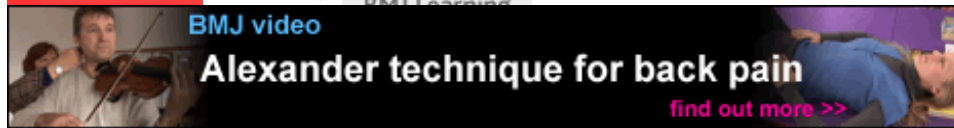


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**Colonic cancer**

## Comparison of CT colonography, colonoscopy, sigmoidoscopy and faecal occult blood tests for the detection of advanced adenoma in an average risk population

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**Background and aims:** This prospective trial was designed to compare the performance characteristics of five different screening tests in parallel for the detection of advanced colonic neoplasia: CT colonography (CTC), colonoscopy (OC), flexible sigmoidoscopy (FS), faecal immunochemical stool testing (FIT) and faecal occult blood testing (FOBT).

**Methods:** Average risk adults provided stool specimens for FOBT and FIT, and underwent same-day low-dose 64-multidetector row CTC and OC using segmentally unblinded OC as the standard of reference. Sensitivities and specificities were calculated for each single test, and for combinations of FS and stool tests. CTC radiation exposure was measured, and patient comfort levels and preferences were assessed by questionnaire.

**Results:** 221 adenomas were detected in 307 subjects who completed CTC (mean radiation dose, 4.5 mSv) and OC; 269 patients provided stool samples for both FOBT and FIT.

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Sensitivities of OC, CTC, FS, FIT and FOBT for advanced colonic neoplasia were 100% (95% CI 88.4% to 100%), 96.7% (82.8% to 99.9%), 83.3% (95% CI 65.3% to 94.4%), 32% (95% CI 14.9% to 53.5) and 20% (95% CI 6.8% to 40.7%), respectively. Combination of FS with FOBT or FIT led to no relevant increase in sensitivity. 12 of 45 advanced adenomas were smaller than 10 mm. 46% of patients preferred CTC and 37% preferred OC (p<0.001).

**Conclusions:** High-resolution and low-dose CTC is feasible for colorectal cancer screening and reaches sensitivities comparable with OC for polyps >5 mm. For patients who refuse full bowel preparation and OC or CTC, FS should be preferred over stool tests. However, in cases where stool tests are performed, FIT should be recommended rather than FOBT.

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