

Osteoporosis - The Importance of Screening

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Examination

- 1. Regarding the composition of bone in the average adult, inorganic matter accounts for about**
 - a. 40% to 50% of total bone volume
 - b. 5% to 10% of total bone volume
 - c. 25% to 30% of total bone volume
 - d. 60% to 70% of total bone volume
 - e. 80% to 90% of total bone volume

- 2. Regarding the principal cells of bone construction and remodeling, the large cells with multiple nuclei that are associated with bone resorption are called the**
 - a. Osteoblasts
 - b. Osteoclasts
 - c. Osteocytes
 - d. Osteons
 - e. Osteophytes

- 3. The hormone that increases osteoclastic activity and decreases the kidney clearance of calcium is**
 - a. parathyroid hormone
 - b. calcitonin
 - c. vitamin D
 - d. 1,25-dihydroxy-vitamin D
 - e. estrogen

- 4. Regarding vitamin D,**
 - a. it decreases bone resorption
 - b. it increases the renal clearance of calcium
 - c. it is really a hormone rather than a vitamin
 - d. it helps decrease the absorption of calcium from the intestine
 - e. the active form works with calcitonin on bone

- 5. The shaft of long bones is covered by**
 - a. the periosteum
 - b. compact bone
 - c. the endosteum
 - d. cancellous bone
 - e. yellow marrow

- 6. Bone that consists of irregular anastomosing bars that is porous and loosely constructed, like a sponge, is called**
 - a. red marrow
 - b. compact bone
 - c. endosteum
 - d. cancellous bone
 - e. yellow marrow

7. By the age of _____ the largest amount of bone mass in the body has developed for most people.
- 50 to 55
 - 20 to 25
 - 45 to 50
 - 40 to 45
 - 30 to 35
8. The substance that facilitates the absorption of calcium from the intestine into the bloodstream, that decreases the urinary excretion of calcium, and inhibits the loss of calcium from bone is
- parathyroid hormone
 - phosphate
 - vitamin D
 - 1,25-dihydroxy-vitamin D
 - estrogen
9. Without treatment, women can lose up to _____ of their bone mass in the first 5 to 7 years after menopause.
- 10%
 - 20%
 - 30%
 - 35%
 - 25%
10. The most common bones for fracture due to osteoporosis are the
- bones of the wrist
 - heads of the femurs
 - vertebral bodies in the spine
 - phalanges
 - ribs
11. Factors that can increase the risk for developing osteoporosis include all of the following EXCEPT
- menopause
 - family history of broken bones in older relatives
 - smoking
 - obesity
 - Asian descent
12. The primary problem that leads to the earlier development of osteoporosis in the disorder of the female athletic triad is the
- lack of ovulation
 - increase in estrogen levels
 - lack of calcium absorption from the intestines
 - increase in calcium clearance by the kidneys
 - decrease in production of the active form of vitamin D
13. The most common finding as osteoporosis is developing is
- backache
 - a fracture
 - loss of height
 - no symptoms
 - Dowager's hump
14. Which of the following statements is true?

- a. Quantitative Computerized Tomography produces images of the vertebral bodies and can be relied upon as a basis for treatment because of its fairly good precision.
 - b. Quantitative Computerized Tomography is relatively unreliable for following bone density changes post treatment.
 - c. Quantitative Computerized Tomography can also measure femoral neck density.
 - d. Ultrasound can image bone density in such bones as the patella, tibia, and radius.
 - e. Ultrasound is a reliable screening test for determining changes in bone density and results for a given individual are fairly uniform.
15. Dual Energy X-Ray Absorptiometry (DEXA) scanning is currently the procedure of choice for the medical community for assessing and diagnosing osteoporosis for all of the following reasons EXCEPT
- a. It uses sound attenuation and speed of transmission through bone
 - b. It has a high degree of precision for the spine.
 - c. It measures both the lumbar spine and femoral neck.
 - d. It allows for standardization of data based on age, weight, height, and ethnic background.
 - e. It has a high degree of precision for the femoral neck.
16. The precision of DEXA scanning of the spine is around
- a. 5%
 - b. 4%
 - c. 3%
 - d. 2%
 - e. 1%
17. Normal x-rays are not sensitive enough in detecting bone loss until at least ____ of bone mass has been lost.
- a. 10%
 - b. 30%
 - c. 45%
 - d. 50%
 - e. 55%
18. By the year 2000, there were over _____ in the United States over the age of 50.
- a. 100 million people
 - b. 60 million people
 - c. 50 million people
 - d. 75 million people
 - e. 90 million people
19. Treatment of osteoporosis may consist of all of the following EXCEPT
- a. vitamin D
 - b. calcium supplements
 - c. hormone replacement therapy
 - d. an exercise program
 - e. parathyroid hormone
20. Regarding hip fractures with osteoporosis, in most studies, between _____ of patients die due to the fracture or its complications within three months.
- a. 1% and 5%
 - b. 5% and 10%
 - c. 10% and 20%
 - d. 20% and 30%
 - e. 30% and 40%



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