

**Colonoscopic miss rates determined by direct comparison of colonoscopy with colon resection specimens.**

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**OBJECTIVES:** Colonoscopy is an effective method for discovery of adenomas and for colon cancer screening and prevention. Studies evaluating back-to-back colonoscopies have estimated significant miss rates but are limited by the lack of a definitive gold standard. Our study evaluated the sensitivity of colonoscopy compared with examination of surgically resected colon as a gold standard. **METHODS:** This was a retrospective analysis of patients who had a portion of colon surgically removed and had lower endoscopy within 5 months. The focus of the review was not for the particular lesion for which the surgery was indicated but, rather, for the synchronous lesions in the portions of bowel that were removed. Sensitivity was determined by counting the number of lesions detected at colonoscopy compared with those found in the surgically resected segment. **RESULTS:** A total of 73 synchronous lesions were present in the resected segments of 156 patients. Colonoscopy detected 56 of 73 the lesions (sensitivity 76.7%; 95% CI = 67-86). Of the 17 missed lesions, 14 of 17 (82%, 95% CI = 64-100) were < 1-cm polyps. Endoscopy overlooked one 1-cm adenoma in the ascending colon. Two cancers were missed, both in the same patient in whom endoscopy detected a sigmoid cancer but missed synchronous lesions in the cecal and ascending colon. **CONCLUSIONS:** Colonoscopy is an effective method of finding cancers and polyps, but it is associated with significant miss rates for polyps <1 cm. The entire bowel should be carefully evaluated to exclude synchronous tumors in patients with known colorectal cancer. Further improvement of colonoscopic techniques and technologies is warranted.

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