

CT scans are the best alternative to colonoscopy to investigate bowel cancer symptoms

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A scan that offers patients a less invasive test, sometimes called a 'virtual colonoscopy', is more effective than the traditional X-ray test of barium enema and should now be considered alongside the 'gold standard' of colonoscopy for investigating patients with a possible bowel cancer.

But the researchers, funded by the National Institute for Health Research Health Technology Assessment and Cancer Research UK, caution that guidelines are needed before this type of scan, also called [CT colonography](#) (CTC), is used more widely because its ability to detect relatively unimportant findings can result in patients being referred for unnecessary follow-up tests.

In the first of the two trials, published in the [Lancet](#) today, more than

3,800 patients were given either a CTC or a barium enema. The researchers showed that CTC was more effective than barium enema at finding bowel cancers and [precancerous polyps](#).

Professor Steve Halligan, based at UCL and joint-lead researcher, said: "Our trial shows that CTC is more accurate than barium enema. We hope that barium enema will now be phased out in favour of CTC and that NICE will update its guidelines. Although CTC can be performed on standard CT scanners available in practically all NHS hospitals, many do not have radiologists experienced with looking at CTC scans. These radiologists will need training in order to deliver the results we observed in our trials."

In a second trial almost 1,600 patients were given either a CTC or a [colonoscopy](#). Previous studies have shown that these two tests have similar sensitivity for detecting [bowel cancer](#).

Unlike colonoscopy, samples of tissue cannot be taken at CTC and it was not known how many patients needed a follow-up test to either confirm a suspected cancer or to rule out other findings found in the scan. Similarly, it was not known how many patients needed a follow-up test after colonoscopy because the scope could not pass around the bowel.

In patients who had CTC, 30 per cent had a follow-up test compared with only eight per cent who had colonoscopy. Some of the follow-up tests after CTC were necessary because a possible cancer or large polyp had been seen. However, almost a third of follow-up tests were to investigate small polyps that could have been left alone because they are unlikely to develop into cancers.

Professor Wendy Atkin, based at Imperial College London and joint-lead researcher, said: "Understandably hospital doctors are cautious in requesting more tests after CTC. However, CTC detects unimportant

findings, so guidelines are needed to help doctors decide who should have a further test. With these in place, we have shown that CTC offers a viable option for people who are not able to or do not wish to undergo a colonoscopy for whatever reason."

CTC works by taking hundreds of x-ray "slices" through the body which are then processed by a computer to create a 'virtual' 3D image of the inside of the bowel, similar to what is seen during colonoscopy. CTC is a less uncomfortable test and, unlike colonoscopy, patients do not need to be sedated.

Professor Jane Wardle, based at UCL, who led studies looking into patient experiences of the three tests, said: "We have shown that people prefer CTC to both barium enema and colonoscopy. This research should mean that patients with bowel cancer symptoms can get the best test for them."

Sara Hiom, Cancer Research UK's director of early diagnosis, said: "Survival rates for bowel cancer have doubled over the last 40 years thanks to better treatments and improved ways of diagnosing the disease. This research will mean that anyone with a suspected bowel cancer has two effective options to further investigate their symptoms."

More information: Halligan, S. Computed tomographic colonography versus double contrast barium enema for diagnosis of colorectal cancer or large polyps in symptomatic patients: a multicentre randomised trial in clinical practice. *Lancet* (2013).

Atkin, W.S. et al. Computed tomographic colonography versus colonoscopy for investigation of patients with symptoms of colorectal cancer: a multicentre randomised trial in clinical practice. *Lancet* (2013).

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