



FIGURE 11-17 Algorithm depicting assessment and management of falls in older patients. HR, heart rate. (From American Geriatrics Society and British Geriatrics Society: *Clinical Practice Guideline for the Prevention of Falls in Older Persons*. New York, American Geriatric Society, 2010.)

sensory, nervous system, brain, cardiovascular, and musculoskeletal contributors. Interventions depend on the factors identified but often include medication adjustment, physical therapy, and home modifications. Meta-analyses of strategies to reduce the risk of falls have found that multifactorial risk assessment and management as well as individually targeted therapeutic exercise are effective. Supplementation with vitamin D at 800 IU daily may also help reduce falls, especially in older persons with low vitamin D levels.

Persistent Pain Pain from multiple sources is the most common symptom reported by older adults in primary care settings and is also common in acute-care, long-term-care, and palliative-care settings. Acute pain and cancer pain are beyond the scope of this chapter. Persistent pain results in restricted activity, depression, sleep disorders, and social isolation and increases the risk of adverse events due to medication. The most common causes of persistent pain are musculoskeletal problems, but neuropathic pain and ischemic pain occur frequently, and multiple concurrent causes are often found. Alterations in mechanical and structural elements of the skeleton commonly lead to secondary problems in other parts of the body, especially soft tissue or myofascial components. A structured history should elicit information about the quality, severity, and temporal patterns of pain. Physical examination should focus on the back and joints, on trigger points and periarticular areas, and on possible evidence of radicular neurologic patterns and peripheral vascular disease. Pharmacologic management should follow standard progressions, as recommended by the World Health Organization (Chap. 18), and adverse effects on the CNS, which are especially likely in this population, must be monitored. For persistent pain, regular analgesic schedules are appropriate and should

be combined with nonpharmacologic approaches such as splints, physical exercise, heat, and other modalities. A variety of adjuvant analgesics such as antidepressants and anticonvulsants may be used; again, however, effects on reaction time and alertness may be dose limiting, especially in older persons with cognitive impairment. Joint or soft tissue injections may be helpful. Education of the patient and mutually agreed-upon goal setting are important since pain usually is not fully eliminated but rather is controlled to a tolerable level that maximizes function while minimizing adverse effects.

Urinary Incontinence Urinary incontinence—the involuntary leakage of urine—is highly prevalent among older persons (especially women) and has a profound negative impact on quality of life. Approximately 50% of American women will experience some form of urinary incontinence over a lifetime. Increasing age, white race, childbirth, obesity, and medical comorbidity are all risk factors for urinary incontinence. The three main clinical forms of urinary incontinence are as follows: (1) *Stress* incontinence is the failure of the sphincteric mechanism to remain closed when there is a sudden increase in intraabdominal pressure, such as a cough or sneeze. In women this condition is due to insufficient strength of the pelvic floor muscles, while in men it is almost exclusively secondary to prostate surgery. (2) *Urge* incontinence is the loss of urine accompanied by a sudden sensation of need to urinate and inability to control it and is due to detrusor muscle overactivity (lack of inhibition) caused by loss of neurologic control or local irritation. (3) *Overflow* incontinence is characterized by urinary dribbling, either constantly or for some period after urination. This condition is due to impaired detrusor contractility (due usually to denervation, for example, in