OUTCOMES FOLLOWING AN INITIAL UNSUCCESSFUL COLONOSCOPY: A 5-YEAR COMPLETE AUDIT OF TEACHING HOSPITAL COLONOSCOPY PRACTICE

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Introduction
Unless the full colon is adequately visualised at colonoscopy there is a risk of missing significant pathology including advanced neoplasia and colorectal cancer (CRC). Incomplete colonoscopy occurs in 10%, and while the reasons for failure are well described, overall outcomes of these patients are not. These patients may be subjected to a second investigation or left partially investigated. The aim of this study was to determine the eventual patient outcomes following their initial failed colonoscopy.

Methods
All incomplete colonoscopies (not reached caecum or ileum) performed between April 2005 and 2010 at the Royal Liverpool University Hospital were identified via the endoscopy database. All were audited (100% uptake) using a standard proforma and entered onto an Access database for interrogation.

Results
Of the 8910 colonoscopies performed, 693 (58% Female; mean age 61 years) were incomplete (7.3%). Reasons included bowel prep (24.8%), discomfort (22.2%), obstruction (17.2%), looping (13.6%), diverticular (4.3%), adverse events (0.4%), other causes (3.2%) or unrecorded (16.9%). Despite the initial incomplete procedure, CRC were found in 9.7% and significant polyps (>1 cm) in 5.9%. A second investigation was performed in 324 (47%) patients. The most common second investigations were repeat colonoscopy in 35.8% (mean time to test 59 days) followed by CT colonography (CTC) in 20.7% (time 20 days), CT abdomen (CTA) in 17.9% (time 4 days) and barium enema in 16.7% (time 48 days). At second investigation, new diagnoses CRC were made in 0.9% (CTC, CTA and colonoscopy diagnosed 2 each), significant polyps in 0.9%, malignant extracolonic pathology in 1.7% and non-significant extracolonic pathology in 3.8%. Overall yield for significant pathology (cancer or large polyps) was 7% for repeat colonoscopy, 13.4% for CTC, 10.3% for CTA and 1.8% for barium enema. There were 343 (49.5%) patients who had no pathology at the first procedure and were not offered a second investigation. None of these patients had a subsequent cancer diagnosis. The all cause mortality was 9.4% over the study period.

Conclusion
Of the 49.5% patients who had no further investigation, none presented with cancer diagnosis, suggestion good clinical assessment in these patients. Overall, 2.6% of patients had either advanced colonic neoplasia/cancer or extracolonic cancer. Repeat colonoscopy, CTA and CTC picked up misses, with the greatest yield in the latter. Barium enema, however, was poor. While repeat colonoscopy in a previous failure can be successful, the wait was longer and given the superior yield of CTC, this may be considered better option following good clinical assessment.

Competing interests
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Keywords colonoscopy, outcomes, quality, safety, imaging, cancer, polyps.