



Canadian Geriatrics Society

**Daniel W. Yokom
MD, FRCPC**

*Clinical Fellow, Medical
Oncology, Princess
Margaret Cancer Centre,
Toronto*

**Shabbir M.H. Alibhai
MD, MSc, FRCPC**

*Staff Geriatrician and
Senior Scientist, University
Health Network, Toronto*

Corresponding Author:

Shabbir M.H. Alibhai
shabbir.alibhai@uhn.ca

Key words:

cancer, screening,
preventative health

WHEN SHOULD YOU STOP SCREENING FOR CANCER IN OLDER PATIENTS?

Abstract

Screening has been shown to help diagnose cancer at earlier stages and improve cancer-specific mortality for several malignancies. As patients age, the risk of harm with screening may increase and also competing risks for mortality reduce the benefit of screening. A patient with limited life expectancy, for any reason, should not have screening for cancer. For average-risk older adults, typically considered age 70-75 or older, there is little high-quality trial data to support cancer screening. Canadian and American guidelines provide suggested ages to stop screening based on available data. The absence of evidence arises primarily from lack of inclusion of older adults in trials and does not rule out benefits of continued screening in carefully selected older patients. Online and published tools can help facilitate discussion and decision-making. Ultimately, the decision to undergo screening for cancer requires a balance between the benefits, risks and patient preferences.

This article has been peer reviewed.

Conflict of Interest: None

This article was published in July 2017.

Key points

1. There is very little high-quality data on screening for cancer in older adults, particularly above age 70-75. However, absence of high-quality data does not preclude potential benefit.
2. Canadian and American guidelines provide some direction on when to stop screening for cancer.
3. [ePrognosis](#) is a validated online tool, which can provide helpful information about a patient's estimated life expectancy as well as information for screening for breast or colon cancer in patients over age 65.
4. Screening should be stopped for any patient at any age who (i) has a life-limiting diagnosis such as metastatic cancer, end-stage renal disease, advanced CHF or COPD or (ii) is not willing to accept the risks of screening or (iii) would not receive treatment if a cancer were detected.
5. Ongoing screening for some cancers beyond guideline age recommendations could be considered for patients at higher than average risk of cancer or with a long life expectancy provided they are willing to take on the associated risks of screening and treatment if a cancer is detected.

Introduction

Cancer is a disease of aging. Older adults have a higher prevalence of cancers and worse prognosis compared to younger patients.^{1,2} Screening for early stage cancers has been shown to reduce mortality associated with several specific cancers. As patients age, the benefits of screening for cancer are reduced due to competing risks for mortality. Furthermore, older patients are more likely to experience adverse events associated with screening or subsequent treatments thereby shifting the risk-benefit ratio. Over-diagnosis is higher in older adults as they are more likely to be treated for a cancer that would not have caused their death.³⁻⁵

Unfortunately, there are no high-quality randomized trials of screening for cancer in older adults as most trials excluded patients over age 75. Therefore, the decision to screen an older adult for cancer can be complex. It is necessary to consider the published literature, guideline recommendations, local resources and more importantly, your patient's health or functional status, life expectancy and goals of care.

The discussion in this article refers to patients of average risk of cancer who do not have any symptoms of disease. If a patient is experiencing symptoms of cancer, they should be tested as clinically indicated. For symptomatic patients, only those who are at the end of life or those who would decline any treatment should not be tested.

In this article, we will review recent advances in research on screening for select cancers, guideline recommendations, as well as provide a practical approach to the older patient when considering screening for cancer.

Consider the patient

Before all else, consider your patient. Most patients with life-limiting diagnoses such as metastatic cancer, end-stage renal disease, advanced congestive heart failure (see [An Approach to Management of Advanced Heart Failure in the Older Person](#)) or advanced chronic obstructive pulmonary disease would not benefit from detection of early stage cancers. A 2015 American Geriatrics Society [Choosing Wisely statement #7](#) encourages physicians to only recommend cancer screening if a patient's life expectancy has been considered.⁶ Life expectancy can be estimated using the validated [online tool ePrognosis](#).⁷ This tool uses information about the patient's health and functional status to provide a probability of a patient being alive at five and 10 years based on the Schonberg and Lee indexes.⁸⁻¹¹ In the context of cancer screening, patients are usually considered to have limited life expectancy if they have less than 50 percent probability of living for 10 years. The 10-year life expectancy threshold was chosen based on modelling data, which showed that on average it takes 10 years for a screen-detected breast or colon cancer to affect a patient's survival.¹² Conversely, harms associated with screening occur early.

Therefore, patients with less than a 10-year life expectancy are more likely to experience harms than benefits from screening. Another method of assessing competing risks, barriers to screening and life expectancy is the **Clinical Frailty Score (CFS)**.¹³ The CFS is a validated tool that is useful for predicting need for assisted living and mortality.

As a patient progresses into a more frail state (e.g. CFS 5-6 or higher) they are less likely to benefit from screening as they may have a lower life expectancy or be unable to tolerate surgery or chemotherapy if a cancer is discovered.

Most importantly, discuss the preferences of screening with your patient. An approach such as the **Palliative and Therapeutic Harmonization (PATH) framework** can improve your patient's understanding of their current condition and their screening options to make an informed decision. For example, if they are diagnosed with an early stage cancer, would they be willing to have a major surgery to remove it? Would they be willing to have radiation and/or chemotherapy? Do they experience significant anxiety or discomfort with the procedures? Or do they experience significant anxiety if they are not receiving cancer screening? These questions will help guide discussion and decisions regarding cancer screening.

Breast cancer

Screening methods for breast cancer include self or clinician examination, mammography and MRI; however, most evidence supports mammography. The main benefit of screening for breast cancer is identification of disease at an early stage. A systematic review showed mixed results for reduction in the risk of dying of breast cancer; however, if there is a benefit, it is likely low and favours women age 50 to 69. There is no overall survival benefit for screening with mammography.¹⁴ Potential harms of mammography include discomfort with the procedure, anxiety, false positive tests (about 61 percent over 10 years for annual or 42 percent over 10 years for biennial screening¹⁵) and subsequent complications of a biopsy or other investigations. The most significant harm is over-diagnosis of an early stage cancer that would not have caused clinically significant morbidity.

There have been no trials of breast cancer screening with mammography in patients over the age of 75. The Canadian Task Force on Preventative Health Care (**CTFPHC**) and United States Preventative Services Task Force (**USPSTF**) recommend continuing mammography every two to three years for women aged 70-74.^{16,17} The benefit of screening in this age group appears to be similar to patients aged 50-69; however, due to low enrolment numbers in clinical studies, the confidence margin is wide. Due to lack of data the CTFPHC and USPSTF do not make any recommendation for or against screening women over the age of 75.

There is reason to believe that some women over age 75 may benefit from screening. The incidence of breast cancer rises with age and the sensitivity and specificity of mammograms increases as breast density decreases with age.¹⁸ Considerations for breast cancer screening after the age of 75 include high-risk patients such as those with prior abnormal mammograms or prior breast cancer diagnosis, family history of breast cancer, known mutations to BRCA1/BRCA2 and prior exposure to radiation. Screening beyond age 75 could also be considered for average-risk patients who are very fit and have a longer than average life expectancy. Modelling done by the National Cancer Institute's Cancer Intervention and Surveillance Monitoring Network (CISNET) found that women with no or few comorbidities maintained the same benefits of screening up to age 78 as average women did for screening to age 74.¹⁹ For these reasons, the American Cancer Society (ACS) recommends continuing mammography until the patient has less than a 10-year life expectancy.²⁰ The **ePrognosis tool** also includes a decision aid to provide information for patients specifically considering breast cancer screening.^{7,21}

Cervical cancer

Screening for cervical cancer has been one of the most successful cancer screening programs to date as incidence rates dropped significantly after the introduction of widespread screening.¹ Benefits of Pap tests include detecting pre-cancerous and early stage cancers and reducing the risk of dying from cervical cancer.

Potential harms of the Pap test include discomfort with the procedure, anxiety, false positives (between 1 and 23 percent per test depending on a number of factors²²) and over-diagnosis. The primary mode of screening is the Pap test every three years. Testing for Human Papillomavirus (HPV) has been advocated by the USPSTF and ACS to lengthen the Pap test interval to five years, but this is not the current recommendation in Canada.

The CTFPHC recommends screening for cervical cancer with a Pap test every three years up to age 70 (canadiantaskforce.ca/guidelines/published-guidelines/cervical-cancer/). They recommend to stop screening after age 70 if the patient has had three consecutive normal tests in the last 10 years.²²

If a patient has not had three consecutive normal tests then screening should continue until they have or there is another reason to stop. The USPSTF and ACS have similar recommendations but they use the age cut-off of 65.^{20,23} Unlike most cancers, the risk of cervical cancer decreases with age,¹ and the potential benefits of screening are reduced for older patients who have already had adequate screening. Therefore, there must be very compelling reasons to continue screening beyond age 70.

Colorectal cancer

There are multiple methods for screening for colorectal cancer including fecal occult blood testing (guaiac-based = FOBT or immunochemical testing = FIT), sigmoidoscopy, colonoscopy and CT colonography. Colonoscopy should be performed as follow-up for an abnormal primary screening test. Screening for colorectal cancer identifies pre-malignant lesions and disease at an earlier stage. Screening also reduces the risk of colorectal cancer-specific mortality but there is no clear overall survival advantage to screening. There are no specific harms to FOBT or FIT other than anxiety associated with the test, but there could be harms associated with follow-up investigations. Potential harms from endoscopy include death or significant morbidity due to perforation, infection or bleeding. Retrospective studies have shown no clear cancer-specific survival benefit of one test over another;²⁴ therefore, clinicians and patients should discuss which test is most acceptable for the patient based on their preference.

Canadian guidelines recommend to stop screening for colorectal cancer at age 75 (canadiantaskforce.ca/guidelines/published-guidelines/colorectal-cancer/).²⁵ This recommendation is based on only one randomized trial of FOBT, which included patients up to age 80.²⁶ All other studies excluded patients over 75.²⁷⁻³⁰ There is even less evidence for flexible sigmoidoscopy for older patients as most trials only included patients under 65.³¹⁻³⁴ A population-based analysis of 1.35 million average-risk American Medicare patients age 70-79 showed that patients aged 75-79 who received a colonoscopy had an absolute reduction of only 0.14% of their eight-year risk of colon cancer. The 30-day risk for an adverse event was 10.3 events per 1,000 individuals.³⁵ Furthermore, retrospective studies have identified an increased risk of complications (including perforation) for patients over age 75 who underwent screening colonoscopy with a relative risk of 1.6 to 3.2 compared to younger patients.^{36,37}

An important consideration is whether an older patient has had any screening in the past. A modelling study of patients age 76-90 who had never received colon cancer screening found one-time screening was cost-effective up to age 86 for patients with no comorbid conditions and up to age 83 for patients with moderate comorbidity, or age 80 for patients with severe comorbidity.³⁸ The CISNET model also found that benefits of screening extended beyond age 75.¹⁹

If a patient is particularly fit, has a life expectancy of at least 10 years, and is willing to accept the risks of screening, then it may be reasonable to continue after age 75. Most patients over age 75 who have never been screened and are in reasonable health should have at least one screening test. The [ePrognosis tool](#) also includes a decision aid to provide specific information for patients considering colon cancer screening.⁷

Lung cancer

In 2016, the CTFPHC published recommendations for screening for lung cancer with three annual low-dose CT scans in patients age 55-74 with a 30 pack-year smoking history or greater who are active smokers or quit within 15 years.³⁹

Recommendations are based on the findings of the randomized NLST trial, which showed a lung-cancer specific mortality relative reduction of 20 percent and overall survival advantage of 6.7 percent for the screening group.⁴⁰ The NLST excluded patients who were not fit for surgery but did not have specific life expectancy thresholds. The ACS recommended continuing annual low-dose CT scans beyond three years up to age 74²⁰ while the USPSTF recommended continuing annual scans up to 80.⁴¹ The primary harm of screening is false-positive results, which has been reported to be as high as 50 percent,⁴² and subsequent invasive investigations or surgeries.

An important consideration for screening is that upon diagnosis of a localized cancer, the treatment (thoracic surgery) has a high rate of morbidity and mortality; therefore, patients must be fit enough to tolerate the procedure.

Prostate cancer

As of 2017, Canadian and American guidelines do not recommend screening for prostate cancer with PSA in men of any age.^{20,43,44} Although it remains controversial, the recommendation against screening with serum PSA is strongest for men over age 70, when the potential harms of screening are highest and potential benefits the lowest. The primary harm for screening is over-diagnosis and subsequent harm from testing; for example, pain or infection after a prostate biopsy and treatments.

Conclusions

The net benefits or risks of screening for cancer in older adults are not known due to limited prospective evidence. Extrapolating from data in younger patients, it is likely that screening for some cancers in fit older adults with at least a 10-year life expectancy can reduce cancer-specific or all-cause mortality. Screening for prostate cancer with a PSA is not recommended for patients of any age. Evidence and guidelines support a specific age to stop screening for cervical cancer. The decision about when to stop screening for breast, colon and lung cancers is more complex. The relative benefits and harms of screening should be individualized for the patient understanding their life expectancy, comorbidities and personal preferences.

Table 1. Guideline recommendations for cancer screening for older adults.

| Cancer | Endorsing institution | Modality and frequency | Age to stop |
|--|--|---|---|
| Breast | CTFPHC 2011 ¹⁶ and USPSTF 2016 ¹⁷ | Mammogram every 2-3 years | Continue screening up to age 74. No recommendation for patients ≥ 75 . |
| | ACS 2016 ²⁰ | Mammogram every 2 years | Continue screening until life expectancy ≤ 10 years. |
| Cervical | CTFPHC 2013 ²² | Pap test every 3 years | Stop screening for women ≥ 70 if they have had three consecutive normal Pap tests in the last 10 years. |
| | ACS 2016 ²⁰ and USPSTF 2012 ²³ | Pap plus HPV test every 5 years or Pap test every 3 years | Stop screening for women ≥ 65 if they have had regular normal Pap testing over past 10 years. |
| Colorectal | CTFPHC 2016 ²⁵ | FOBT or FIT every 2 years OR sigmoidoscopy every 10 years | Screening for ages 50 to 74. Stop screening ≥ 75 . |
| | ACS 2016 ²⁰ | Multiple options | Start screening at age 50. No recommendation for when to stop. |
| | USPSTF 2016 ⁴⁵ | Multiple options | Screening for ages 50 to 74. Individualize screening recommendations from ages 75- 85. Stop screening after age 85. |
| Lung | CTFPHC 2016 ³⁹ | Low-dose CT scan of the chest annually for 3 years | Ages for screening are 55-74. Stop after age 74 or earlier if there have been three consecutive normal tests. |
| | ACS 2016 ²⁰ | Annual low-dose CT scan of the chest | Ages for screening are 55-74. Stop after age 74 or when the patient is more than 15 years since they quit smoking. |
| | USPSTF 2016 ⁴¹ | Annual low-dose CT scan of the chest | Ages for screening are 55-80. Stop after age 80 or when the patient is more than 15 years since they quit smoking. |
| Prostate | CTFPHC 2016 ⁴⁴ , ACS 2016 ²⁰ and USPSTF 2008 ⁴³ | Annual serum PSA | PSA for screening for prostate cancer is not recommended at any age. For men over age 70, strong recommendation against screening with PSA. |
| ACS = American Cancer Society, CTFPHC = Canadian Task Force on Preventative Health Care, ACS = American Cancer Society, FIT = fecal immunochemical test, FOBT = fecal occult blood test, HPV = human papillomavirus, USPSTF = United States Preventative Services Task Force | | | |

REFERENCES:

1. Canadian Cancer Society's Advisory Committee on Statistics. Canadian Cancer Statistics 2016. Toronto; 2016.
2. American Cancer Society. American Cancer Society Estimated New Cancer Cases by Sex and Age, 2014. 2014:2014.
3. Cooperberg MR, Lubeck DP, Meng M V., Mehta SS, Carroll PR. The Changing Face of Low-Risk Prostate Cancer: Trends in Clinical Presentation and Primary Management. J Clin Oncol. 2004;22(11):2141-2149.
4. Kalager M, Adami H-O, Bretthauer M, Tamimi RM. Overdiagnosis of Invasive Breast Cancer Due to Mammography Screening: Results From the Norwegian Screening Program. Ann Intern Med. 2012;156(7):491.

5. Welch HG, Black WC. Overdiagnosis in Cancer. *JNCI J Natl Cancer Inst.* 2010;102(9):605-613.
6. American Geriatrics Society. Cancer screenings in older adults. Choosing Wisely. <http://www.choosingwisely.org/clinician-lists/american-geriatrics-society-breast-colorectal-prostate-cancer-screening-in-older-adults/>. Published 2015. Accessed March 30, 2017.
7. ePrognosis. <https://eprognosis.ucsf.edu/>. Accessed March 16, 2017.
8. Lee SJ, Lindquist K, Segal MR, Covinsky KE. Development and Validation of a Prognostic Index for 4-Year Mortality in Older Adults. *JAMA.* 2006;295(7):801.
9. Schonberg MA, Davis RB, McCarthy EP, Marcantonio ER. Index to Predict 5-Year Mortality of Community-Dwelling Adults Aged 65 and Older Using Data from the National Health Interview Survey. *J Gen Intern Med.* 2009;24(10):1115-1122.
10. Schonberg MA, Davis RB, McCarthy EP, Marcantonio ER. External Validation of an Index to Predict Up to 9-Year Mortality of Community-Dwelling Adults Aged 65 and Older. *J Am Geriatr Soc.* 2011;59(8):1444-1451.
11. Cruz M, Covinsky K, Widera EW, Stijacic-Cenzer I, Lee SJ. Predicting 10-Year Mortality for Older Adults. *JAMA.* 2013;309(9):874.
12. Lee SJ, Boscardin WJ, Stijacic-Cenzer I, Conell-Price J, O'Brien S, Walter LC. Time lag to benefit after screening for breast and colorectal cancer: meta-analysis of survival data from the United States, Sweden, United Kingdom, and Denmark. *BMJ.* 2013;346.
13. Rockwood K, Song X, MacKnight C, et al. A global clinical measure of fitness and frailty in elderly people. *Can Med Assoc J.* 2005;173(5):489-495.
14. Gøtzsche PC, Jørgensen KJ. Screening for breast cancer with mammography. Gøtzsche PC, ed. *Cochrane Database Syst Rev.* 2013;(6).
15. Hubbard RA, Kerlikowske K, Flowers CI, Yankaskas BC, Zhu W, Miglioretti DL. Cumulative Probability of False-Positive Recall or Biopsy Recommendation After 10 Years of Screening Mammography. *Ann Intern Med.* 2011;155(8):481.
16. Canadian Task Force on Preventive Health Care TCTF on PH, Tonelli M, Connor Gorber S, et al. Recommendations on screening for breast cancer in average-risk women aged 40-74 years. *CMAJ.* 2011;183(17):1991-2001.
17. Siu AL. Screening for breast cancer: U.S. Preventive services task force recommendation statement. *Ann Intern Med.* 2016;164(4):279-296.
18. Schonberg MA, Marcantonio ER, Li D, Silliman RA, Ngo L, McCarthy EP. Breast Cancer Among the Oldest Old: Tumor Characteristics, Treatment Choices, and Survival. *J Clin Oncol.* 2010;28(12):2038-2045.
19. Lansdorp-Vogelaar I, Gulati R, Mariotto AB, et al. Personalizing age of cancer screening cessation based on comorbid conditions: Model estimates of harms and benefits. *Ann Intern Med.* 2014;161(2):104-112.
20. American Cancer Society | Information and Resources about for Cancer: Breast, Colon, Lung, Prostate, Skin. <https://www.cancer.org/>. Accessed March 17, 2017.
21. Schonberg MA, Hamel MB, Davis RB, et al. Development and evaluation of a decision aid on mammography screening for women 75 years and older. *JAMA Intern Med.* 2014;174(3):417-424.
22. Canadian Task Force on Preventive Health Care, Dickinson J, Tsakonas E, et al. Recommendations on

screening for cervical cancer. *Can Med Assoc J.* 2013;185(1):35-45.

23. Moyer VA, A S. Screening for Cervical Cancer: U.S. Preventive Services Task Force Recommendation Statement. *Ann Intern Med.* 2012;156(12):880.

24. Holme Ø, Bretthauer M, Fretheim A, Odgaard-Jensen J, Hoff G. Flexible sigmoidoscopy versus faecal occult blood testing for colorectal cancer screening in asymptomatic individuals. In: Holme Ø, ed. *Cochrane Database of Systematic Reviews.* ; 2013.

25. Canadian Task Force on Preventive Health Care, Bacchus CM, Dunfield L, et al. Recommendations on screening for colorectal cancer in primary care. *Can Med Assoc J.* 2016;188(5):1-9.

26. Shaikat A, Mongin SJ, Geisser MS, et al. Long-Term Mortality after Screening for Colorectal Cancer. *N Engl J Med.* 2013;369(12):1106-1114.

27. Faivre J, Dancourt V, Lejeune C, et al. Reduction in colorectal cancer mortality by fecal occult blood screening in a French controlled study. *Gastroenterology.* 2004;126(7):1674-1680.

28. Scholefield JH, Moss SM, Mangham CM, Whynes DK, Hardcastle JD. Nottingham trial of faecal occult blood testing for colorectal cancer: a 20-year follow-up. *Gut.* 2012;61(7):1036-1040.

29. Kronborg O, Jørgensen OD, Fenger C, Rasmussen M. Randomized study of biennial screening with a faecal occult blood test: results after nine screening rounds. *Scand J Gastroenterol.* 2004;39(9):846-851.

30. Lindholm E, Brevinge H, Haglund E. Survival benefit in a randomized clinical trial of faecal occult blood screening for colorectal cancer. *Br J Surg.* 2008;95(8):1029-1036.

31. Atkin WS, Edwards R, Kralj-Hans I, et al. Once-only flexible sigmoidoscopy screening in prevention of colorectal cancer: a multicentre randomised controlled trial. *Lancet.* 2010;375(9726):1624-1633.

32. Schoen RE, Pinsky PF, Weissfeld JL, et al. Colorectal-Cancer Incidence and Mortality with Screening Flexible Sigmoidoscopy. *N Engl J Med.* 2012;366(25):2345-2357.

33. Holme Ø, Løberg M, Kalager M, et al. Effect of Flexible Sigmoidoscopy Screening on Colorectal Cancer Incidence and Mortality. *JAMA.* 2014;312(6):606.

34. Segnan N, Armaroli P, Bonelli L, et al. Once-Only Sigmoidoscopy in Colorectal Cancer Screening: Follow-up Findings of the Italian Randomized Controlled Trial--SCORE. *JNCI J Natl Cancer Inst.* 2011;103(17):1310-1322.

35. García-Albéniz X, Hsu J, Bretthauer M, et al. Effectiveness of Screening Colonoscopy to Prevent Colorectal Cancer Among Medicare Beneficiaries Aged 70 to 79 Years. *Ann Intern Med.* 166(1):18.

36. Day LW, Kwon A, Inadomi JM, Walter LC, Somsouk M. Adverse events in older patients undergoing colonoscopy: a systematic review and meta-analysis. *Gastrointest Endosc.* 2011;74(4):885-896.

37. Rutter CM, Johnson E, Miglioretti DL, Mandelson MT, Inadomi J, Buist DSM. Adverse events after screening and follow-up colonoscopy. *Cancer Causes Control.* 2012;23(2):289-296.

38. van Hees F, Habbema JDF, Meester RG, Lansdorp-Vogelaar I, van Ballegooijen M, Zauber AG. Should colorectal cancer screening be considered in elderly persons without previous screening? A cost-effectiveness analysis. *Ann Intern Med.* 2014;160(11):750-759.

39. Canadian Task Force on Preventive Health Care, Lewin G, Morissette K, et al. Recommendations on

screening for lung cancer. CMAJ. 2016;188(6):425-432.

40. Aberle DR, Adams AM, Berg CD, et al. Reduced lung-cancer mortality with low-dose computed tomographic screening. N Engl J Med. 2011;365(5):395-409. doi:10.1056/NEJMoa1102873.

41. Moyer VA, R W. Screening for Lung Cancer: U.S. Preventive Services Task Force Recommendation Statement. Ann Intern Med. 2014;160(5):330-338.

42. Kinsinger LS, Anderson C, Kim J, et al. Implementation of Lung Cancer Screening in the Veterans Health Administration. JAMA Intern Med. 2017;177(3):399.

43. LS L. Screening for Prostate Cancer: U.S. Preventive Services Task Force Recommendation Statement. Ann Intern Med. 2008;149(3):185.

44. Canadian Task Force on Preventive Health Care, Bell N, Connor Gorber S, et al. Recommendations on screening for prostate cancer with the prostate-specific antigen test. Can Med Assoc J. 2014;186(16):1-10.

45. Bibbins-Domingo K, Grossman DC, Curry SJ, et al. Screening for Colorectal Cancer. JAMA. 2016;315(23):2564.

The publisher and the Canadian Geriatrics Society shall not be liable for any of the views expressed by the authors published in Canadian Geriatrics Society Journal of CME, nor shall these opinions necessarily reflect those of the publisher.

Every effort has been made to ensure the information provided herein is accurate and in accord with standards accepted at the time of printing. However, readers are advised to check the most current product information provided by the manufacturer of each drug to verify the recommended dose, the method and duration of administration, and contraindications. It is the responsibility of the licensed prescriber to determine the dosages and the best treatment for each patient. Neither the publisher nor the editor assumes any liability for any injury and/or damage to persons or property arising from this publication.