

# HOSPITAL PHYSICIAN®

## FAMILY MEDICINE BOARD REVIEW MANUAL

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The *Hospital Physician Family Medicine Board Review Manual* is a study guide for residents and practicing physicians preparing for board examinations in family medicine. Each manual reviews a topic essential to current practice in the specialty of family medicine.

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## Common Health Care Issues for Geriatric Patients

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# Common Health Care Issues for Geriatric Patients

Pierre A. Morris, MD

## INTRODUCTION

The geriatric population has increased dramatically during the past 100 years. According to government data, 12.4% of the U.S. population (136.3 million people) were aged 65 or older in 2005.<sup>1</sup> If the current trend continues, the number of persons aged 65 or older will more than double during the next 30 years.<sup>2</sup> As a result, family physicians need to be knowledgeable about the needs of geriatric patients and efficient in the evaluation and management of health care issues common to this patient population.<sup>2</sup> This manual focuses on 4 geriatric health care problems commonly seen in the family medicine setting: osteoporosis, pressure ulcers, dementia, and complications from polypharmacy.


## OSTEOPOROSIS

Based on 2002 data, the number of persons with osteoporosis is expected to exceed 14 million by 2020.<sup>3</sup> Osteoporosis can lead to loss of height, thoracic kyphosis, and increased risk for bone fractures. Hip fractures remain a serious complication, with an 18% mortality rate 6 months after surgery in those older than 65.<sup>4</sup> The predictors of death include fracture site, a high number of complications, and poor baseline mental status.<sup>5</sup>

Risk factors for the development of osteoporosis are shown in **Table 1**. Age is an important factor in the relationship between low bone mineral density (BMD) and absolute risk for fracture.<sup>5</sup> BMD increases progressively in men and women until approximately age 30, after which BMD and bone strength both begin to decrease. Postmenopausal women aged 50 or older experience more rapid loss of BMD than men at this age. Although a decreased testosterone level has skeletal consequences, men generally have greater BMD than women and thus the skeletal effects are far less dramatic. By age 65 to 70, both men and women lose BMD at similar rates.<sup>6</sup> Additional risk factors for osteoporosis include family or personal history of fracture in adulthood, race (fair skinned), fine bone structure and low body weight,

timing of menopause (normal or early), lifestyle factors (eg, current smoking), and use of certain medications.

## CASE 1 PRESENTATION

 A 76-year-old woman presents for an annual physical examination. The patient's medical history is significant for hypertension, well controlled with lisinopril, and chronic back pain, for which she takes ibuprofen; she takes no other medications or supplements. The patient has a 35 pack-year history of cigarette smoking and rarely consumes alcohol. She reports a sedentary lifestyle because of increasingly severe chronic back pain. Review of systems is unremarkable.

Physical examination reveals a thin woman with normal vital signs. Significant tenderness of her mid-thoracic spine and severe thoracic kyphosis are noted. Pelvic examination is normal. The remaining physical examination is unremarkable.

A serum chemistry panel reveals a normal complete blood count and normal albumin, calcium, and phosphorous levels; thyroid-stimulating hormone (TSH) level is decreased at 0.002  $\mu$ IU/mL. A plain radiograph of the thoracic spine shows osteopenia and a compression fracture of the sixth thoracic vertebra. Based on these imaging findings, a diagnosis of osteoporosis is strongly suspected.

- **How is osteoporosis defined?**
- **What additional tests can assess this patient's risk for future fractures?**

The World Health Organization defines osteoporosis as a BMD 2.5 or more standard deviations (SDs) below the mean for white females and osteopenia as a BMD between 1 and 2.5 SDs below the mean for white females.<sup>7</sup> Loss of BMD is not evident on a plain radiograph until the loss is 40% or greater, and therefore, plain radiography is not recommended for screening. Dual energy x-ray absorptiometry (DEXA) imaging is recommended by the U.S. Preventive Services Task Force (USPSTF) as the best screening tool to assess BMD<sup>8</sup>; it also is associated with less radiation exposure than radiography. DEXA results are reported as a *T score*; a T score above  $-1$  corresponds to a BMD that is not more than 1 SD below