

REDUCING FORCE IN COLONOSCOPY WITH A NOVEL SOFT GROWING ROBOTIC COLONOSCOPE – A HEAD-TO-HEAD STUDY

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Poster

Colorectal

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A novel self-propelling soft robotic colonoscope applied significantly lower forces to bowel wall phantoms compared to standard colonoscopes in a head-to-head trial with 9 endoscopists.

KEY POINTS

- The soft robot applied average forces of 0.25N at the rectum and 0.19N at the sigmoid, compared to 2.82N and 1.45N respectively with standard colonoscopy.
- Maximum forces were substantially lower with the soft robot (1.31N rectum, 1.35N sigmoid) versus standard colonoscopy (19.03N rectum, 18.6N sigmoid).
- Navigation time was longer with the soft robot (83.5 seconds) than standard colonoscopy (40.5 seconds), attributed by authors to the learning curve with new technology.
- The study was conducted in a hybrid colon phantom model; authors plan future testing in complete colon phantoms and animal models.

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