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Colonic Polyp Detection Rates: A Comparative Study of High-Definition Colonoscopic Screening Versus Traditional Definition Colonoscopic Screening

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High definition colonoscopes were introduced with the assumption that this technology would increase polyp detection rates. There is little data available to support this claim. A retrospective study was completed to compare polyp detection rates and adenoma detection rates before and after the implementation of high definition colonoscopic technology at the Saints Street Endoscopy Center. Patient criteria for the study included patients over the age of 50 who were asymptomatic and admitted for a screening colonoscopy. Over 1,000 patient records met the criteria for the study. Data collected from the records included age, gender, number of polyps detected, and the number of adenomas detected. The first group included those whose colonoscopies were performed with traditional definition equipment, N=325. The second group included, N= 706, underwent colonoscopy screening high definition equipment. To insure accuracy of counts and statistics, data was collected and validated by three different reviewers. These results revealed a 39.9% increase in total polyps detected in the data collected after implementation of high definition technology (42.86% versus 59.96%). An increase of 62.5% in the adenoma detection rate (24% versus 39%) was also revealed. These findings can be benchmarked with reference material published by the American Society of Gastrointestinal Endoscopy and the American College of Gastroenterology in *Gastrointestinal Endoscopy*, where the accepted parameters prior to high definition technology for adenoma detection read: "Among healthy asymptomatic patients undergoing screening colonoscopy, adenomas should be detected in $\geq 25\%$ of men and $\geq 15\%$ of women more than 50 years old". A proposed follow-up study will include selecting patients who received a screening colonoscopy prior to the availability of high definition equipment and were reported as having normal exams. These patients would be rescreened using high definition technology to determine if this repeat colonoscopy will detect flat lesions that were more likely to be missed with traditional definition examination. Flat polyps are associated with sessile, serrated lesions, which have shorter polyp-to-cancer sequence. There is concern that the accepted practice of 10-year intervals between normal colonoscopy examinations in this patient population may not be appropriate given the aforementioned data.