

# Polypharmacy and Symptom Management in Older Adults

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The following is an excerpt from Chapter 1 of the 2010 Oncology Nursing Society book, *A Guide to Oncology Symptom Management* (pp. 1–14), edited by Carlton Brown, RN, PhD, AOCN®.

In 2006, adults aged 65 years and older accounted for more than 12% of the total U.S. population (Federal Interagency Forum on Aging-Related Statistics, 2008). It is projected that by the year 2030, 20% of the U.S. population will be aged 65 years and older as the baby boomer generation ages (Federal Interagency Forum on Aging-Related Statistics). In addition, the group of older adults aged 85 years and older is projected to grow rapidly after 2030 when the baby boomers enter the oldest-old population group (Federal Interagency Forum on Aging-Related Statistics). Older adults are one of the most vulnerable and rapidly growing populations with cancer. Many issues are unique to the aging population, including the changes of normal aging; common health issues in the aging population such as chronic illnesses, frailty, and polypharmacy; and complex symptom relationships, including groups of symptoms attributed to aging and chronic illness. This column will focus on the issue of polypharmacy because this can become a safety issue in the older adult.

## Overview of Normal Aging

Most individuals who are aged 65 years and older experience normal physiologic changes that may have an effect on the manifestation of cancer-related symptoms and their treatment. Table 1-1 includes normal physiologic changes of aging and considerations for symptom assessment and management in older

adults. Aging skin has thinner layers because of the loss of cutaneous and subcutaneous tissue, fewer blood vessels and nerves, and less elasticity. Bone loss is a common occurrence in aging individuals and may occur as a result of altered calcium metabolism. In addition, loss of soft tissue function, including muscle atrophy and slowing of the nervous system, may affect overall physical functioning and independence. Sensory loss and altered cognitive functioning may have an effect on overall functioning and successful pharmacologic and nonpharmacologic symptom management modalities.

An altered hematopoietic system in the older adult may lead to a delayed response of bone marrow to therapy-induced bone marrow suppression and may increase the risk of infection and anemia (Tabloski, 2006). In addition, the older adult may have an altered production and metabolism of intrinsic factor and iron. Alterations in the cardiopulmonary systems may increase the adverse effects of symptom management medications. Alterations in the gastrointestinal system may affect multiple systems, such as vitamins D and B<sub>12</sub> and folic acid absorption, bowel elimination, and hepatic metabolism of pharmacologic agents (Tabloski). Changes in urinary elimina-

tion may have a major effect on drug metabolism via the kidneys, hydration status, and urinary continence. Cognitive changes usually are subtle and affect short-term memory acuity.

## Polypharmacy

The use of multiple medications to treat health-related conditions generally is considered polypharmacy; however, multiple definitions are used in the literature (Fulton & Allen, 2005). Williams (2002) reported that an estimated 61% of individuals aged 65 years and older take at least one medication. In addition, Williams reported that most of these older individuals take an average of 3–5 prescription medications per day, not including over-the-counter and herbal medications. Many factors contribute to the cause of polypharmacy, including (a) multiple chronic conditions, (b) age-related physiologic changes, (c) lack of knowledge about the use of multiple medications, (d) increased use of complementary therapies, (e) self-medication with over-the-counter medications, and (f) use of multiple healthcare providers (Fulton & Allen). The issue of polypharmacy has major implications for the use of pharmacologic methods of symptom management in older adults.

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