

## Screening for Colorectal Cancer – Clinician Summary

### POPULATION

These recommendations apply to adults aged  $\geq 50$  years who are not at high risk for colorectal cancer (CRC). They do not apply to those with previous CRC or polyps, inflammatory bowel disease, signs or symptoms of CRC, history of CRC in one or more first degree relatives, or adults with hereditary syndromes predisposing to CRC (e.g. familial adenomatous polyposis, Lynch Syndrome).

### BURDEN OF ILLNESS

CRC is the second most common cause of cancer mortality in men and the third most common in women; the lifetime probabilities of dying from CRC among men and women are 3.5% and 3.1% respectively. Although the burden of CRC varies across Canada, it is estimated that 25,000 Canadians will be diagnosed with CRC in 2015 (incidence 49/100,000) and 9,300 (mortality 17/100,000) will have died from the disease. The incidence and mortality of CRC are low until middle age, and rise rapidly thereafter.

### RECOMMENDATIONS

- We recommend screening adults aged 60 to 74 for CRC with FOBT (either gFOBT or FIT) every two years OR flexible sigmoidoscopy every 10 years.  
(*Strong recommendation; moderate quality evidence*)
- We recommend screening adults aged 50 to 59 for CRC with FOBT (either gFOBT or FIT) every two years OR flexible sigmoidoscopy every 10 years.  
(*Weak recommendation; moderate quality evidence*)
- We recommend not screening adults aged 75 years and over for CRC.  
(*Weak recommendation; low quality evidence*)
- We recommend not using colonoscopy as a screening test for CRC.  
(*Weak recommendation; low quality evidence*)

### BASIS OF RECOMMENDATIONS

In the judgment of the CTFPHC, gFOBT, FIT and flexible sigmoidoscopy are both reasonable screening tests for patients aged 50-74 years. This recommendation places a relatively higher value on the potential for additional years of life saved in younger patients and a relatively lower value on the lack of statistical significance for mortality benefit in subgroup analyses of younger participants. However, in the judgment of the CTFPHC, the lower absolute benefit expected from screening in people aged 50-59 years warrants a weak recommendation as compared to the strong recommendation for people aged 60-74 years. Making separate recommendations for the two age

groups places a relatively higher value on the different balance of benefits to harms by age, and a relatively lower value on the added complexity of having age-group based recommendations.

The recommended age to stop screening is 75 based on reduced life expectancy in older age groups as well as the included ages in the RCTs identified in the systematic review. Although no RCTs have shown improvement in CRC mortality or morbidity for adults over the age of 74, existing trials are underpowered to detect a clinically important difference in this population. However given that incidence rises with age, and that this recommendation is based on low quality evidence, adults over 74 years of age who do not have illnesses which affect their quality of life and/or their lifespan may be less concerned with the lack of trials showing benefit or the potential harms. They should discuss screening with their primary care provider to determine their most appropriate screening option based on their personal values and preferences.

Although colonoscopy may offer clinical benefits that are similar to or greater than those associated with flexible sigmoidoscopy, direct evidence of its efficacy in comparison to the other screening tests (in particular FIT) is lacking. Wait lists for colonoscopy are long in Canada and have increased over the years. Because of higher human resource requirements (requires a specialist such as a gastroenterologist) and greater potential for harms, the ongoing RCTs would have to demonstrate greater efficacy of colonoscopy (in comparison to other tests), before its routine use for screening could be recommended.

This recommendation is weak given the level of uncertainty over the effectiveness and harms of colonoscopy as a screening test. It reflects a relatively higher value on the lack of direct (RCT) evidence of incremental benefit for colonoscopy and on the opportunity costs of using colonoscopy for population screening. The recommendation places a relatively lower value on the indirect evidence suggesting that the clinical benefits of colonoscopy could outweigh its clinical harms. It also places lower value on economic modeling. We note that there are currently four trials underway investigating the mortality benefit of screening colonoscopy. These will be considered as the results become available.

## CONSIDERATIONS FOR IMPLEMENTATION

The weak recommendation for people aged 50-59 years vs the strong recommendation for people aged 60-74 years is based on the less favourable balance of benefits to harms for the former, and implies that the decision to be screened will require more discussion among people aged 50-59 years.

Screening will be more appropriate for patients aged 50-59 years who are interested in a small absolute reduction in the risk of death from CRC, and who are less concerned about the potential harms and inconvenience of testing. In contrast, patients aged 50-59 years who are more concerned about harms and inconvenience could make a valid decision to defer screening until 60 years of age or older.

Limited access to flexible sigmoidoscopy may result in the vast majority of Canadians being screened appropriately using FIT or gFOBT. However, patients who wish to be screened but prefer less frequent testing (every ten years), or are averse to stool testing with FOBT, may be more likely to choose flexible sigmoidoscopy rather than FOBT.