

## **Abstract**

**IMPORTANCE:** Cold snare polypectomy (CSP) is the preferred polyp resection technique for small (6-9 mm) polyps due to lower rate of incomplete resection compared to cold forceps polypectomy (CFP) and improved safety profile over hot snare polypectomy (HSP). Despite CSP being the standard of care, there is significant variability in techniques used in actual practice.

**OBJECTIVE:** Describe resection techniques for small (6-9 mm) polyps and determine factors associated with sub-optimal technique.

**DESIGN:** A single center retrospective cohort study of colonoscopies performed from 2012-2019.

**SETTING:** Academic Veterans Affairs Medical Center.

**PARTICIPANTS:** Colonoscopies performed by gastroenterologist and surgeon endoscopists.

**EXPOSURES:** Colonoscopies that included removal of at least one 6-9 mm polyp.

**MAIN OUTCOMES AND MEASURES:** Patient characteristics, endoscopist characteristics, procedure findings, and polypectomy technique were collected. Univariate and multivariate regression analyses were performed to determine predictors of using a technique other than cold snare polypectomy.

**RESULTS:** 773 colonoscopies where 1,360 6-9 mm polyps removed by 21 endoscopists (17 gastroenterology and 4 surgeons) were included. CSP was used for 1,122 (82.5%), CFP for 61 (4.5%), and HSP for 177 (13%) of polyps. Surgeon specialty was associated with CFP use (aOR 7.81; 95% CI 3.02-20.16). Polyp location in left colon (aOR 1.65; 95% CI 1.17-2.33) and pedunculated morphology (aOR 12.76; 95% CI 7.24-22.50) were associated with HSP. There was a significant increase in overall CSP use from 30% in 2012 to 97% in 2019, though this change in practice was a result of less HSP use among gastroenterologists and less CFP use among surgeons over time.

**CONCLUSIONS AND RELEVANCE:** There was increasing use of standard of care CSP for the resection of small polyps from 2012 to 2019. Differences in how optimal technique was adopted over time based on specialty highlights the need for standardized practice guidelines and quality monitoring.

**KEY WORDS:** Colonoscopy, polypectomy, snare, biopsy forceps, colorectal polyps, electrocautery, colorectal cancer