICANTLY INCREASE FOLLOW UP VISITS

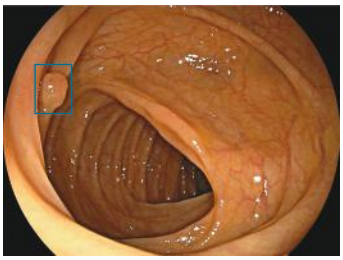
The use of artificial intelligence during colonoscopy increased the proportion of patients requiring intensive colonoscopy surveillance by approximately 35% in the United States (absolute increases of 2.9%)[8]

CHALLENGING CASES
DISCOVERED BY ENDOSCREENER

EndoScreener's Segmentation Technology Focuses On **Local Features** That Are Less Obvious To The Human Eye.

This Local Feature Approach May Be More Effective In Finding Partially Obscured Lesions While Producing Fewer False Positives.


Conventional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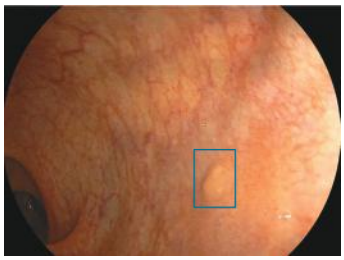
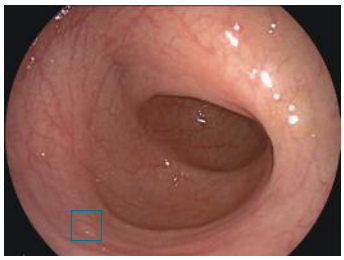
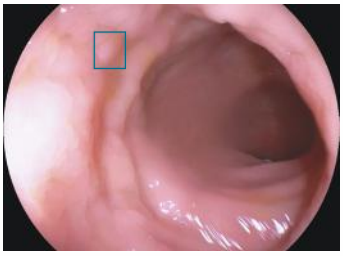

Conventional

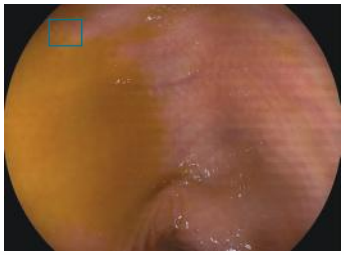

Flat & Isochromatic

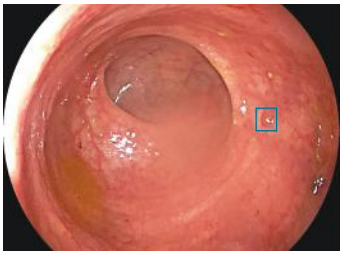

Partly behind colon folds

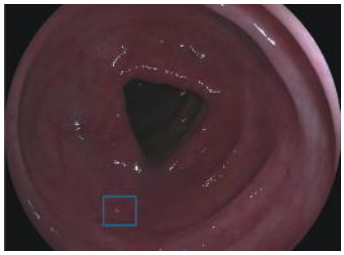

Insufficient air inflation


Unclear boundry


Overexposure


Partial occlusion – liquid


Blurred lens


Insufficient light


Partial occlusion – feces

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[1]Yonis O, et al. A Hazard Detection and Tracking System for People with Peripheral Vision Loss using Smart Glasses and Augmented Reality. (IJACSA) International Journal of Advanced Computer Science and Applications, Vol. 10, No. 2, 2019 DOI: 10.14569/IJACSA.2019.0100201

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[3]Brand, M et al. Frame-by-Frame Analysis of a Commercially Available Artificial Intelligence Polyp Detection System in Full-Length Colonoscopies, Digestion. Published online: June 29, 2022. DOI: 10.1159/000525345

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[5]Wang P, Berzin TM, Glissen Brown JR, Bharadwaj S, Becq A, Xiao X, Liu P, Li L, Song Y, Zhang D, Li Y, Xu G, Tu M, Liu X. Real-time automatic detection system increases colonoscopic polyp and adenoma detection rates: a prospective randomised controlled study. Gut. 2019 Oct;68(10):1813-1819. doi: 10.1136/gutjnl-2018-317500. Epub 2019 Feb 27. PMID: 30814121; PMCID: PMC6839720.

[6]Corley DA, Jensen CD, Marks AR, Zhao WK, Lee JK, Doubeni CA, Zauber AG, de Boer J, Fireman BH, Schottinger JE, Quinn VP, Ghai NR, Levin TR, Queensberry CP. Adenoma detection rate and risk of colorectal cancer and death. N Engl J Med. 2014 Apr 3;370(14):1298-306. doi: 10.1056/NEJMoa1309086. PMID: 24693890; PMCID: PMC4036494.

[7]Glissen Brown JR, Mansour NM, Wang P, et al. Deep Learning Computer-aided Polyp Detection Reduces Adenoma Miss Rate: A United States Multi-center Randomized Tandem Colonoscopy Study (CADeT-CS Trial). Clin Gastroenterol Hepatol. 2022;20(7):1499-1507.e4. doi:10.1016/j.cgh.2021.09.009

[8]Mori, Y et al. Impact of Artificial Intelligence on Colonoscopy Surveillance After Polyp Removal: A Pooled Analysis of Randomized Trials. Clinical Gastroenterology & Hepatology Published: August 26, 2022, DOI: https://doi.org/10.1016/j.cgh.2022.08.022

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