Strategies to Promote Successful Aging: Part 2, The Physician's Role

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THE CASE: A 65-year-old woman with well-controlled hypertension comes in for a routine checkup. During the past 10 years, she has gained 25 lb and lost 1.5 inches in height. She seeks advice about maintaining her health and quality of life because she wants to avoid the outcome of her mother, who moved to a nursing home after a hip fracture at age 79 years.

Which preventive strategies are most likely to reduce the risk of functional decline, disability, and premature death in an older adult?

In the first article in this 2-part series (CONSULTANT, April 1, 2005, page 469), we focused on steps that this patient can take to improve her health, including diet and weight management, exercise, alcohol moderation, and smoking cessation. Here we discuss prevention strategies that are managed primarily by the clinician, such as immunization, screening tests, and osteoporosis prevention.

Preventive strategies may be primary, secondary, or tertiary.

Like all medical interventions, screening programs are not without cost or risk and, therefore, should meet the following criteria:

1. The targeted disease must be well understood, constitute a significant burden to society, and have a long preclinical period.
2. The screening methods must have an acceptable risk profile with few false-positive and false-negative results.
3. Effective treatment of the target illness must be available, and early detection and treatment must improve disease outcome.

Because elderly persons were often excluded from prevention trials, there is limited information on which to base recommendations. Many professional organizations have reviewed the available data and have incorporated expert opinion into recommendations regarding the efficacy of preventive strategies for persons aged 65 years and older. One of the most important benefits of a screening program is to restore the patient's life expectancy to what it would have been in the absence of the target disease. Many patients with serious acute or chronic illnesses may not have a life expectancy that will allow them to reap the benefits of screening tests.

The American Geriatric Society (AGS) believes that in the absence of definitive evidence about the risks and benefits of screening tests in elderly persons, individualization of recommendations is more important than age-based standards. The AGS has adopted 6 position statements regarding health screening decisions for older adults, 4 of which directly affect individual clinical decisions:

1. For patients with a very limited life expectancy, clinical care should focus on conditions whose treatment is likely to be of immediate benefit, rather than on screening for asymptomatic disease.
2. Older patients with multiple medical problems, life-shortening conditions, or dementia may experience routine screening tests as more burdensome (for example, because of physical or cognitive limitations) than younger persons. This potential burden must be taken into account in screening decisions.
3. Such factors as the expected benefit of the test, the time necessary for the benefit to be realized, the patient's life expectancy, and the patient's preferences should be taken into account.
4. Older patients should have access to screening tests for prognostic information and planning if they so desire, even if they do not intend to pursue active treatment of a disorder if it is diagnosed.
IMMUNIZATIONS

In younger persons, the greatest benefit of immunization is the reduction of morbidity and mortality associated with severe infectious disease. In older persons, immunizations may also reduce the disability and functional decline commonly associated with hospitalization. Influenza vaccination has been shown to result in a 27% to 39% reduction in hospitalizations for respiratory conditions. About 25% to 30% of patients with community-acquired pneumonia that requires hospitalization have pneumococcal disease and may benefit from pneumococcal vaccination.

Influenza. Current guidelines recommend annual influenza vaccination for all persons older than 65 years and those with chronic illnesses. Medical personnel and those who care for high-risk patients should also be immunized. A killed-virus vaccine is currently approved for use in the United States; its estimated efficacy rates are 70% for morbidity and 90% for mortality. Annual vaccination is required because of antigenic drift and because the period of immunity produced by vaccination is generally only 4 to 6 months.

Pneumonia. The pneumococcal vaccine is recommended for all persons 65 years and older and many younger patients with chronic illnesses. Repeated vaccination is indicated if the patient was younger than 65 years at the time of the first vaccination and more than 5 years have elapsed. The pneumococcal vaccine can be administered at the same time as other vaccines, provided it is given at a different site. According to CDC estimates, only 28% of eligible elderly persons have received the pneumococcal vaccine.

Tetanus. Although tetanus is rare in the United States, older adults are the population most at risk. As many as 43% to 71% of elderly persons lack antibody protection against tetanus. Women are less likely than men to be immune to tetanus because they receive fewer booster vaccinations that are typically associated with injuries. A full vaccine series is indicated for patients with an uncertain history of tetanus immunization and those who have received fewer than 3 doses. For those with a complete initial series, boosters are given every 10 years; however, they may be given more frequently to high-risk patients.

SCREENING TESTS

Mammography. Breast cancer is the most prevalent cancer diagnosis and the second leading cause of cancer death in women. The probability of invasive breast cancer increases dramatically with age; 45% of all breast cancers occur in women older than 65 years. Women aged 60 to 79 years have a 1 in 13 risk of invasive breast cancer. Mammography can identify breast cancer at an earlier stage than can usually be detected by clinical examination alone. A number of studies have shown that early detection reduces mortality.

The United States Preventive Services Task Force (USPSTF) recommends routine mammography screening every 1 to 2 years with or without clinical breast examination for women aged 50 to 69 years. There is limited and conflicting evidence about the value of screening mammography for women between the ages of 70 and 74 years, and no evidence for women older than 75 years. No recommendation is therefore made for these groups. However, the USPSTF suggests that it may be justifiable to offer screening to women older than 70 years who have a reasonable life expectancy, because of the high burden of suffering associated with breast cancer in this population.

The AGS recommends that mammography be performed annually or at least biennially until age 75 years and biennially or at least every 3 years thereafter for all women with a life expectancy of at least 4 years. The organization suggests that women with a family history of breast cancer and those who are currently receiving hormone replacement therapy or who have used this therapy for more than 7 years be offered annual mammography. The AGS found little evidence to support the use of clinical breast examination but recommended that it should be performed annually because of the low cost and low risks associated with it.

Papanicolaou (Pap) smear. Screening for cervical cancer with the Pap smear has reduced the morbidity and mortality of this disease in all age groups. However, cervical cancer remains a significant cause of cancer mortality in older women. Women aged 60 to 79 years have a 1 in 368 risk of invasive cervical cancer. Yet despite the fact that women older than 65 years represent 25% of all new cases of cervical cancer and 41% of deaths from this disease, the percentage of women who have been screened for cervical cancer in the previous 3 years declines steadily after age 50 years.

The USPSTF recommends that screening begin with the onset of sexual activity and be repeated at least every 3 years. Regular testing can be discontinued at age 65 years in women who have previously had regular screenings with normal smears. Women who have undergone a hysterectomy that included removal of the cervix do not require testing. The interval of testing that physicians recommend to individual patients should take into account risk factors such as multiple sex partners, low socioeconomic status, and HIV status.
The AGS recommends regular screening at 1- to 3-year intervals until at least age 70 years. Any woman older than 70 years who has never had a Pap test should be screened with at least 2 smears 1 year apart. If the smears are negative, screening may be discontinued. Women who have had a hysterectomy without removal of the cervix should be screened according to the same criteria; if the cervix was removed, no further testing is required. Many elderly women had hysterectomies before 1965, when subtotal procedures were common. As many as 22% of elderly women who have undergone a hysterectomy have an intact cervix and continue to be at risk for cervical cancer.

**Prostate-specific antigen (PSA) testing.** Prostate cancer is the second most commonly diagnosed cancer (after skin cancer) and the second leading cause of cancer death in men. However, controversy surrounds the question of routine screening, and consensus among national organizations is lacking. The risk of prostate cancer increases with age and is highest among African American men, but the lifetime risk of dying of this disease is relatively low. The incidence of prostate cancer has increased in recent years, mostly because of early detection efforts. Extension beyond local disease rarely produces symptoms; therefore, many patients already have local extension or distant metastases at the time of diagnosis.

A number of autopsy studies have shown that prostate cancer is often present in asymptomatic men and that the frequency increases with age. This suggests that many men with early disease will die of another cause, regardless of whether they have been treated for prostate cancer. Therefore, current methods of detecting prostate cancer may not meet the criteria for screening programs. Although this disease has a long preclinical period, the disease may not be detectable by PSA testing at this stage, and treatment of local disease may not be indicated in many cases because of the long latent phase.

The USPSTF does not recommend routine screening for prostate cancer with PSA, digital rectal examination (DRE), or transrectal ultrasonography. The group encourages objective discussions about the potential risks and benefits of early detection and treatment with patients who request screening. If screening is done, the USPSTF recommends that it be limited to men with a life expectancy of more than 10 years and that men be screened with DRE and PSA testing.

The AGS does not have a specific recommendation regarding PSA screening.

The American Cancer Society recommends that PSA testing and DRE be offered annually to men older than 50 years with a life expectancy of more than 10 years and that before testing, they should be informed about the benefits and limitations of these tests. Men at higher risk, such as African Americans and those with first-degree relatives who had prostate cancer at an early age, should begin screening at age 45 years.

**Sigmoidoscopy/colonoscopy.** Colorectal cancer is the third most common cancer in men and women. Colorectal screening reduces mortality from colorectal cancer and can also prevent the development of colon cancer by allowing for the removal of adenomatous polyps. In 2002, only 25.4% of adults aged 65 years and older had recent fecal occult blood testing (FOBT), and only 47.7% had a recent sigmoidoscopy or colonoscopy. Rates are lowest among persons with less than a high school education and among Hispanics, Asian Americans, and recent immigrants.

The USPSTF recommends that all persons aged 50 years or older be screened with FOBT and sigmoidoscopy. The task force feels that there is sufficient evidence to support annual FOBT but that there is insufficient evidence to recommend a frequency for sigmoidoscopy or routine screening with DRE, barium enema, or colonoscopy.

The American Cancer Society recommends that beginning at age 50 years, men and women should follow one of these schedules:

- FOBT annually.
- Sigmoidoscopy every 5 years.
- Annual FOBT and sigmoidoscopy every 5 years (combined testing is preferred to either test alone).
- Double-contrast barium enema every 5 years.
- Colonoscopy every 10 years.

**Osteoporosis screening.** Osteoporosis affects nearly 10 million Americans, many of whom are elderly women. Bone loss is usually asymptomatic until hip fracture or vertebral fracture results in pain, immobility, and/or disability. Approximately 50% of women and 25% of men aged 50 years or older will have a fracture attributable to osteoporosis in their lifetime. Risk factors such as sex, age,
body size, and ethnicity cannot be changed; others--such as premature menopause, a diet low in calcium and vitamin D, the use of glucocorticoids and anticonvulsants, smoking, and prolonged immobility--are best addressed early. Calcium and vitamin D supplementation is recommended for all women to help prevent bone loss. The recommended dosage of calcium is 1000 mg/d for premenopausal women and 1500 mg/d for postmenopausal women and elderly men. The recommended dosage of vitamin D is 400 to 1000 IU/d. Dietary sources are preferred, but because many persons cannot fulfill the daily recommendations through diet alone, supplementation is common.

The USPSTF found insufficient evidence to recommend for or against routine screening for osteoporosis with bone mineral density testing in asymptomatic postmenopausal women. The group recommends that all women be counseled about preventive measures, such as dietary calcium and vitamin D intake, weight-bearing exercise, and smoking cessation, and that elderly persons should also receive screening and counseling about prevention of falls.

A summary of USPSTF recommendations is given in the Table. A PLAN FOR THIS PATIENT Because the patient is relatively healthy and has a life expectancy of at least 10 years, she is a good candidate for the preventive strategies outlined above. A detailed history reveals that she received a tetanus booster 2 years earlier, has had yearly mammograms, and underwent a sigmoidoscopy at age 62 years. She agrees to receive the pneumococcal vaccine and to be vigilant about annual influenza vaccination. She schedules an appointment for a Pap smear because she has not had one in 2 years; she will be counseled about the possibility of discontinuing this screening between ages 65 and 70 years. She plans to continue her walking program and to take multivitamins that contain 400 to 800 IU of vitamin D and 1500 mg of supplemental calcium to prevent osteoporosis.
Glaucoma
There is insufficient evidence to recommend for or against routine screening. Effective screening is best performed by eye specialists. Consider referring high-risk patients (African Americans older than 40 years and whites older than 65 years).

Hearing impairment
Screen older adults for hearing impairment by periodically questioning them about their hearing; if abnormalities are detected, refer to a specialist. The optimal frequency of screening has not been determined.

Dementia
There is insufficient evidence to recommend for or against routine screening in asymptomatic persons. Remain alert for possible signs of declining cognitive function and problems performing daily activities; evaluate mental status in those patients.

Depression
There is insufficient evidence to recommend for or against the routine use of standardized questionnaires to screen for depression in asymptomatic primary care patients. Maintain a high index of suspicion in patients with chronic illnesses; those who have experienced a recent loss; and those with sleep disorders, chronic pain, or multiple unexplained somatic complaints.

Asymptomatic bacteriuria
There is insufficient evidence to recommend for or against routine screening with leukocyte esterase or nitrite testing in ambulatory elderly women or women with diabetes.

References: REFERENCES:

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