CHAPTER ONE: A PUBLIC HEALTH APPROACH - PROMOTE BONE HEALTH

1. Physical activity, calcium and vitamin ——— intake are now known to be major contributors to bone health for individuals of all ages.
   A E B D C K D A

2. There are roughly ——— million Americans over age 50 with osteoporosis.
   A 10 B 7 C 4 D 2

3. The ——— concluded that racial and ethnic minorities tend to receive lower-quality health care than does the majority population.
   A FDA B HRSA C Institute of Medicine D CDC

4. Most bone disease does not strike until people are on Medicare.
   A True B False

5. A group was formed by the Surgeon General for this report with members of the Agency for Healthcare ——— and Quality (AHRQ).
   A Refinement B Reconstruction C Regulation D Research

CHAPTER TWO: THE BASICS OF BONE HEALTH AND DISEASE

6. The skeleton is also a storehouse for two minerals, calcium and:
   A phosphorus B sodium C iron D iodine

7. To provide the body with a frame that is both light and strong, bones are:
   A dense throughout B hollow C dense only centrally D always very vascular

8. Both modeling and remodeling involve the cells that form bone called osteoblasts and the cells that break down bone, called:
   A osteotracts B osteoridges C osteoclasts D osteolytics

9. Regarding bone modeling and remodeling, the activation and resorption phases are followed by a brief ——— phase.
   A static B formation C osteolytic D reversal

10. Some elements of bone health are determined largely by genes, and errors in signaling by these genes can result in birth defects.
    A True B False

11. Calcitriol is the hormone produced from vitamin:
    A D B A C C D B

12. A deficiency of the growth hormone IGF - ——— system can inhibit growth, leading to short stature.
    A 1 B 2 C 3 D 4

13. Stimulation of bone formation cannot reverse skeletal fragility.
    A True B False

14. The osteoblastic cells produce macrophage ——— stimulating factor (M-CSF).
    A calcitonin B calcitriol C colony D calcimimetic agents

CHAPTER THREE: DISEASES OF BONE

15. The WHO has defined osteoporosis as a bone mineral density value more than ——— below the mean for normal young White women.
    A 2 standard deviations B 2.5 standard deviations C 3 standard deviations D 3.5 standard deviations

16. Juvenile osteoporosis affects previously healthy children between the ages of 8 and:
    A 10 B 12 C 13 D 14

17. The rapid phase of bone loss alone in women results in losses of ——— percent of cortical bone.
    A 3 B 50-60 C 5-10 D 22-28

18. ——— osteoporosis refers to young and older adults who get osteoporosis as a byproduct of another condition or medication use.
    A Compounding B Secondary C Induced D Tertiary

19. Patients with cystic fibrosis have ——— bone density and increased fracture rates.
    A markedly decreased B markedly increased C slightly decreased D slightly increased

20. One study found that ——— of women with systemic lupus erythematosus reported at least one fracture since the onset of disease.
    A 5 percent B 24 percent C 12 percent D 3 percent
21. Glucocorticoid ——— osteoporosis (GIO) is by far the most common form of osteoporosis produced by drug treatment.
A idiopathic B inhibitor C isotropic D induced

22. Paget's disease is the ——— most common bone disease after osteoporosis.
A fifth B third C second D fourth

23. Osteopetrosis (——— bone disease), is more or less the opposite of osteoporosis.
A marble B glass C iron D granite

24. Bone destruction occurs in the vast majority (over ——— percent) of patients with multiple myeloma.
A 55 B 80 C 62 D 95

25. Oral bone, like the rest of the skeleton, comprises both trabecular and cortical bone.
A True B False

CHAPTER FOUR: THE FREQUENCY OF BONE DISEASE

26. An estimated ——— million individuals suffer a fracture caused by bone disease annually.
A .75 B 1 C 1.25 D 1.5

27. 17 percent of White women and 6 percent of White men age ——— will suffer a hip fracture sometime during the remainder of their life.
A 80 and older B 70 and older C 60 and older D 50 and older

28. X-ray readings suggest that an estimated ——— of postmenopausal White women have at least one moderately deformed vertebra.
A 12 percent B 18 percent C 20-25 percent D 3 percent

29. Spine fractures among Asians are ——— as they are in Whites.
A much less frequent B about as frequent C 3 times as frequent D 5 times as frequent

30. Wrist and hip fracture rates in the United Kingdom are around ——— percent lower than in the United States.
A 10 B 20 C 30 D 45

31. White women lose ——— of their hip BMD (bone mineral density) between the ages of 20 and 80.
A one-third B one-fourth C one-fifth D one-ninth

32. The Paget's Foundation estimates that about ——— people in the United States have osteopetrosis.
A 1,400 B 14,000 C 140,000 D 7,000

CHAPTER FIVE: THE BURDEN OF BONE DISEASE

33. In one study, approximately ——— percent of the hip fracture patients died within a year of the fracture.
A 5 B 10 C 15 D 20

34. Only about ——— of patients suffering a wrist fracture are hospitalized.
A one-fourth B one-fifth C one-eighth D one-ninth

35. Hip fractures occur later in life (around age ——— on average) and usually result in permanent disability.
A 80 B 75 C 70 D 65

36. ——— of hip fracture patients do not return to the level of function they enjoyed before the fracture.
A Two-thirds B One-third C One-half D One-fifth

37. When estimating quality - ——— life years (QALYs), each year of life is assigned a preference weight.
A algorithm B attainment C adjusted D assessment

38. Relatively healthy survivors of a hip fracture report a ——— percent reduction in quality of life in the first 12 months.
A 12 B 52 C 33 D 41

A True B False

CHAPTER SIX: DETERMINANTS OF BONE HEALTH

40. Studies indicate that genetic factors are responsible for determining ——— percent of bone mass and other qualitative aspects of bone.
A 10-25 B 30-35 C 50-90 D 35-48
41. Regarding the life span approach introduced in this chapter, the “———” phase occurs during young to middle adulthood.
   A mid-life bone loss  B maintenance  C growth  D frailty

42. After age 40–50, both sexes may lose a total of ——— percent of bone.
   A 5  B 25  C 15  D 10

43. The Institute of Medicine recommends 210 mg of calcium per day in infants and ——— mg per day in those between 9–18 years of age.
   A 700  B 900  C 1,100  D 1,300

44. The main source of vitamin D is:
   A green vegetables  B fruit  C sunlight  D milk

45. The Institute of Medicine has established a tolerable upper limit for dietary vitamin D intake of ——— IU per day.
   A 500  B 1,000  C 1,500  D 2,000

46. Trial studies concluded that vitamin D supplements reduced the risk of spine fractures by approximately ——— percent.
   A 12  B 24  C 37  D 4

47. About ——— percent of the body’s phosphorus and 60 percent of the body’s magnesium are found in the skeleton.
   A 85  B 62  C 44  D 31

48. Bone mass is responsive to the mechanical loads placed on the skeleton.
   A True  B False

49. Only ——— of those age 12–21 exercise vigorously on a regular basis and 25 percent report no exercise at all.
   A 30 percent  B half  C 20 percent  D 40 percent

50. Only ——— percent of elementary schools provide physical education on a daily basis.
   A 24  B 8  C 43  D 65

51. The period of puberty represents a 2- to 3-year window when, on average, ——— percent of total body adult bone mass is gained.
   A 15  B 25–30  C 35–42  D 50

52. On average, ——— percent of muscle mass is lost per decade after age 30 and this loss may accelerate after age 65.
   A 2  B 3  C 4  D 5

53. Falls account for ——— percent of visits to emergency room visits and 6 percent of urgent hospitalizations in the elderly.
   A 3  B 7  C 10  D 14

54. Bilateral oophorectomy in postmenopausal women results in a 54 percent increase in fractures of the hip, spine, and:
   A wrist  B ankle  C elbow  D feet

CHAPTER SEVEN: LIFESTYLE APPROACHES TO PROMOTE BONE HEALTH

55. Dietary Guidelines for Americans urge individuals to eat 2–3 servings of ——— or other calcium-rich foods each day.
   A fruits  B grain  C dairy  D vegetables

56. Most Americans above age ——— on average do not consume recommended levels of calcium.
   A 9  B 12  C 15  D 21

57. Regarding vitamin D intake, it is recommended that those age 50–70 take ——— IU per day.
   A 100  B 200  C 300  D 400

58. ——— stimulates the formation of new bone.
   A Iron  B Copper  C Fluoride  D Potassium

59. People who smoke need ——— mg more Vitamin C than the RDA.
   A 35  B 30  C 25  D 20

60. The foundation of a good daily physical activity regimen for adults involves at least ——— minutes of moderate physical activity.
   A 15  B 30  C 45  D 60
61. Those who have been inactive should begin with —— per day and a pre-exercise evaluation by a physician may be advised.
   A 1-5 minutes of activity       B 5-10 minutes of activity       C 15-20 minutes of activity       D 30 minutes of activity

62. Weight-bearing/low impact activities for adults include all the following except:
   A rowing machines     B water aerobics     C yoga       D stair-step machines

63. Those who have fallen one or more times should ask their health care providers about the need for a test of their balance/ability to walk.
   A True       B False

CHAPTER EIGHT: ASSESSING THE RISK OF BONE DISEASE AND FRACTURE

64. Billions of dollars are spent —— to treat bone-disease-related fractures that often result in reduced function and quality of life.
   A every 2 years       B every four years       C each decade       D each year

65. A family history of bone disease warrants further assessment for osteoporosis or other bone diseases.
   A True       B False

66. High serum calcium concentration in an otherwise healthy patient most often indicates primary:
   A lactose intolerance       B gastroparesis       C hyperparathyroidism       D pancreatitis

67. The Osteoporosis Risk Assessment —— (ORAI) is a risk-factor assessment tool for bone health.
   A Instructor       B Illuminator       C Instrument       D Indicator

68. Regarding the risk factors for hip fracture among elderly white women, a history of hyperthyroidism increases the risk by:
   A 50%       B 60%       C 70%       D 80%

69. Regarding the risk factors for hip fracture among elderly white women, a history of any fracture since age 50 increases the risk by:
   A 50%       B 60%       C 70%       D 80%

70. The U.S. Preventive Services Task —— (USPSTF) recommends bone density screening for all women age 65 and older.
   A for Families       B Force       C Foundation       D Firm

71. ——DXA (pDXA) uses scaled down DXA instrumentation to measure sites such as the forearm, heel, or finger.
   A Pan-       B Proportional       C Precision       D Peripheral

72. —— ultrasound (QUS) uses sound waves to assess bone mass and thus does not use radiation.
   A Qualitative       B Quip       C Quick-wave       D Quantitative

73. One study found that a drug that reduced bone resorption by 70% would decrease the risk of non-spine fractures by ——%.
   A 30       B 40       C 50       D 60

CHAPTER NINE: PREVENTION AND TREATMENT FOR . . . BONE DISEASES

74. In a large study of older adults, —— hip or wrist fracture patients did not receive any treatment (testing or therapy) after the fracture.
   A 2 out of 5       B 3 out of 5       C 4 out of 5       D 1 out of 5

75. Vitamin D is synthesized in the skin through sunlight exposure.
   A True       B False

76. —— represent(s) perhaps the biggest threat to the bone health and the functional independence of older individuals.
   A Falls       B Low dietary vitamin D       C Low dietary calcium       D Lactose intolerance

77. One form of drug therapy involves the use of antiresorptive agents, which are drugs that —— bone loss.
   A reverse       B reduce       C mimic       D magnify

78. Another form of drug therapy involves the use of anabolic agents, which are drugs that —— bone.
   A build       B break down       C seal exterior       D affect only vertebrae

79. Studies have found that risedronate increases spine BMD by approximately —— percent.
   A 2       B 8       C 12       D 5

80. Studies have shown that postmenopausal hormone therapy has an effect on BMD in the spine (—— percent).
   A 3.5-7       B 10       C 1.2-2       D 15
81. Simulon B Segmental C Sheath D Selective

82. Human recombinant PTH (1-34), known as teriparatide, was developed in the:
A 1960s B 1970s C 1980s D 1990s

83. Spine fractures usually occur in the ——— section of the back as a result of minor strain, such as lifting a grocery bag.
A upper B upper or lower C middle or lower D lower

84. ——— disease of bone is localized, excessive bone remodeling that leads to increased bone resorption and formation.
A Osteogenesis B Jonet’s C Paget’s D Pirelli’s

85. The largest influx of calcium into the fetal skeleton occurs during the ——— trimester of human pregnancy.
A first B first ½ of the second C second ½ of the second D last

86. Children between 1 and 3 years old should get ——— mg per day of calcium.
A 500 B 600 C 300 D 200

87. Calcium intake should be ——— mg per day during early and middle adulthood.
A 400 B 1,000 C 1,200 D 800

88. Sunscreen with an SPF above ——— will block the ultraviolet B radiation that stimulates vitamin D production.
A eight B four C three D six

89. In short-term studies, low protein intakes have been shown to result in ——— calcium absorption.
A slight increased B no change to C decreased D marked increased

90. Excessive alcohol and tobacco use increases the risk for fracture.
A True B False

91. The Osteoporosis ——— Tool (OST) has low specificity.
A Safety B Sure-Test C Self-Assessment D Sign

92. According to the report, measuring bone density at the hip by ——— is the best predictor of hip fracture.
A TNA B DXA C ultrasound D QCT

93. The National Guideline ——— (NGC) serves as a comprehensive source for credible guidelines related to bone disease.
A Clearinghouse B Consortium C Committee D Congressional (Agency)

94. The ——— Care of Vulnerable Elders (ACOVE) project developed a strategy for physicians to help improve bone health in patients.
A Administrative B Assessing C Assigning D Applicable

95. Medical groups can use rapid-cycle improvement techniques (to improve patient care) such as the “———, Do, Study, Act” (PDSA) cycle.
A Participate B Program C Plan D Pre-define

96. Under the Balanced Budget Act of 1997, Medicare must cover BMD testing every ——— for people at risk of developing osteoporosis.
A 3 years B 6 months C 2 years D year

97. The Medicare ——— Act (MMA) was signed into law in 2003.
A Mobility B Mandate C Mesia D Modernization

98. The National Committee for Quality ——— (NCQA) is an oversight organization that seeks to improve osteoporosis care.
A Assessment B Alertness C Activities D Assurance

99. Regarding ACOVE-2, quality indicator 2 has to do with:
A treatment of osteoporosis B prevention C smoking cessation D pharmacologic therapy

100. The National Health Care Purchasing Institute identified ——— potential provider incentive models for improving quality of care.
A 11 B 9 C 4 D 17
101. Men are a population of concern for osteoporosis, as they account for roughly ______ % of all hip fractures.
A 10  B 20  C 30  D 40

CHAPTER TWELVE: POPULATION-BASED APPROACHES . . .

102. The Task Force on Community Preventive Services found that community-wide campaigns are recommended based on:
A 10 qualifying studies  B 4 qualifying studies  C 6 qualifying studies  D 8 qualifying studies

103. The Task Force on Community Preventive Services found that smoking bans and restrictions are recommended based on:
A 4 qualifying studies  B 10 qualifying studies  C 6 qualifying studies  D 8 qualifying studies

104. Regarding population-based interventions, social marketing involves the “four Ps” including all the following except:
A product  B price  C plot  D promotion

105. Several surveys have demonstrated that consumers take action as a result of direct to consumer advertising (DTCA).
A True  B False

106. The National Bone Health Campaign (NBHC) is a multiyear national campaign created in ______ by congressional mandate.

107. The National Asian Women’s Health ______’s (NAWHO) program raises osteoporosis awareness among Asian-American women.
A Operation  B Office  C Order  D Organization

108. The Michigan Osteoporosis Strategic Plan, released in 1999, had ______ to reduce society’s burden of osteoporosis.
A 7 recommendations  B 12 recommendations  C 18 recommendations  D 4 recommendations

109. The Milk ______ campaign included “A Crash Course on Calcium” - an inschool program to teach teens about bone health.
A Mania  B Matters  C for Everyone  D it Up

110. “Bone Up on Bone Loss!” is a one-page brochure for ______ to distribute to parents and children.
A health care professionals  B only doctors  C only doctors or nurses  D orthopedists

CHAPTER THIRTEEN: A VISION FOR THE FUTURE

111. One of the “Key Action Steps” this report is to: Change the paradigm of preventing and treating:
A bone disease  B fractures  C calcium deficiency  D vitamin D deficiency

112. One of the “Key Action Steps” this report is to: Act now, as we know:
A more than 10 years ago  B more than enough  C as much as we can now  D all we need to know

113. According to the report, voluntary health organizations do not play important roles in promoting bone health.
A True  B False

APPENDIX A: CONGRESSIONAL LANGUAGE . . .

114. More than ______ million Americans suffer from some form of bone disease, including osteoporosis and others.
A 10  B 20  C 30  D 40

APPENDIX B: HOW DO WE KNOW WHAT WE KNOW . . .

115. Study participants are observed and measurements are made at one point in time in a ______ study.
A cross-sectional  B observational  C meta-analysis  D randomized

116. Camp Calcium is a unique study supported by the National Institutes of Health and conducted by ______ University.
A Purdue  B Indiana  C Yale  D Columbia

ABBREVIATIONS AND ACRONYMMS

117. The ______ x-ray absorptiometry (DXA) scan is used to measure BMD.
A daily  B direct  C dual  D dietary

118. The National Center for Health ______ (NCHS) rich source of information about America’s health.
A Simulation  B Standards  C Statistics  D Surveys

119. The ______ Calculated Osteoporosis Risk Estimation (SCORE) identifies particular women that should be screened for osteoporosis.
A Selected  B Simple  C Standard  D Simulated

120. ______ x-ray absorptiometry (SXA) may be used to measure heel and forearm bone density.
A Single  B Standard  C Simple  D Simulated
Option 1: Submit the post-test answers online at radunits.com on the course page under Step 3 for instant grading and emailed CE certificate. A password is required, which is found in your email receipt.

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