

POSITION STATEMENT

Bowel cancer screening



Summary statement

Bowel cancer (also known as colorectal cancer) is the second most common cause of cancer-related death in Australia¹, yet it is highly curable if found early². The Australian Government completed a feasibility study in 2004 to determine whether it will be possible to introduce a national bowel cancer screening program using faecal occult blood tests (FOBTs). It appears likely that a national screening program will be introduced gradually over the next few years. In the meantime, several tests are being used in Australia to screen for bowel cancer.

Recommendations

- People aged over 50 years, without symptoms and without a strong family history of bowel cancer, are encouraged to do an FOBT every two years. If the result is positive (blood is found), a follow-up investigation will be needed, most commonly by colonoscopy.
- People with any of the following symptoms should see their doctor:
 - bleeding from the back passage or any sign of blood in a bowel motion
 - an unexplained and persistent change in bowel actions. For example, looser or more frequent bowel motions or becoming severely constipated
 - unexplained tiredness
 - lower abdominal pain or a persistent feeling of fullness.
- People with a strong family history of bowel cancer should discuss screening options with their doctor.
- All people undergoing screening tests should be made aware of any costs, limitations and risks involved.
- Cancer Council Australia supports the implementation of a national bowel cancer screening program.

The problem

As the most frequently occurring cancer in Australia for men and women combined, bowel cancer is a major health problem. One in 22 12 Australians are likely to develop bowel cancer by the age of 85³. In 2004²2005, there were over 12,977¹13,076 new cases of bowel cancer and over 4068⁴ 4165 deaths from the disease.⁴

The risk for developing bowel cancer increases with age. Most people who develop this type of cancer are over the age of 50 years.¹ It is thought that up to 75% of bowel cancers could be prevented by changes in diet and physical activity and other lifestyle factors.⁵ (See National Cancer Prevention Policy 2004–06 for more information)⁶.

Most bowel cancers are slow growing and start as polyps (small growths) on the inside of the bowel wall. Blood in a bowel motion can be a sign of early bowel cancer as some early bowel cancers bleed from time to time. There are other symptoms to look out for (see recommendations) although many bowel cancers grow without symptoms.

When bowel cancer is detected and treated at the earliest stage, the cure rate is around 90%.² Screening involves testing people without any obvious symptoms of the disease. Screening tests can help prevent bowel cancer deaths by finding precancerous polyps and early cancers, when treatment works best.

There are several screening tests available although, to date, not all have been shown to reduce deaths from bowel cancer in population screening trials. It is generally accepted that:

- screening tests should be safe
- appropriate and timely follow-up investigation should be available
- adequate information should be provided about the reliability, risks and benefits of both screening tests and follow-up investigations
- the benefits of screening should considerably outweigh any harms.

The solution

Faecal occult blood tests (FOBTs)

People aged over 50 years, without symptoms and without a strong family history of bowel cancer, are encouraged to take an FOBT every two years.

An FOBT is a simple test that looks for tiny amounts of blood in a bowel motion. It can be done at home and involves taking samples from two or three bowel motions using a test kit. The samples are then sent to a laboratory for testing.

Two main types of FOBT are available⁷ — guaiac and immunochemical tests. A few days before completing a guaiac test you must change your diet to avoid certain foods (including red meat) and stop taking certain medication. No changes are needed for immunochemical tests. Studies have shown that people generally find immunochemical tests more acceptable.⁸

Key points about FOBTs

- Not all polyps or cancers bleed. An FOBT may produce normal results even when cancer is present.
- If an FOBT finds blood, further tests are needed to find out what has caused the bleeding. Most commonly, those with positive FOBTs are referred to have a colonoscopy.
- The main harm identified with use of FOBT is anxiety after a false positive test (when the FOBT detects blood from causes other than cancer).⁹

International research has shown that population-based screening programs using FOBTs with people over 50 years can reduce bowel cancer deaths by 30–40% among those who do the test.^{10,11}

Pending a decision on a national screening program, people over 50 years, without symptoms and without a strong family history of bowel cancer, are encouraged to talk to their doctors about doing an FOBT every two years.

Currently FOBT screening tests are not Medicare rebatable. They cost around \$25–30. If an FOBT is positive, follow-up investigations may be needed for which Medicare rebates apply.

Sigmoidoscopy

Sigmoidoscopy may be considered as an option for bowel screening, either alone or with FOBTs.

Unlike a colonoscopy, which examines the entire bowel, a flexible sigmoidoscopy only explores the lower part of the bowel, where cancer is more likely to develop.¹² If precancerous polyps are detected during flexible sigmoidoscopy, a full bowel examination by colonoscopy is usually needed.¹³

Evidence from several case-control studies has shown that flexible sigmoidoscopy appears to reduce deaths from bowel cancer,^{14,15} but results from randomised controlled trials will not be available for several years.^{16,17,18}

With screening by flexible sigmoidoscopy, there is a small risk of puncturing the bowel (occurs in 1 in 40,000 tests¹⁵), although this is less common than with colonoscopy.

Colonoscopy

Colonoscopy is not currently recommended as a screening test for the general population. It is the recommended follow-up investigation for positive FOBTs or screening sigmoidoscopy.

A colonoscopy is a test that allows the doctor to look at the inside of the bowel. If a polyp or early bowel cancer is found, the doctor can remove it during the examination. Colonoscopy is usually performed as a day procedure.

Colonoscopy is used to investigate bowel symptoms and as a follow-up test for positive FOBTs and sigmoidoscopy. It is also used as a screening test for people at increased risk of bowel cancer.

Key points about colonoscopy

- Colonoscopy services in Australia are currently expensive and limited.
- Patients must drink a bowel preparation liquid the day before the procedure to empty their bowel. Some people find the bowel preparation procedure difficult to complete.
- With colonoscopy there is a small risk of puncturing the bowel, or causing internal bleeding (occurs in less than 1 of every 1,000 colonoscopies)¹⁹. There is also a very small risk of death with a colonoscopy (occurs in fewer than 1 in 10,000 colonoscopies)¹⁷.
- As yet, there is no convincing evidence to support the use of colonoscopy as a screening test in the general population².

For these reasons, colonoscopy is not considered an appropriate screening test for the general population who are at average risk of bowel cancer. The preferred approach is to use FOBT to decide who should have a colonoscopy.

Barium enema

Barium enema is not recommended as a screening test for the general population. It is an appropriate follow-up test when the full length of the bowel cannot be examined during colonoscopy.

During a barium enema, liquid which can help show abnormalities under x-ray is run into the bowel. Barium enema is good at detecting large cancers and large polyps, but may miss small or flat lesions. If a polyp or cancer is found, a follow-up colonoscopy will be needed.

This procedure also carries risks, including bowel perforation.

There is no evidence to support the use of barium enema in population screening.² However, it has an important role in testing patients not able to have a complete colonoscopy.

Virtual colonoscopy

Virtual colonoscopy is not currently recommended as a screening test for the general population.

Virtual colonoscopy—also called computed tomographic (CT) colonography—uses computer images to build up a picture of the inside of the bowel. The day before the procedure, the patient must take a preparation to completely empty their bowel. The bowel is inflated with air via a tube inserted through the back passage to make viewing the bowel easier. A CT scanner is then used to take hundreds of pictures of the bowel (from the outside). If a polyp or cancer is found, a follow-up colonoscopy will be needed. The effectiveness of virtual colonoscopies is still being evaluated

People at above-average risk

People with a strong family history of bowel cancer should discuss screening options with their doctor.

People with a strong family history of bowel cancer are at increased risk of developing the disease. The number of people in a family who have had bowel cancer and their age at diagnosis, helps determine the level of risk for family members. Most people with relatives who have had the disease are not at increased risk.

People with a moderately increased risk of bowel cancer are those who:

- Have a close relative (parent, brother, sister or child) who developed bowel cancer at an early age (under 55 years).
- More than one close relative on the same side of the family (eg: a parent and a grandparent) who has had bowel cancer.

People with a potentially high risk of developing bowel cancer are those who:

- Have three or more close relatives with bowel cancer on the same side of the family.
- Have two close relatives with bowel cancer as well as any other high risk feature that may suggest a faulty gene in the family. They include:
 - bowel cancer before the age of 50 years
 - multiple bowel cancers in one family member
 - multiple polyps within the bowel (Familial adenomatous polyposis (FAP) is a rare, inherited condition that leads to the development of hundreds or thousands of polyps in the bowel, usually at a young age).
 - a family member with HNPCC related cancers (Hereditary non-polyposis colorectal cancer, or HNPCC, is a condition in which people tend to develop bowel cancer at a young age, without having many polyps. Uterine, ovarian, stomach, ureteric and other cancers are also common in people with HNPCC).

Although important causes of bowel cancer in people aged under 50 years, FAP and HNPCC account for less than 5% of all bowel cancers.^{20,21}

Other people at above average risk include those who have had bowel cancer or certain types of bowel polyp in the past and some people with ulcerative colitis.²²

All people at above average risk of bowel cancer should talk to their doctors about relevant screening options. These may include colonoscopy on a regular basis.

Further information

- Cancer Council Australia – www.cancer.org.au
- Cancer Council's Cancer Helpline – 13 11 20 (cost of a local call)

© Cancer Council Australia, January 2005

References

1. Australian Institute of Health and Welfare (AIHW) & Australasian Association of Cancer Registries. Cancer in Australia 2001. AIHW cat. no. CAN 23. Canberra: AIHW, 2008.
2. National Health and Medical Research Council, Clinical Oncological Society, Australian Cancer Network. Guidelines for the prevention, early detection and management of colorectal cancer (CRC). Canberra: NHMRC, 1999.

3. Australian Institute of Health and Welfare (AIHW) 2008, Australian Cancer and Mortality Incidence Books
4. Australian Institute of Health and Welfare (AIHW) 2008, Australian Cancer and Mortality Incidence Books
5. American Institute for Cancer Research, World Cancer Research Fund. Food, nutrition, and the prevention of cancer: a global perspective. Washington, DC: American Institute for Cancer Research, 1997.
6. The Cancer Council Australia. National cancer prevention policy 2004–06. The Cancer Council Australia, 2004, viewed 14 September 2004 <<http://www.cancer.org.au/content.cfm?randid=988667>>
7. Young GP, St John DJ, Winawer SJ, Rozen P. Choice of fecal occult blood tests for colorectal cancer screening: recommendations based on performance characteristics in population studies: a WHO (World Health Organization) and OMED (World Organization for Digestive Endoscopy) report. *Am J Gastroenterol* 2002;97:2499–507.
8. Cole SR, Young GP. Effect of dietary restriction on participation faecal occult blood test screening for colorectal cancer. *Med J Aust* 2001;175(4):195–8.
9. Parker MA, Robinson MH, Scholefield JH, Hardcastle JD. Psychiatric morbidity and screening for colorectal cancer. *J Med Screen* 2002;9:7–10.
10. Scholefield JH, Moss S, Sufi F, Mangham CM, Hardcastle JD. Effect of faecal occult blood screening on mortality from colorectal cancer: results from a randomised controlled trial. *Gut* 2002;50(6):840–4.
11. Jorgensen OD, Kronborg O, Fenger C. A randomised study of screening for colorectal cancer using faecal occult blood testing: results after 13 years and seven biennial screening rounds. *Gut* 2002;50(1):29–32.
12. Farraye FA, Wallace M. Clinical significance of small polyps found during screening with flexible sigmoidoscopy. *Gastrointest Endosc Clin N Am.* 2002 Jan;12(1):41-51.
13. Read TE, Kodner IJ. Colorectal cancer: risk factors and recommendations for early detection. *Am Fam Physicians* 1999;59(11):3083–92.
14. Selby JV, Friedman GD, Quesenberry CP Jr, Weiss NS. A case-control study of screening sigmoidoscopy and mortality from colorectal cancer. *N Engl J Med* 1992;326(10):653–7.
15. Newcomb PA, Norfleet RG, Storer BE, Surawicz TS, Marcus PM. Screening sigmoidoscopy and colorectal cancer mortality. *J Natl Cancer Inst* 1992;84(20):1572–5.
16. Gohagan JK, Prorok PC, Hayes RB, Kramer BS; Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial Project Team. The Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Trial of the National Cancer Institute: history, organization, and status. *Control Clin Trials* 2000;21(6)(suppl):S251–72.
17. UK Flexible Sigmoidoscopy Screening Trial Investigators. Single flexible sigmoidoscopy screening to prevent colorectal cancer: baseline findings of a UK multicentre randomised trial. *Lancet.* 2002;359(9314):1291–300.
18. Segnan N, Senore C, Andreoni B, Aste H, Bonelli L, Crosta C, Ferraris R, Gasperoni S, Penna A, Risio M, Rossini FP, Sciallero S, Zappa M, Atkin WS: SCORE Working Group- Italy 2002. Baseline findings of the Italian multicentre randomized controlled trial of 'once-only sigmoidoscopy'-SCORE. *J Natl Cancer Inst* 94(23):1763-72.
19. Viiala CH, Zimmerman M, Cullen DJE, Hoffman NE. Complication rates of colonoscopy in an Australian teaching hospital environment. *Inter Med Journal* 2003;33:355–9.
20. Lynch HT, Smyrk T. Hereditary nonpolyposis colorectal cancer (Lynch syndrome). An updated review. *Cancer* 1996;78(6):1149–67.
21. Schoen RE. Families at risk for colorectal cancer: risk assessment and genetic testing. *J Clin Gastroenterol* 2000;31(2):114–20.
22. Australian Health Technology Advisory Committee. Colorectal cancer screening. Canberra: Commonwealth Department of Health and Family Services, 1997.

Cancer Council Australia, GPO Box 4708, Sydney NSW 2001
Ph: (02) 8063 4100 Fax: (02) 8063 4101 Website: www.cancer.org.au