

**Surveillance and
Management of
Groups at Increased Risk of**
***Colorectal
Cancer***

- **Personal History**
- **Family History**

Surveillance recommendations: Personal history of colorectal diseases

Colorectal Cancer in New Zealand

Colorectal cancer (CRC) is the second most common site of cancer for both men and women in New Zealand, with approximately 2300 new cases and 1200 deaths from the disease each year.

Average risk

Individuals at average risk of developing CRC are those in the general population within the age group at which CRC is most likely to develop. The cumulative risk to age 75 years in the general population is 5.6% or 1 in 16 for men or 1 in 21 for women.

The risk of CRC increases with age, with over 90% of cases registered in individuals over the age of 50 years. The age specific average risk of CRC is shown in Table 1 (see *Family History of CRC*).

In late 1998, a National Health Committee working party reported on its evidence-based review of population screening for CRC. Given the modest potential benefit, the considerable commitment of health sector resources and the small but real potential for harm, the group did not recommend population screening with faecal occult blood tests (FOBTs) for asymptomatic individuals in New Zealand. This decision is to be reviewed as evidence of benefit from new FOBTs and other screening modalities becomes available.

A working party has since developed surveillance advice for individuals at increased risk of developing CRC.

An increased risk of CRC is identified in individuals with:

- a personal history of colorectal cancer, colorectal adenomas and inflammatory bowel disease
- a family history of colorectal cancer.

Advice for these individuals is outlined in this brochure.

Personal History: Colorectal cancer

Risk

Individuals who have undergone curative resection of CRC are at risk of developing second primary CRCs and/or recurrent disease. It is not currently possible to accurately predict which individuals are likely to be affected and individual studies have shown an inconsistent survival benefit as a result of follow-up. At present follow-up is recommended as it allows practitioners to monitor outcomes arising from treatment and it is consistent with individuals' preferences. It may also detect second primary CRCs at an early treatable stage.

Recommendations

- Individuals should have specialist follow-up over the time period in which the majority of cancer recurrences (local or metastatic) are most likely to occur.
- Specialist follow-up should occur in conjunction with and be continued by the individual's general practitioner.
- Individuals free of recurrent CRC for 3-5 years should be referred for regular colonoscopic surveillance.
- Follow-up should be appropriate to the clinical context. In deciding on intensity and duration of follow-up both an individual's age, and comorbid conditions should be considered.
- Individuals should be informed that there is insufficient evidence about the specific components of follow-up that improve survival.

Surveillance recommendations: Personal history of colorectal diseases *continued...*

Personal History: Colorectal adenomas

Risk

Substantial evidence suggests that the majority of CRCs begin as adenomatous polyps and progress through the adenoma-carcinoma sequence. Although 30 – 40% of individuals aged 60 years and over will have adenomas, the lifetime risk for CRC in New Zealand to age 75 years is around 5.6% or 1 in 18.

Surveillance colonoscopy - impact of age and comorbidity

An upper age limit of 75 years is usually considered appropriate for colonoscopic surveillance because the remaining life expectancy is likely to be less than the average time required for new adenomas or dysplasia to progress to malignancy. After this age the potential risks associated with on-going surveillance are likely to outweigh the benefits of such procedures. The appropriateness of surveillance in individuals less than 75 years of age with serious comorbidities should also be reviewed.

Factor	Assessed Risk	First Surveillance Colonoscopy*
Adenoma size \geq 10 mm	High: continued surveillance	At 3 years – if negative subsequent colonoscopy at 3–5 years [†]
\geq 3 adenomas	High: continued surveillance	At 3 years – if negative subsequent colonoscopy at 3–5 years [†]
Villous lesions and/or severe dysplasia	High: continued surveillance	At 3 years – if negative subsequent colonoscopy at 3–5 years [†]
Adenomas with no high-risk features and: <ul style="list-style-type: none"> • significant family history of CRC • no family history of CRC 	High: continued surveillance Low: consider discontinuing surveillance if subsequent surveillance colonoscopy normal	At 3 years At 5–6 years

* Presumes complete excision of previous adenomas.

† Shorter interval may be appropriate if multiple high-risk features at index procedure.

Personal History: Inflammatory bowel disease

Risk

Individuals with longstanding (>10 years) extensive ulcerative colitis (UC) have an increased risk of colorectal cancer. Studies suggest a risk of 2% by 10 years, 8% by 20 years and 18% by 30 years. Individuals with total or extensive colitis are at greater risk of developing CRC than those with left sided or colitis only involving the rectum and sigmoid.

Individuals with longstanding extensive colorectal Crohn's disease (CD) have a similar risk of developing CRC as those with longstanding UC.

Advice

Advise individuals with longstanding extensive UC or colorectal CD that they are at increased risk of CRC.

Recommendations

- Refer individuals with UC and CD of 8 – 10 years duration for colonoscopy with serial biopsies to define disease extent. Those with significant disease should be offered surveillance colonoscopy.
- Individuals should be fully informed regarding:
 - the rationale for surveillance colonoscopy and its limitations in detecting CRC
 - the failure of studies to establish, beyond doubt, the value of surveillance in this situation.

Surveillance recommendations: Family history of colorectal cancer

Family History of CRC

Individuals with a family history of CRC may have an increased risk of developing the disease.

The risk depends on the number of relatives affected and their age at diagnosis.

To assess familial risk for CRC, a family history is required. This should include any CRC in a 1st or 2nd degree relative on either side of the family, over three generations if possible.

1st degree relatives: parents, siblings, children.

2nd degree relatives: grandparents, aunts, uncles, nieces, nephews.

Note:

- CRC reported in relatives should be confirmed if possible
- the family history should be regularly updated.

Table 1:
Age specific risk CRC in NZ population (1998)

Individual's age next 5 yrs	Risk (%) end 5 yr	Cumulative risk (%) period
45-49 years	0.1	0.3
50-54 years	0.3	0.6
55-59 years	0.6	1.2
60-64 years	1.1	2.2
65-69 years	1.5	3.8
70-74 years	1.8	5.6

Source: New Zealand Health Information Service.
Cancer: New Registrations and Deaths 1998.
Wellington: Ministry of Health, 2002.

Category 1: At slightly above average risk

The majority of individuals with a family history of CRC will be in this category.

Individuals at slightly above average risk include those with:

- one 1st degree relative with CRC diagnosed at age 55 years or older.

Risk

Risk for developing CRC is up to 2 times greater than average (see Table 1). Most of this additional risk is expressed after the age of 60 years.

Advice

Advise that their level of risk is slightly above average, and that at 75 years of age, 88 – 92% of individuals in this group will not have developed CRC.

Recommendations

No specific surveillance recommendations are made for this group at this time but these individuals should be encouraged to report symptoms which suggest the possibility of colorectal cancer.

It may be necessary to acknowledge that some individuals may wish to be screened for CRC even though they are at average or slightly above average risk. General practitioners should provide information on the potential benefits and risks of the screening tests being considered. Those requesting screening should also be informed that colonoscopy resources within the public health sector are restricted and that the investigation of symptomatic individuals with symptoms suggestive of CRC take priority over those requiring follow-up to screening.

Surveillance recommendations: Family history of colorectal cancer *continued...*

Category 2: Moderately increased risk

Individuals at moderately increased risk include those with:

- one 1st degree relative with CRC diagnosed before the age of 55 years or
- two 1st degree relatives on the same side of the family with CRC diagnosed at any age (without potentially high risk features as in category 3).

Risk

Risk for developing CRC is 3 to 6 times greater than average (see Table 1).

Advice

Advise that their risk of CRC is moderately increased. However, by the age of 75 years, 66 – 83% of individuals in this group will not have developed CRC.

Recommendations

- Offer colonoscopy every five years from the age of 50 years (or from an age 10 years before the earliest age at which CRC was diagnosed in the family, whichever comes first).
- Individuals should be fully informed regarding their risk of developing CRC and the reason for this recommendation.
- Individuals in this category should be informed that colonoscopy is an invasive procedure and generally safe, but that it is not totally without risk.

Surveillance colonoscopy – impact of age and comorbidity

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Surveillance recommendations: Family history of colorectal cancer *continued...*

Category 3: Potentially high risk

Individuals at potentially high risk of developing CRC include those with a family history of:

- Familial adenomatous polyposis (FAP), hereditary non-polyposis colorectal cancer (HNPCC) or other familial CRC syndromes
- one 1st degree relative plus two or more 1st or 2nd degree relatives, all on the same side of the family with a diagnosis of CRC at any age
- two 1st degree relatives, or one 1st degree relative plus one 2nd degree relatives, all on the same side of the family with a diagnosis of CRC, and one such relative:
 - was diagnosed with CRC under the age of 55 years, or
 - developed multiple bowel cancers, or
 - developed an extracolonic tumour suggestive of HNPCC (ie, endometrial, ovarian, stomach, small bowel, upper-renal tract, pancreas or brain).
- at least one 1st or 2nd degree relative was diagnosed with CRC in association with multiple bowel polyps
- a personal history or one 1st degree relative with CRC diagnosed under the age of 50 years, particularly where colorectal tumor immunohistochemistry has revealed loss of protein expression for one of the mismatch repair genes (hMLH1 or hMSH2).

Some individuals with the above risk factors may have inherited a genetic mutation associated with one of the hereditary bowel cancer syndromes (ie, FAP, HNPCC).

Risk

Lifetime risk for CRC may be as high as 1 in 2, or higher if shown to have a genetic mutation.

Advice

Advise that their risk of CRC is potentially high, that family assessment is required and that prophylactic measures ie, regular colonoscopic surveillance, are available. Genetic testing is available for some to clarify risk.

Recommendations

- Refer to a genetic specialist/family cancer clinic or familial bowel cancer registry for further risk assessment and possible genetic testing (for contact details see Appendix B in full guideline).
- Refer to a bowel cancer specialist to plan appropriate surveillance and management.
- Individuals or families with hereditary CRC syndromes should be offered referral to a familial bowel cancer registry.

This guideline has been developed by a multidisciplinary team. Members included: Susan Parry (Chair), Philip Bagshaw, Vint Chadwick, Andrew Connolly, Betsy Marshall, John McMenamin, Ann Richardson and Judi Strid.

This guideline follows the 1998 report on Population Screening for Colorectal Cancer. This is available from NZGG's website (www.nzgg.org.nz).

Details of how to take a family history are included as Appendix A in the full guideline: www.nzgg.org.nz – click on 'Guidelines/Publications' then 'Cancer'.

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An electronic copy of the full guideline is available for download from NZGG's website, info@nzgg.org.nz or a printed copy is available from Box 10-665, Wellington, New Zealand.

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