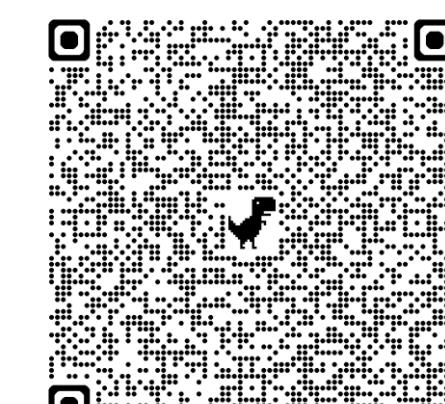


# Multi-country survey to explore clinicians' experiences on a new imaging technology for gastrointestinal endoscopes and its impact on detection and resection of lesions

MT30



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## Objective

- To assess the users' experience with the Extended Depth of Field (EDOF) imaging technology in flexible gastrointestinal (GI)-endoscopes for endoscopic procedures performed in the upper and lower GI-tract.

## Background

- Flexible endoscopy plays a crucial role in detecting, diagnosing, and treating lesions in the GI tract.
- Sharp endoscopic images support accurate diagnostic and treatment results. However, it is challenging to keep the endoscopic image stable and in focus. This may lead to lesions being missed or being resected incompletely, causing higher costs for the healthcare system when these lesions then progress.
- A new imaging technology for GI endoscopes is EDOF, which is designed to allow more precise observations and better visualization, through continuous broad focus and seamless and high magnification. Its improved visibility and continuously sharp image is developed to reduce the necessity for focal adjustments, contributing to easier identification of lesions and a more confident diagnosis of abnormalities.
- As current research on EDOF is limited, we conducted a survey among clinicians to assess their experiences with EDOF in gastrointestinal endoscopy in clinical practice.

## Methods

- An online cross-sectional questionnaire using Microsoft Forms was conducted among gastroenterologists from various European countries with experience in performing endoscopic procedures in the upper and lower GI tract.
- The survey was available in English, French, German, Italian, and Spanish and completed between May 2024 and April 2025.
- The questionnaire consisted of various question-formats, including Likert-scales, numeric answers, and open- and closed-ended questions.
- Data were analyzed using descriptive statistics and chi-square tests to identify differences.
- Completed surveys were analyzed anonymously using descriptive statistics.
- T-tests and chi-squared tests were used where appropriate, with p-values <.01 considered significant.

1

## Respondent attitudes towards EZ1500 endoscopes\* with EDOF technology for detection of lesions

n=83, p<.01

■ Strongly disagree ■ Disagree ■ Neutral ■ Agree ■ Strongly agree

"EDOF endoscope contributes to an improved detection of lesions in the **upper GI tract** compared to the 190/290 scopes\*."

12% 45% 43%

"EDOF endoscope contributes to an improved detection of **lower GI lesions** compared to the 190/290 scopes\*."

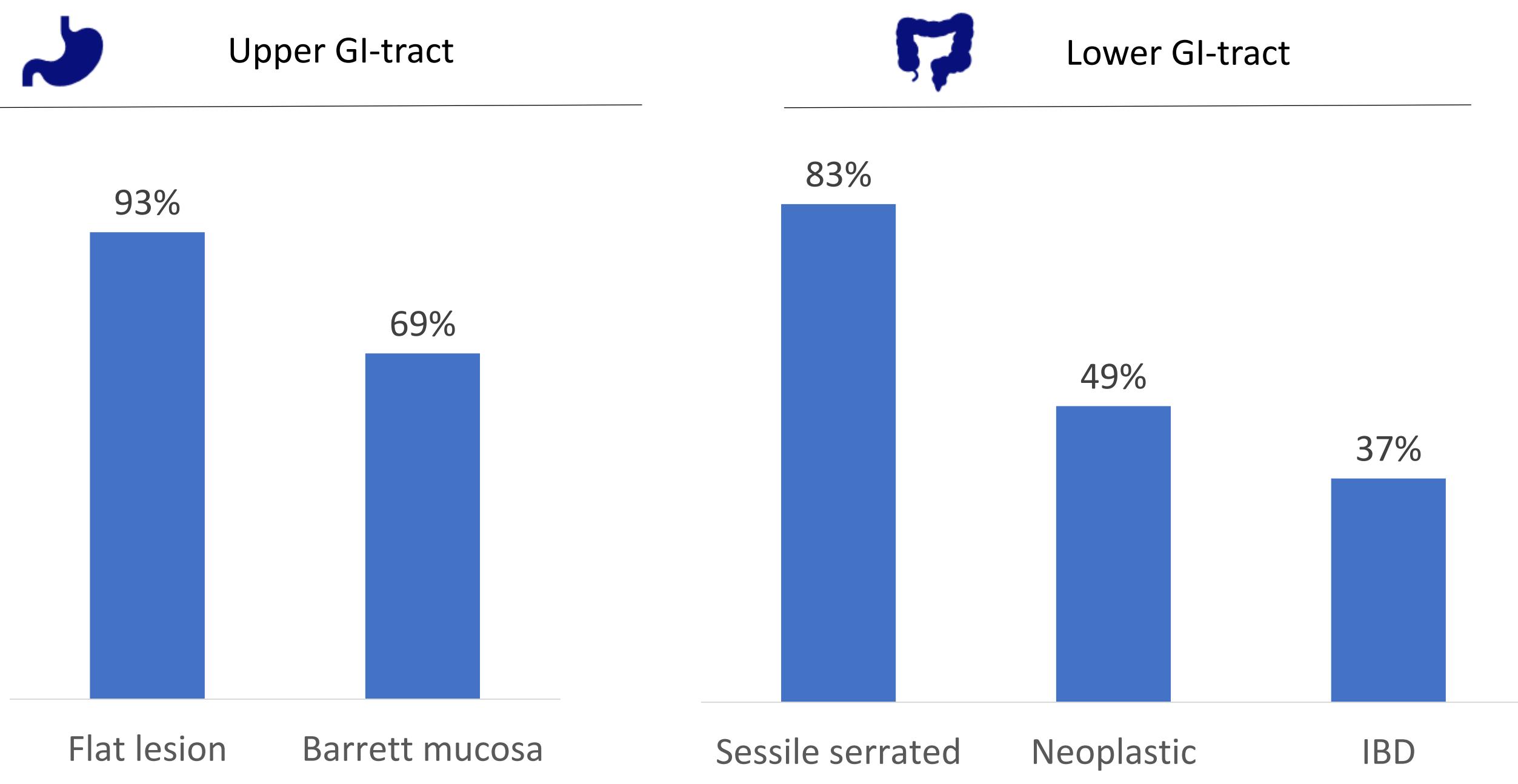
5% 78% 17%

\* The EZ1500 series endoscopes featuring EDOF™ is the latest endoscope generation as part of the EVIS X1™ endoscopy system. The 190/290 series endoscopes is the previous generation of Olympus Medical Video Endoscopes without EDOF™ technology.

2

## Respondents feedback regarding lesion type that can be detected more easily with EDOF scope compared to previous 190/290 series\* endoscopes

n=83

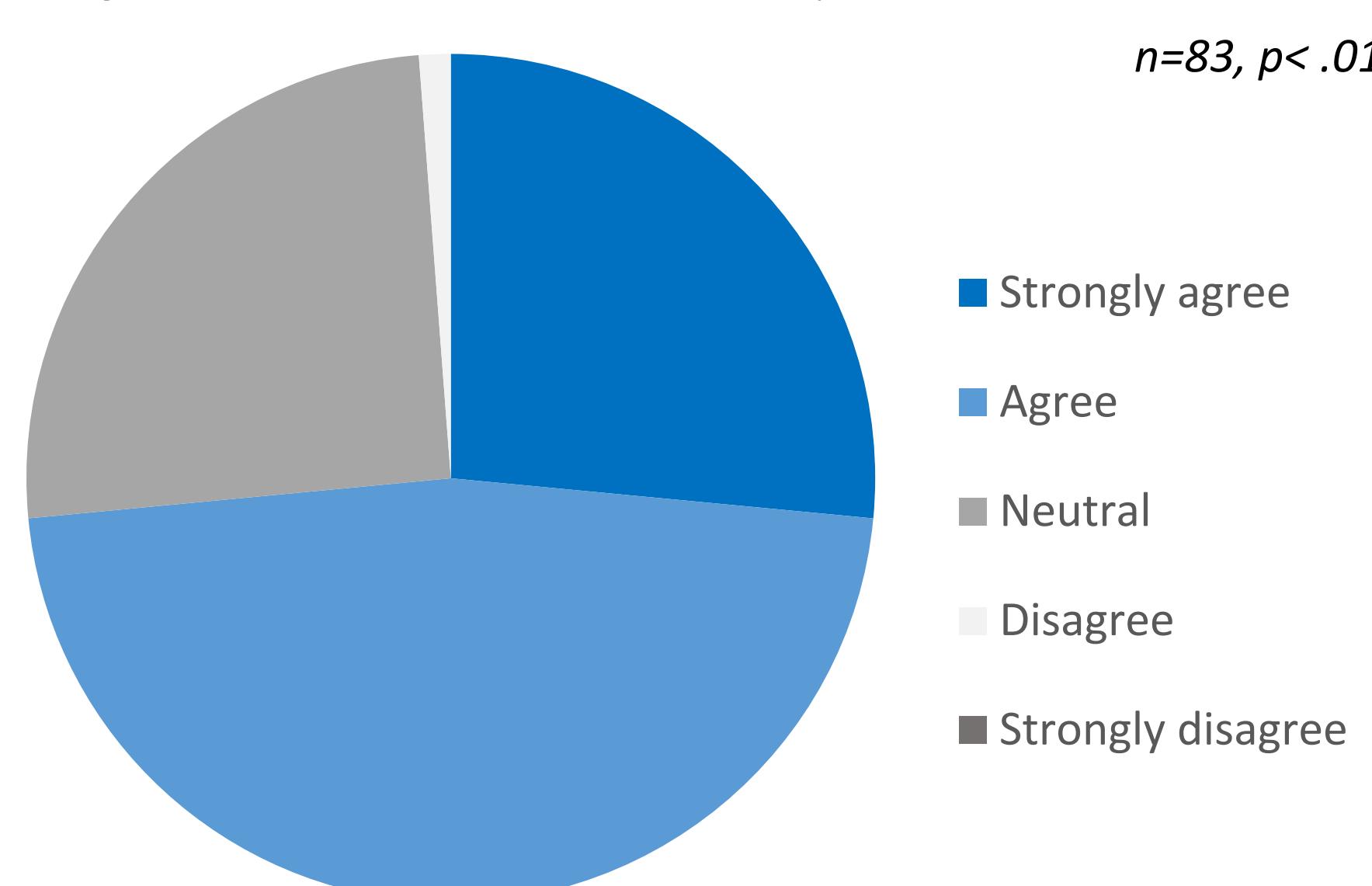


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3

## 73% of respondents agree that endoscopes with EDOF technology supports them in differentiation of adenoma and intramucosal carcinoma.

Agreement with this statement from the respondents



A chi-square test ( $\chi^2$ ) was used to measure the likelihood that agreement (data combined into two nominal groups: strongly agree/agree and strongly disagree/disagree/neutral) each statement was due to random chance (assuming normally distributed, one degree of freedom). Percentages shown above are rounded to nearest whole number.

4

## Respondent attitudes towards EZ1500 endoscopes\* with EDOF technology during endoscopic treatment

n=83, p<.01

■ Strongly disagree ■ Disagree ■ Neutral ■ Agree ■ Strongly agree

"EDOF endoscope **enhances visualization** during endoscopic treatment compared to the 190/290 scopes\*"

1% 10% 58% 31%

"EDOF endoscope **support a more precise assessment of resection margins** compared to the 190/290 scopes\*"

1% 13% 56% 30%

"...and this helps to **increase the rate of complete resections**"

1% 31% 43% 24%

\* The EZ1500 series endoscopes featuring EDOF™ is the latest endoscope generation as part of the EVIS X1™ endoscopy system. The 190/290 series endoscopes is the previous generation of Olympus Medical Video Endoscopes without EDOF™ technology.

A chi-square test ( $\chi^2$ ) was used to measure the likelihood that agreement (data combined into two nominal groups: strongly agree/agree and strongly disagree/disagree/neutral) each statement was due to random chance (assuming normally distributed, one degree of freedom). A lower p-value indicates that statistical significance (if any) is less likely to have been due to random chance. Note that percentages shown above are rounded to nearest whole number.

## Results

- In total, 83 responses from 15 countries were gathered
- 76% of participants stated that they had clinical experience in endoscopy of 10 - 15 years (24%) and more than 15 years (52%). With 93% almost all respondents indicated their primary facility as general or teaching hospital.
- Years of experience with endoscopes with EDOF technology were rated between 1 to 4 years with most of the respondents (64%) have 1 to 2 years of experience.
- Of the respondents, 95% and 88% agreed that endoscopes with EDOF contribute to an improved detection of lesions in the upper GI tract and in the lower GI tract compared to the 190/290 series endoscopes.
- 89% of physicians agreed that the broader focus of EDOF enhances the visualization during endoscopic treatment and 86% agreed that the EDOF technology supports a more precise assessment of resection margins.
- That both – enhanced visualization and a more precise assessment of resection margin – helps to increase the rate of complete resections was agreed to by 67% of the respondents.
- 72% of participants agreed that EZ1500 endoscopes with EDOF technology reduces the number of attempts needed to take the optimal picture for documentation.
- Of the respondents 65% agreed that EZ1500 endoscopes with EDOF technology supports them to work concentrated during longer procedures.
- 89% of participants rate the image quality of EDOF scope as very good or excellent compared to other scopes in the market on a 5-point scale with excellent-very good-good-fair-poor.
- Based on a 10-point scale, 69% of respondents rated EDOF technology a 9 or 10 for likelihood to recommend to a colleague.

## Conclusions

- Most of the respondents agreed that using EDOF technology in GI endoscopic procedures contributes to an improved detection of lesions and enhances visualization during endoscopic treatment.
- Future research should evaluate the clinical impact of EDOF on the rate of detection and complete resection of lesions.
- This research should be followed by economic evaluations, analyzing the impact of EDOF on the treatment costs of GI disorders.

## Limitations

- Survey results reflect the opinions of a sample of physicians and opinions and results may vary from case to case.
- Due to sample size, the results may not be fully representative of the user group

## Disclosure

- Conflict of interest: All authors are employees of Olympus Europe SE & Co. KG.
- Authorship contributions: Contributing to the concept and drafting the questionnaire and design of work - JB, SH, S-AS, JCM; Acquisition and interpretation of the data - SH, S-AS; Leading role in the analysis of the data and interpretation of the results - JB, JCM; final approval & agreement to be accountable for the work - JB, SH, JCM

## Abbreviations

EDOF: Extended Depth of Field; GI: Gastrointestinal