CHAPTER 3

Health Promotion and Disease Prevention

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Both short-stay patients and long-term residents in nursing homes deserve attention to traditional health promotion and disease prevention interventions appropriate to their age and circumstances. *Health promotion* includes those recommendations intended to optimize health status. *Disease prevention* includes screenings, chemoprophylaxis, and counseling to accomplish the following:

- Prevent the development of a disease (primary prevention)
- Detect a disease early in its course (secondary prevention)
- Treat an existing disease to deter or manage complications (tertiary prevention)

The focus of care for short-stay nursing home patients is subacute, rehabilitation, or palliative care. This may preclude the ordering of other age-specific screenings. In this case, counseling and postdischarge planning is appropriate for those returning to a higher level of care or to independent functioning in the community.

Long-term residents of nursing homes should have periodic reviews of their general health condition and at least annual screenings for conditions that do any of the following:

- Affect health and quality of life in this setting
- Have an acceptable cost-to-benefit ratio for treatment
- Respect the resident's wishes for diagnosis and treatment
- Have likelihood of successful outcomes with available treatments

HEALTH SCREENING

Several agencies recommend periodic health screening for early detection of disease. The following health screenings are appropriate for older adults in the nursing home *if treatment is feasible*. In making screening decisions the nurse practitioner must consider the patient's preferences, comorbid conditions,

competing causes of death, estimated life expectancy (which should be greater than 5 years) (Walter & Covinsky, 2001), and the sensitivity and specificity of each test. Ordering screenings with low sensitivities and specificities may result in false positive and false negative results. False positive tests may require additional costly tests and anxiety, while the consequence of a false negative result is delayed diagnosis.

Screenings For Female Residents

The nurse practitioner should consider the following health screenings for the older adult female resident.

- Cervical cancer screening—Screening females with Pap testing may be discontinued at age 65 years (according to the United States Preventive Services Task Force [USPSTF]) or age 70 (according to the American Cancer Society) for women with an intact uterus who have been sexually active and for women who have not been previously screened or for whom no records are available. Screening every 1–2 years should continue until there have been several consecutive normal screenings.
- Mammography and clinical breast examination (CBE)—Screening mammography should begin at age 40 years and be conducted every 1–2 years. There has been limited research on the effectiveness of screening for older women. The USPSTF suggests screening to age 70, the American College of Physicians to age 75, the American Geriatrics Society to age 85, and the American Cancer Society indefinitely. Risk of breast cancer increases with age, but available treatment options may not be appropriate or tolerated by some nursing home residents. There is no clinical evidence to recommend for or against clinical or self-examination of breasts for cancer screening.

Screening for Male Residents

The nurse practitioner should consider the following health screenings for the older adult male resident.

Prostate cancer screening—Males with at least a 10-year life expectancy may be offered screening following discussion of risks and benefits. Consider screening males at greatest risk, including African-Americans and those with a family history of the disease in father or brothers. The effectiveness of the prostate-specific antigen (PSA) tests and digital rectal examination (DRE) remain controversial because of the high incidence of false positive results and the anxiety and advanced screening required to confirm a diagnosis. Treatment complications may also severely affect quality of life (impotence, incontinence) for a cancer that is often slow growing.

Abdominal aortic aneurysm—The USPSTF recommends a one-time screening of males between the ages of 65–74 years with an abdominal computer tomography (CT) scan.

Screenings for All Residents

The nurse practitioner should consider the following health screenings for all older adult residents.

- Osteoporosis screening—If treatment will be considered, a dual-energy X-Ray absorptiometry (DEXA) scan to measure bone mineral density should be ordered for the postmenopausal female at age 65 or older. It should be ordered at younger ages for those receiving chronic doses of corti-

costeroids, anticonvulsants, aluminum-containing antacids, cyclosporine (immunosuppressant), or those with a history of any postmenopausal fracture, including hip fracture. Males with similar risk factors or low testosterone levels should also be screened at advanced ages and considered for treatment.

- Colorectal cancer screening—Older adults for whom treatment is feasible should begin screening at age 50 (age 40 with family history of colorectal cancer or personal history of adenomatous polyps). Screening may generally be discontinued by age 80. Select from the following list the test best tolerated by the patient:
  - Annual fecal occult blood test (FOBT) or fecal immunochemical test (FIT)
  - Annual FOBT or FIT and flexible sigmoidoscopy every 5–10 years
  - Annual FOBT or FIT and double-contrast barium enema every 5 years
  - Colonoscopy every 10 years
- Depression and anxiety screening—The initial and quarterly resident assessments of nursing home residents using the Minimum Data Set (MDS) evaluate depressive symptoms and behaviors as perceived by nursing staff. Because symptoms of depression and anxiety may be subtle in older adults, it is advisable for the nurse practitioner to schedule evaluation of these conditions after several weeks in the facility and every 6–12 months thereafter. Screening should include those with dementia and patients who are terminally ill (Greenberg, Lantz, Likourezos, Burack, Chichin, & Carter, 2004). Several valid and reliable tools are available, including the Geriatric Depression Scales (GDS 30, GDS 15, GDS 12, GDS 5), the Cornell Scale for Depression in Dementia, and the Zung Anxiety Self-Assessment Scale. Early recognition and treatment of depression and anxiety may improve quality of life, prevent increased morbidity, and improve palliative care efforts.
- Dementia screening—Although a large proportion of nursing home residents have an admitting diagnosis of dementia, others enter a facility with cognition intact, with benign senile forgetfulness, or with mild cognitive impairment, not yet appropriate for medication intervention. The nurse practitioner should continue periodic screening of patients for changes in cognitive function with use of the Folstein Mini Mental Status Examination and clock test. Early recognition and treatment may slow the progression of some dementias.
- Dental health—Evaluate teeth, gums, and dentures on admission and at least annually thereafter. Make referrals for dental care.
- Foot care—Evaluate feet and shoes on admission and at least annually thereafter. Lower extremities of diabetics should be examined at each visit. Make referrals for podiatry.
- Hearing—Because hearing loss can affect ability to function, safety, and social interaction, screen on admission and annually thereafter. In addition to reviewing data collected by nursing staff as part of a Minimum Data Set (MDS) evaluation, the nurse practitioner should ask each resident about any hearing problems and perform an otoscope examination for abnormalities and cerumen impaction.

- Vision—Because vision loss can affect ability to function, safety, and social interaction, it should be evaluated on admission and annually thereafter. In addition to reviewing data collected by nursing staff as part of the MDS evaluation, the nurse practitioner should ask each resident about vision problems. Handheld or wall vision screening charts may be used to collect objective data. Eye examination by an ophthalmologist or optometrist should be ordered annually beginning with the diagnosis of type 2 diabetes mellitus, and beginning 5 years after the diagnosis of type 1 diabetes mellitus. Screen for glaucoma in African-American residents or in residents with positive family history, severe myopia, or diabetes.

- Renal function—Because of the large number of drugs taken by nursing home residents, the majority of which are eliminated through the kidneys, it is advisable to evaluate renal function annually. Also, screen renal function annually beginning with the diagnosis of type 2 diabetes mellitus and beginning 5 years after the diagnosis of type 1 diabetes mellitus. Assess function by testing for microalbuminuria, and estimate glomerular filtration rate with blood creatinine levels.

- Peripheral neuropathy—Screen peripheral sensation annually beginning with the diagnosis of type 2 diabetes mellitus and beginning 5 years after the diagnosis of type 1 diabetes mellitus. Assess temperature sensation, vibratory sense (128 Hz tuning fork), and touch using a pinprick technique or a 10-g monofilament.

- Screen for hypertension on admission, review blood pressures with each visit, and evaluate blood pressures at least annually in the normotensive resident.

- Screen for weight on admission, and review monthly weight records for changes from appropriate baseline that may require interventions.

- Because of subtle or atypical disease presentations in the elderly, additional laboratory tests may be appropriate in annual screenings, including complete blood count, serum electrolytes, thyroid function, fasting blood glucose, and a lipid panel.

- Fall risk—Review fall risk and fall history on admission and periodically thereafter. If positive risk factors or history are present in the ambulatory resident, then review medications, evaluate gait and balance (Get Up and Go test), orthostasis, neuromuscular, and cardiovascular status.

CHEMOPROPHYLAXIS

Unless contraindicated by history of vaccine-associated allergy, anaphylaxis, or Guillain-Barre syndrome; severe acute illness, or patient refusal, the following immunizations and medications are recommended for all older adults. (Guidelines change frequently and the most current information can be found on the Web sites listed at the end of this chapter.)

- Annual influenza vaccination of residents *and staff*

- Access to adequate supplies of antiviral drugs for use in an influenza outbreak as treatment or prophylaxis, including the neuraminidase inhibitors, oseltamivir and zanamivir, which are currently effective again influenza A and B. Influenza A strains are becoming resistant to the adamantines (amantadine and rimantadine) and should not be used without veri-

fication of effectiveness each year (CDC, 2006).

- All residents should be screened for tuberculosis (TB) on admission. The American Geriatrics Association (2003) recommends two-step testing with purified protein derivative (PPD) given 1–3 weeks apart. Residents who react positively to either the first or second test (a phenomenon known as *boosting*) should be further evaluated with chest X-ray for active or latent disease. Residents who do not react to either step are susceptible to the development of disease on exposure or they may be anergic. Residents with negative results should be rescreened with single-step testing according to facility and state regulations. Screening should also occur during facility, local, or regional outbreaks. All residents should also be screened carefully for signs and symptoms of active disease. *All staff should also be screened for TB upon employment and annually thereafter*.
- Pneumococcal polysaccharide vaccine:
  - Administer at age 65 or later if original vaccination is uncertain.
  - Five years later revaccinate all persons at high risk for fatal infections or rapid antibody loss (e.g., renal disease).
  - Give a second dose if the first was received before the age of 65 and five or more years has elapsed (ACIP, 2005).
- Tetanus/diphtheria (Td) vaccine—Give a booster every 10 years following the primary series. For wound management, a booster dose may be needed in 5 years (ACIP, 2005).
- A Food and Drug Administration advisory panel in January 2006 recommended approval of a herpes zoster vaccine, Zostavax, for adults 60 years of age and older for the prevention of outbreaks and for the prevention or lessening of the severity of postherpetic neuralgia. Information on final approval is pending at time of publication.
- Chemoprophylaxis with aspirin (81–325 mg) daily for the primary prevention of cardiovascular events should also be considered, unless contraindicated by existing conditions.
- Vitamin and mineral supplements for health promotion and disease prevention should be ordered on an individual basis.

HEALTH COUNSELING

In the nursing home setting, counseling for health promotion and disease prevention must include not only the patient, but also the staff. Patients should be assessed for readiness for behavior change and assisted to establish realistic goals. Counseling should include educational materials appropriate to the resident's age and condition, as well as ongoing support and monitoring as would be done in any primary care setting. The following are possible areas for health counseling of nursing home residents:

- Fall prevention strategies
- Weight management
- Physical activity and exercise
- Adherence to dietary requirements
- Smoking cessation

- Social interaction
- Development and review of an advance directive

Similarly, health promotion and disease prevention in nursing home settings requires staff cooperation to assure the health and safety of residents. Education and counseling for staff should include the following:

- Fall prevention strategies
- Infection control policies
- Drug safety
- Prevention and aggressive treatment of pressure ulcers

WEB SITES

- Agency for Healthcare Research and Quality guidelines (USPSTF)—www.ahrq.gov/clinic/uspstfix.htm
- American Academy of Family Physicians (AAFP)—www.aafp.org/exam.xml
- American Cancer Society—www.cancer.org
- American Medical Directors Association—www.amda.com
- American Geriatrics Society (AGS)—www.americangeriatrics.org/products/positionpapers
- Centers for Disease Control and Prevention, health information for older adults—www.cdc.gov/aging
- Advisory Committee on Immunization Practices (ACIP) at Immunization Action Coalition (IAC)—www.immunize.org/acip
- National Guideline Clearinghouse—http:www.ngc.gov

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