

Prevention for the older woman

A practical guide to managing risk of malignancies

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As women live longer and anticipate good health during their later years, cancer screening becomes increasingly complex. Physicians receive discordant recommendations from medical societies, task forces, Medicare, and special interest groups about which cancers merit screening, how screening should be performed, the frequency of screening, and when screening should be discontinued. Female patients may receive confusing recommendations from their friends, the lay press, the Internet, and their own doctors. Given the proliferation of opinions and the limited data regarding the efficacy of cancer screening in older women, physicians must help their patients understand the potential benefits, limitations, and consequences of various cancer screenings for each individual woman.

Messinger-Rapport BJ, Thacker HL. Prevention for the older woman: A practical guide to managing risk of malignancies. *Geriatrics* 2002; 57(October):42-49.

As women participate more in their care, their decisions are influenced by information from many sources—their physicians, friends, literature in the lay press and on the Internet, and their own experiences. Women under 50 are often preoccupied with breast cancer fears, overestimating their risk of dying from breast

cancer by more than 20-fold.¹ In fact, the incidence of most cancers, including breast cancer, is much higher in older women than in younger women, and cancer-related mortality rates increase with each decade of life. Overall, however, the risk of dying of cancer steadily declines from age 50 as other conditions, especially cardiovascular disease, become more prevalent. Helping a woman assess her risk of a specific malignancy and recommending screening requires tailoring the recommendation to a woman's unique medical comorbidities and risks.

This article describes office-based strategies to help physicians assess malignancy risk and recommend appropriate screening for postmenopausal women. It is the fifth of a six-part series in which we offer a practical guide to preventive care of older women living in the community.²⁻⁵ Each article presents common clinical issues in the primary care management of “Mrs.

Niece” and “Mrs. Aunt,” two hypothetical yet typical patients who are at different stages of aging.

Patient history

Mrs. Niece, age 65, lives with her husband in a modest home, supported by his pension. She spends her time doing housework and gardening, caring for a grandchild, and assisting her elderly aunt. Overall healthy, she is limited in function by knee pain. She began taking estrogen following a hysterectomy 20 years ago, and also takes hydrochlorothiazide to manage her hypertension.

Mrs. Aunt is an 85-year-old widow living alone in an apartment not far from her niece. She manages most of her affairs on her own, despite a hip fracture that occurred 3 years ago, and a mild ischemic stroke 1 year ago. Aspirin is the only medication she takes. Recently she was diagnosed with a mild dementia of the mixed type (vascular and Alzheimer's). Nevertheless, she manages her personal and financial affairs with regular support from her niece.

Neither woman has a personal history of any form of cancer. Mrs. Niece has undergone regular Papanicolaou (Pap) smears and mammograms, as well as fecal occult blood tests (FOBT) and periodic flexible sigmoidoscopy. She wants to know when she can “stop getting all these bothersome tests.” Mrs. Aunt has consistently refused all preventive cancer screening and has never had a Pap smear.

continued

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Table Medicare preventive services for cancer, 2002

| Covered service | Population | Patient financial burden |
|--|--|--|
| Colon cancer screening | | |
| <ul style="list-style-type: none"> FOBT every 12 months Flexible sigmoidoscopy every 48 months Colonoscopy every 10 years but not within 4 years of a screening sigmoidoscopy High-risk colon cancer: colonoscopy every 24 months Barium enema (may replace endoscopic study if the physician provides written justification for superior benefit in that individual) | Medicare population age 50+, no minimum age for colonoscopy in the high-risk group | <ul style="list-style-type: none"> FOBT: \$0 20% Medicare-approved amount after the yearly Part B deductible <p>If the sigmoidoscopy or colonoscopy is done in an ambulatory surgery center or hospital outpatient department, the cost is 25% of the Medicare-approved amount</p> |
| Breast cancer screening | | |
| Mammogram every 12 months including new digital technology | Female Medicare patients age 40 and older. One baseline mammogram allowed between ages 35 and 39 | 20% of the Medicare-approved amount with no Part B deductible |
| Cervical cancer screening | | |
| <ul style="list-style-type: none"> Routine Pap and pelvic exam every 24 months High risk cervical/vaginal cancer: screen every 12 months | All women with Medicare | <p>Pap smear lab test: \$0</p> <p>Pap smear collection and pelvic/breast exam: 20% of Medicare-approved with no Part B deductible</p> |
| Medicare does not provide reimbursement for: | | |
| <ul style="list-style-type: none"> Pancreatic cancer screening Ovarian cancer screening Melanoma screening Lung cancer screening | | |
| <p>FOBT = Fecal occult blood test Pap = Papanicolaou</p> <p>Prepared for Geriatrics by Barbara J. Messenger-Rapport, MD, PhD, FACP, and Holly L. Thacker, MD, FACP</p> | | |

Malignancy

The decision to screen for a particular malignancy depends upon several factors: the incidence and natural history of cancer in the older population; age-related changes in test sensitivity, specificity, or both; the ability to influence the course of the disease if cancer is found; risks of death and disability from other health problems; barriers to screening, and patient preferences and values. Estimated life expectancies also

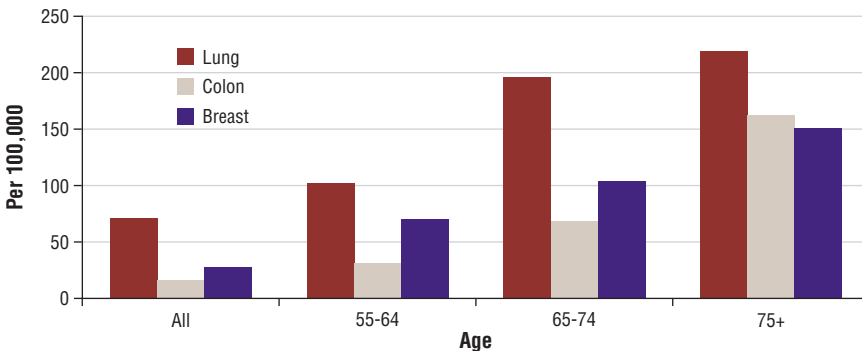
factor into the screening decision. Women at age 78 have a 10-year life expectancy, and women at age 89 have a 5-year life expectancy. (In comparison, the 10- and 5-year life expectancies in men occur at ages 75 and 87, respectively.)⁶ However, co-morbidities affect these estimates and help correct the “chronologic” age to the “physiologic” age, which may range from approximately 5 years younger to 5 to 7 years older.⁶ Additionally, the potential ben-

efit of certain cancer screening tests may be influenced by previous screening practices (eg, cervical cancer screening).

Barriers to screening include lack of education about the importance of a particular screening test, the patient’s financial ability to pay for the test and to pay for the follow-up if the result is abnormal, and accessibility to a test center or site. The table provides information about malignancy screening tests for which Medicare reimburses.

continued

Figure 1 Death rate for leading causes of cancer in older women



Source: Ries L, Eisner M, Kosary C, Hankey B, Miller B, Clegg L, et al. SEER Cancer Statistics Review, 1973-1998. Bethesda, MD: National Cancer Institute; 2001.

Between ages 60 and 80, the probabilities of developing invasive breast, lung, and colon cancers are 7, 4, and 3%, respectively. Next highest incidence is uterine cancer at 1.7%. The incidences of other cancers (bladder, cervix, ovary, non-Hodgkin's lymphoma, leukemia) in this age range are much lower. Lung cancer, colon cancer, and breast cancer are the three leading causes of death from malignancy in women age 60 and older, with 52,500 deaths from lung cancer, 28,200 deaths from breast cancer, and 25,100 deaths from colon cancer in 1998.⁶ The mortality of each of these three cancers increases with age (figure 1). Pancreatic cancer is the fourth leading cause of cancer death in older women, followed by ovarian cancer and non-Hodgkin's lymphoma. Screening issues related to these cancers, as well as cervical cancer, which has a relatively high mortality burden in older women, are discussed in detail below.

Lung cancer Lung cancer has one of the poorest prognoses of all cancers, with a 5-year survival rate of less than 13%. Important risk factors for lung cancer include tobacco use and certain environmental carcinogen exposures, such as asbestos. Screening has not been shown to decrease mortality. No organizations currently recommend routine, lung cancer screening for the general population or for smokers using chest x-rays, CT scanning, or sputum cytology.

Colorectal cancer Increasing age is a

strong determinant of the risk of colon cancer. When age subgroups are evaluated, death rates from colorectal cancer trail lung and breast cancers until approximately age 75 (figure). Colorectal cancer is the second most common cause of cancer death in persons age 75 and older.⁷

Lung cancer has one of the poorest prognoses of all cancers, with a 5-year survival rate of less than 13%

Nearly all colorectal cancers are thought to arise from adenomatous polyps over the course of 7 to 12 years. Evidence exists that reductions in colorectal cancer mortality can be achieved through detection and treatment of early-stage cancers and the identification and removal of adenomatous polyps, the precursor to these cancers. New guidelines published by the U.S. Preventive Services Task Force (USPSTF) find good evidence for periodic FOBT and fair evidence for sigmoidoscopy with or without FOBT in reducing the risk of colorectal cancer mortality.⁸ The Task Force did not find direct evidence that colonoscopy or

double-contrast barium enema reduced the risk of cancer mortality.

Medicare now covers colorectal cancer screening, including attempts to identify and remove adenomatous polyps, using several well-established modalities. Newer methods of examining the colon, such as CT-colonography and capsule (ultrasound) endoscopy, are not yet recommended by the USPSTF, nor covered by Medicare.

The optimal screening interval for adults age 80 and older has yet to be determined. Octogenarians were included in the National Polyp Study, but the benefit of polyp removal in this population is unclear.⁹ Although age is an independent predictor of high grade polyp dysplasia, if only small tubular adenomas have been discovered and removed in the past, it is possible that screening intervals can be lengthened or even discontinued.

Randomized controlled trials of FOBT that have included patients up to age 80 have demonstrated improved survival with colorectal cancer.^{10,11} One case-control study evaluating the value of screening sigmoidoscopy included patients up to age 91. Conclusions could not be drawn from that study about the value of screening very old patients because the report did not identify the number of patients by age group.¹²

Given the length of time it takes normal mucosa to develop into cancer and the uncertainty of the optimal screening interval in older populations, it is reasonable to discontinue FOBT and sigmoidoscopic screening in patients with <10 years estimated survival.⁹ The age cutoff and method of screening should be individualized to the patient's risk and comorbidity. Older persons at high risk of colon cancer—patients with a personal history of breast or colon cancer, or inflammatory bowel disease—may benefit from periodic colonoscopic screening for their entire lifetime.

Breast cancer Like colon cancer, the incidence of breast cancer is strongly age-related. Almost 60% of deaths

from breast cancer in the United States occur in women age 65 and older.⁷ Although the incidence of breast cancer is lower in older black women than in older white women, breast tumors in black women are consistently diagnosed at a more advanced stage of disease, are more poorly differentiated, and are less likely to be estrogen-receptor positive. As a result, breast cancer mortality rates are similar for black women and white women.¹³

Mammography screening of women age 50 to 74 reduces breast cancer mortality by approximately 25%.¹⁴ The USPSTF offers a B recommendation for screening women age 40 and older with mammography every 1 to 2 years.¹⁵ [Editor's note: A 'B recommendation' means that "The USPSTF recommends that clinicians routinely provide [the service] to eligible patients. The USPSTF found at least fair evidence that [the service] improves important health outcomes and concludes that benefits outweigh harms. The USPSTF defines Fair as "Evidence is sufficient to determine effects on health outcomes, but the strength of

The USPSTF recommends screening women age 40 and older with mammography every 1 to 2 years

the evidence is limited by the number, quality, or consistency of the individual studies, generalizability to routine practice, or indirect nature of the evidence on health outcomes." A clinical breast exam is not specifically recommended, nor is an upper age limit. Data on mammography in women age 70 and older is limited, but the sensitivity of mammography for detecting breast tumors in older women is com-

parable or better than that in middle-aged women. The specificity for invasive cancer may decrease with advanced age, however, as more invasive and non-invasive cancers are found with increasing age. One decision analysis and cost-effectiveness study found that continuing mammography after age 69 results in a small gain in life expectancy.¹⁶

Recent recommendations released by the USPSTF found fair evidence that treatment with tamoxifen can significantly reduce the risk for invasive estrogen-receptor-positive breast cancer in women at high risk for breast cancer.¹⁷ Evidence for the role of raloxifene was consistent but less abundant. The absolute risk of thromboembolic events (eg, stroke, deep venous thrombosis, pulmonary embolus) increases with age and may limit the benefit in older women. Additionally, estimates of risk for breast cancer in older women are often calculated from the Gail model, which has as an upper age limit of 79. Tamoxifen (but apparently not raloxifene) increases the risk for endometrial cancer. Guiding older women at high risk of breast cancer through chemoprophylaxis issues will become easier over time as more data are collected on older women and the findings of the Study of Tamoxifen and Raloxifene (STAR) trial are analyzed. The STAR trial is an ongoing study comparing tamoxifen to raloxifene in the chemoprevention of breast cancer in women at risk.

The role of ductal lavage (DL) is anticipated to grow. This FDA approved intervention permits minimally invasive retrieval of ductal cells from the breast. Clinical development of this technique has been fueled largely by its potential to improve detection of pre-cancerous cells and further define individual risk for development of breast cancer. Early studies demonstrate the feasibility of performing this technique, the ability to measure molecular markers in DL fluid, and the ability to provide data on cellular yield and findings. Nevertheless, the sensi-

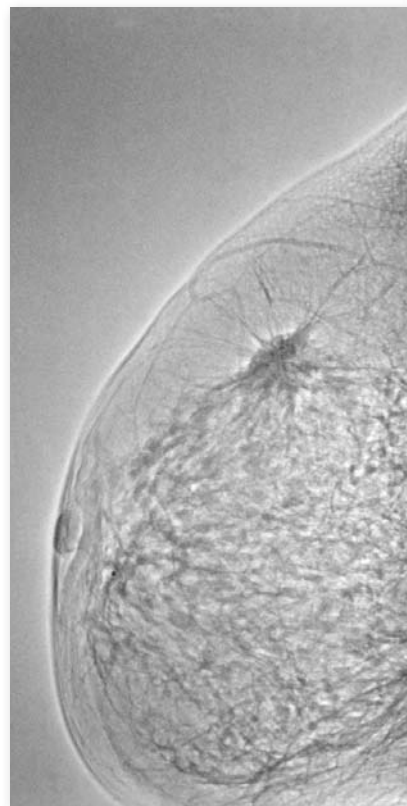


Figure 2. Medial lateral oblique view of a breast cancer in an older woman.

Source: Courtesy of Joseph Crowe, MD, Head of Breast Cancer Center, Cleveland Clinic Foundation, Cleveland, Ohio.

tivity and specificity of DL for the detection of breast cancer remains unknown, as does the significance of atypia, particularly mild atypia, when found in DL fluid.¹⁸

Given the increasing incidence of breast cancer with age, it is certainly reasonable to screen women over age 70. A rational stopping point is when the woman's co-morbidities, frailty, and diminished life expectancy make screening for and treatment of a breast malignancy a burden rather than a benefit.

Cervical cancer Cervical neoplasia is the only gynecologic malignancy for which screening has been proven to reduce mortality. Each year, 16,000 new cases of cervical cancer are diagnosed, with about 4,800 women dying from cervical cancer per year. Worldwide, cervical cancer is the second most common malignancy in terms of incidence and mortality in women. In the United

Prevention

States, 21% of cases and 39% of deaths related to cervical cancer occur in women \geq age 65.⁷ The incidence of cervical cancer in older women is approximately two times higher for blacks, Hispanics, and Asian Americans than for white or Native American populations. Older African Americans have the highest mortality from cervical cancer, twice as high as Asians, Hispanics, and Native Americans, and three times higher than Caucasians.

Recommendations for preventing skin cancer include sun avoidance, sun protection, and skin self-examination

More than half of the women presenting with an invasive carcinoma of the cervix have not received a Pap smear within 3 years before diagnosis. Compared with women who get regular Pap tests, unscreened women tend to be older, less sexually active, and less well-educated, and their cancers are more advanced at diagnosis.¹⁹

Annual screening is recommended for all women, including those over age 65, with at least one risk factor for cervical cancer. These risk factors include HIV, multiple sexual partners, Human Papilloma Virus infection, or history of an abnormal Pap test other than ASCUS (atypical squamous cell of undetermined significance) that is HPV-negative and thought to be secondary to atrophy. The USPSTF recommends discontinuing screening in women over age 65 who lack risk factors for cervical cancer and who have had serial normal Pap smears.²⁰

Ovarian cancer is the fourth leading cause of cancer-related death in women age 40 to 59.²¹ But the relative burden of ovarian cancer declines with

age compared with lung, breast, colon, and pancreatic carcinomas in women over age 60. Unfortunately, two-thirds of women with ovarian cancer have advanced (stage III or IV) disease at the time of diagnosis. Although one would anticipate that survival from ovarian cancer could be improved by diagnosing more cases at an earlier stage, there is no evidence that screening asymptomatic women with ultrasound, serum tumor markers such as CA-125, or pelvic examination improves mortality.²²

Pancreatic cancer (principally adenocarcinoma) is the fourth leading cause of cancer-related death in women age 50 to 79 and is the fifth leading cause of overall cancer deaths in the U.S.²¹ Most cases are diagnosed between age 65 and 79. Risks include diabetes, male gender, African American race, and tobacco use. The majority of cases (80 to 90%) have regional and distant metastases at the time of diagnosis. Fewer than 3% of cases live longer than 5 years after diagnosis. Unfortunately, there is no evidence that screening using abdominal palpation, ultrasonography, or serologic markers, such as CA 19-9, improve mortality. Primary prevention may be possible through tobacco cessation.

Skin cancer More than 1.3 million cases of skin cancer occur annually, approximately the same number as all other types of cancer combined. Most skin cancers are highly curable basal or squamous cell carcinomas. Melanoma, occurring approximately 10 times more in whites than blacks, is the most lethal form of skin cancer. It is estimated that there will be 9,600 deaths from skin cancer in 2002, 7,400 of which will be from melanoma.²³ Although melanoma is the leading cause of cancer death in women age 25 to 36, the total and proportion of melanoma deaths in young persons is low. More than 50% of melanoma deaths occur in adults over age 65.⁷ The death rate has stabilized among white women, and continues to increase slightly in white men. The USPSTF does not recommend for or

against routine screening using a total body skin examination.²⁴ Several expert groups, however, do recommend total body skin examination for high-risk individuals. Recommendations for prevention include sun avoidance, sun protection, and skin self-examination.

Patient management


As an active 65-year-old, Mrs. Niece should continue regular mammography and colorectal cancer screening. If she has had normal Pap smears at regular intervals during the past 10 years and is not at high risk for cervical cancer, she can be offered the option of discontinuing Pap testing.

Mrs. Aunt, at age 85 with several medical conditions but still living independently, probably has a life expectancy of approximately 5 years, perhaps more. She has never been screened for cervical cancer, and thus her risk for invasive cervical cancer is uncertain. An effort should be made to obtain at least one Pap smear. Consider mammography, as the benefits of screening for and treatment of a breast malignancy may outweigh the burdens, which consist of the discomfort and cost of testing plus the diagnosis of noninvasive breast carcinomas. Given our understanding of the long time course for the development of colon cancer, colorectal screening does not need to be offered at her age and with her co-morbidities.

Summary

Screening older women for cancer is complex, given the inconsistent recommendations by expert groups, the plethora of new technologies and chemopreventions, and the dearth of data in the oldest population. Factors to consider include patient comorbidities, age-related burden of malignancy, and the availability of appropriate screening tests and their relative benefit. Screening should be discontinued when the physician and patient determine that the woman would not benefit from any intervention should a cancer be found.

Coming Next

In a future issue of *Geriatrics*, these authors will discuss mobility and safety issues—including osteoarthritis, falls, neglect, abuse, and driving—in the sixth and final installment of this *Prevention for the Older Woman* series. 

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