

Chapter 2 QUICK QUIZ

- 2-1. (applied-45) Your 70-year-old father recently mentioned to you that he no longer enjoys driving at night because of glare from the headlights of oncoming traffic. Having taken this course, you are not surprised. Based on the information in the text, what other activities may prove problematic for him?
- reading road signs at night
 - finding a seat at the afternoon softball game
 - ordering at McDonald's
 - all of the above
- 2-2. (conceptual-51) There is an association between loss of muscle mass and age that may be corrected by _____.
- resistance training
 - stretching
 - a and b
 - none of the above
- 2-3. (factual-60) Medina (1996) suggests that older men's and women's sexual responses are generally _____.
- a little slower and a little less intense
 - a little slower, but with no change in intensity
 - a little less intense, but with no change in arousal speed
 - NOT positively affected by an end to concerns about pregnancy
- 2-4. (conceptual-36) Which of the following is the **CLEAREST** example of primary aging?
- the decline in neuronal speed with age
 - the increase in the rate of heart disease with age
 - the reduction of VO₂ max with age
 - the loss of muscle tissue with age
- 2-5. (conceptual-36) When some body change is linked to age but appears to be the product of environmental influences or health habits, it is an example of _____.
- maturation
 - the impact of free radicals
 - primary aging
 - secondary aging
- 2-6. (factual-37) Cells of different species, when observed in nutrient solutions, are seen to divide varying numbers of times, with cells of the most long-lived species dividing more times than the cells of short-lived species. The total number of divisions for any given species is sometimes referred to as _____.
- species replicability
 - the Shock limit
 - the dividing limit
 - the Hayflick limit

- 2-7. (factual-47–48) The gradual loss of hearing resulting from wear and tear on the auditory nerves and inner ear structures is called _____.
- a. sensorineural hearing loss
 - b. presbyopia
 - c. near sightedness
 - d. far sightedness
- 2-8. (factual-49) The loss of calcium in the bones that occurs in many adults with aging is called _____.
- a. osteopathy
 - b. osteoporosis
 - c. calcification
 - d. climacteric
- 2-9. (factual-58–59) Which of the following is NOT a change in sleep patterns with increasing age in adulthood?
- a. reduction in the number of hours of deep sleep
 - b. reduction in the total number of hours of sleep needed
 - c. increase in breathing disturbances
 - d. waking earlier in the morning
- 2-10. (factual 53) The immune system does not function as well in later adulthood as it did in earlier years, partly due to the greater prevalence of chronic diseases and susceptibility to stress. _____ may help in later adulthood.
- a. Vitamin supplements
 - b. A high protein diet
 - c. Extensive exercise
 - d. Re-establishing a social network

ANSWER KEY: Chapter 2 QUICK QUIZ

1. Answer: a
Page in text: 45
Topic: Physical Changes
Question type: applied; Difficulty level: moderate
2. Answer: c
Page in text: 51
Topic: Theories of Primary Aging
Question type: conceptual; Difficulty level: moderate
3. Answer: a
Page in text: 60
Topic: Individual Differences
Question type: factual; Difficulty level: difficult
4. Answer: a
Page in text: 36
Topic: Theories of Primary Aging
Question type: conceptual; Difficulty level: difficult
5. Answer: d
Page in text: 36
Topic: Theories of Primary Aging
Question type: conceptual; Difficulty level: moderate
6. Answer: d
Page in text: 37
Topic: Physical Changes
Question type: factual; Difficulty level: moderate
7. Answer: a
Page in text: 47–48
Topic: Physical Changes
Question type: factual; Difficulty level: moderate
8. Answer: b
Page in text: 49
Topic: Physical Changes
Question type: factual; Difficulty level: easy
9. Answer: b
Page in text: 58–59
Topic: Individual Differences
Question type: factual; Difficulty level: easy
10. Answer: a
Page in text: 53
Topic: Individual Differences
Question type: factual; Difficulty level: moderate

CHAPTER 2 PHYSICAL CHANGES

MULTIPLE CHOICE QUESTIONS

- 2-1. (conceptual-36) The aging process has been a matter of interest and a subject of research for centuries. This research has established a(n) _____.
- a. empirically documented single theory of aging
 - *b. diversity of current propositions about the aging process, most supported by some empirical evidence
 - c. diversity of empirical evidence, all pointing to 4 primary theories of aging
 - d. unified theory of aging at the cellular level
- 2-2. (conceptual-337–38) One theory of aging suggests that physical aging is based on the cell's ability to repair DNA alterations. However, research in this area has been unable to establish _____.
- a. clear relationships between cell repair ability and age within a species
 - b. evidence that DNA repair declines with normal aging
 - c. clear relationships between longer-lived species and more active repair mechanisms
 - *d. none of the above
- 2-3. (conceptual-36–37) One explanation of aging cites our dietary habits as connected to the aging process. Which statement below is NOT consistent with this theory?
- *a. What we eat is the most significant contributor to aging.
 - b. The hypothalamus seems to operate as a clock, measuring age in terms of calories consumed by the body.
 - c. Animal research supports an association between reduced caloric intake and increased longevity.
 - d. "Natural" human studies suggest that individuals on restricted diets may live longer.
- 2-4. (applied-45) Your 70-year-old father recently mentioned to you that he no longer enjoys driving at night because of glare from the headlights of oncoming traffic. Having taken this course, you are not surprised. Based on the information in the text, what other activities may prove problematic for him?
- *a. reading road signs at night
 - b. finding a seat at the afternoon softball game
 - c. ordering at McDonald's
 - d. all of the above
- 2-5. (conceptual-47) Glaucoma is the second leading cause of blindness for all people in the United States. Which statement below does NOT accurately describe glaucoma?
- *a. Two million people in the United States have glaucoma, but most seek medical attention after noting the early warning signs of the disease.
 - b. Untreated glaucoma can destroy the optic nerve and lead to blindness.
 - c. Glaucoma is the leading cause of blindness for African Americans.
 - d. Successful treatment for glaucoma may be as simple as the application of eye drops in certain patients.

- 2-6. (conceptual-51) There is an association between loss of muscle mass and age that may be corrected by _____.
- a. resistance training
 - b. stretching
 - *c. a and b
 - d. none of the above
- 2-7. (applied 50) More women than men in the United States are diagnosed with _____.
- a. cardiovascular problems
 - b. glaucoma
 - *c. hip fractures
 - d. hearing loss
- 2-8. (conceptual-49–52) Locate the FALSE statement below concerning the benefits of physical exercise for older adults.
- a. Exercise that increases strength and flexibility is generally beneficial for adults with arthritis.
 - b. Aerobic exercise improves cardiovascular and respiratory functions.
 - c. Exercise decreases the risk of osteoporosis.
 - *d. None of the above are false statements.
- 2-9. (conceptual-52) Scientific evidence regarding the effects of aging on the nervous system seems to have changed over the last decade. Which statement below would NOT be supported by today's evidence?
- a. Neurons are capable of changing with age.
 - *b. After a person reaches the age of 8, his or her neurons do not grow dendrites to make new connections.
 - c. Some neuron pruning in old age may serve the same purpose as pruning in infancy.
 - d. Scientists' estimates of daily neuron loss in old age have declined significantly in the last 20 years.
- 2-10. (factual-52) Examples of plasticity in the nervous system are the growth of new projections called _____.
- a. neurons
 - b. stem cells
 - c. redundancy
 - *d. dendrites
- 2-11. (factual-56) Which therapy provides perimenopausal and postmenopausal women with the hormones once produced by their ovaries that sharply reduce the symptoms of the climacteric?
- a. growth hormone therapy (GH)
 - b. DHEA therapy
 - *c. hormone replacement therapy (HRT)
 - d. HGH treatment therapy

- 2-12. (conceptual-57) Which of the following statements is NOT a limitation of information obtained by surveys of older adults' sexual activities?
- Individuals report their perceptions of their sexual activities.
 - Some individuals choose not to answer questions about this topic.
 - Cohort effects may bias the results in favor of certain sexual activities.
 - *d. Frequency counts of sexual activity give no information about the quantity of sexual activities more generally.
- 2-13. (factual-60) Medina (1996) suggests that changes in older men's and women's sexual responses are generally _____.
- *a. a little slower and a little less intense
 - b. a little slower, but with no change in intensity
 - c. a little less intense, but with no change in arousal speed
 - d. NOT positively affected by an end to concerns about pregnancy
- 2-14. (conceptual-62) A reasonable inference from the information presented in this unit regarding the availability of sexual partners for older adults suggests that which older person would have the LEAST problem locating a sexual partner?
- a. an independent single female
 - b. a female living with her adult children
 - *c. an independent single male
 - d. a single male living in a nursing home
- 2-15. (conceptual-63) Which statement is a FALSE statement concerning aging and environmental factors?
- a. Some environments may retard the aging process.
 - b. Some environments may speed up the aging process.
 - c. The old adage "use it or lose it" seems true when applied to older individuals' physical and mental activities.
 - *d. Twin studies show that rate of aging is highly hereditary.
- 2-16. (conceptual-36) Which of the following is the CLEAREST example of primary aging?
- *a. the decline in neuronal speed with age
 - b. the increase in the rate of heart disease with age
 - c. the reduction of VO₂ max with age
 - d. the loss of muscle tissue with age
- 2-17. (conceptual-36) When some body change is linked to age but appears to be the product of environmental influences or health habits, it is an example of _____.
- a. maturation
 - b. the impact of free radicals
 - c. primary aging
 - *d. secondary aging
- 2-18. (conceptual-36) One indication that some commonly observed physical change linked to age is a product of secondary aging is that _____.
- a. it occurs to some degree in all adults
 - *b. it does not occur in all adults
 - c. it is strongly linked to age
 - d. it is associated with known genetic processes

- 2-19. (factual-37) Cells of different species, when observed in nutrient solutions, are seen to divide varying numbers of times, with cells of the most long-lived species dividing more times than the cells of short-lived species. The total number of divisions for any given species is sometimes referred to as _____.
- a. species replicability
 - b. the Shock limit
 - c. the dividing limit
 - *d. the Hayflick limit
- 2-20. (factual-36) A normal chemical process in the body, resulting from exposure to sunlight, X-rays, and food, creates molecules or atoms that possess an unpaired electron. These atoms and molecules are called _____.
- a. cross-linkages
 - b. DNA breakages
 - *c. free radicals
 - d. antioxidants
- 2-21. (factual-40) In which parts of the body do fat deposits INCREASE in middle age and old age (past the age of about 50)?
- a. the face and the upper arm
 - b. the chest and the belly
 - *c. the belly and the upper arm
 - d. the face and the chest
- 2-22. (factual-40) In which of the following age ranges is the average weight at its peak?
- a. 20–29
 - *b. 50–59
 - c. 60–69
 - d. 80–89
- 2-23. (factual-46) The thickening of the lens of the eye that results in loss of visual acuity in middle and older age is part of a process called _____.
- a. presbycusis
 - *b. presbyopia
 - c. nearsightedness
 - d. farsightedness
- 2-24. (factual-45) At about what age does a significant loss of visual acuity begin to be measurable for most adults?
- a. age 30
 - *b. age 45
 - c. age 60
 - d. age 70
- 2-25. (factual-47–48) The gradual loss of hearing resulting from wear and tear on the auditory nerves and inner ear structures is called _____.
- *a. sensorineural hearing loss
 - b. presbyopia
 - c. nearsightedness
 - d. farsightedness

- 2-26. (conceptual-45, 47) What are the relative ages at which significant losses of vision and hearing occur, on average, in adulthood?
- a. Both changes occur at roughly the same time.
 - b. Significant loss of hearing occurs earlier, on average.
 - *c. Significant loss of vision occurs earlier, on average.
 - d. Both changes occur in only some adults, at widely varying ages.
- 2-27. (applied 45–48) What is the pattern of sex differences in sensory loss over adulthood?
- a. Men lose both more vision and more hearing than women.
 - *b. Men lose more hearing, but there is no difference in visual loss.
 - c. Women lose both more vision and more hearing than men.
 - d. Women lose more vision, but there is no difference in hearing loss.
- 2-28. (factual-48) Which of the following changes in taste sensitivity appears to be a normal part of aging?
- a. a loss of the ability to taste bitter and sweet flavors
 - b. a loss of the ability to taste salty and sour flavors
 - *c. a decline in the amount of saliva secreted
 - d. a decline in the total number of taste buds
- 2-29. (factual 38) The suggested mechanism behind the genetic limits theory of aging comes from the discovery that chromosomes in many human body cells (and those of some other species, too) have, at their tips, lengths of repeating DNA called _____.
- a. chromosomal lids
 - b. pelorames
 - c. genetic signalers
 - *d. telemores
- 2-30. (factual-49) Osteoporosis is the term used to describe _____.
- *a. loss of calcium in the bones
 - b. loss of estrogen at menopause
 - c. a disease of the joints caused from wear and tear
 - d. normal hearing loss that occurs with old age
- 2-31. (factual-49) The loss of calcium in the bones that occurs in many adults with aging is called _____.
- a. osteopathy
 - *b. osteoporosis
 - c. calcification
 - d. climacteric
- 2-32. (factual-49) Which of the following is NOT a correct statement about the pattern of osteoporosis with age for men and women?
- a. It begins in the 30s and continues thereafter.
 - b. It is greater for women than for men.
 - c. Among women, it is accelerated by menopause.
 - *d. It accelerates in men in their 60s.

- 2-33. (factual-50) Which of the following is NOT a major risk factor for severe osteoporosis?
- a. being light in weight for height
 - b. being female
 - c. early menopause
 - *d. drinking lots of coffee
- 2-34. (factual-53) The gland that is the key element in the immune system is the _____.
- a. pituitary
 - b. ovaries or testes
 - c. thalamus
 - *d. thymus
- 2-35. (factual-55) The average age at which women go through menopause about _____.
- a. 40
 - *b. 50
 - c. 55
 - d. 60
- 2-36. (factual-54) The general term used to describe the loss of reproductive capacity among both sexes in middle and later life is _____.
- *a. climacteric
 - b. menopause
 - c. testosterone loss
 - d. desexualization
- 2-37. (factual-54) Current evidence on age-related changes in levels of testosterone in men indicates that _____.
- a. there is a large and steady decline beginning at about age 40
 - b. there is a large decline, but it begins only after about age 60
 - c. there is no decline at all
 - *d. there is a small and gradual decline from midlife onward
- 2-38. (factual-54) According to research on normal adult men, which of the following is NOT a major change in the reproductive system with age?
- *a. a major decline in testosterone levels
 - b. a diminished production of sperm
 - c. a longer time required to achieve erection
 - d. shrinkage of the testes
- 2-39. (applied 53) Which of the following is a key change that occurs in the immune system with increasing age?
- a. The thymus gland becomes significantly larger.
 - *b. The thymus gland becomes less able to assist in the maturing of T-cells.
 - c. The bone marrow becomes unable to produce T-cells.
 - d. The thymus begins to produce mutant cells.
- 2-40. (factual-54) Premenopausal and menopausal changes in women are triggered by a significant reduction in the production of which hormone?
- a. testosterone
 - b. androgen
 - c. thyroxin
 - *d. estrogen

- 2-41. (factual-55) The most common symptom associated with menopause is _____.
- a. anxiety
 - b. depression
 - *c. hot flashes
 - d. headaches
- 2-42. (conceptual-55) What does current research tell us is the most likely relationship between menopausal status and risk of clinical depression in women?
- *a. There is no relationship.
 - b. The rate of depression is higher in post-menopausal women.
 - c. The rate of depression is higher in pre-menopausal women.
 - d. The rate of depression is higher in post-menopausal women only if they have children.
- 2-43. (applied-45) You notice that your mother, who is 61 years old, begins to complain about her difficulty seeing while night driving, with the size of the print on her PC screen, with blurry street signs, and with the dimness of the house living and kitchen lights. She may be experiencing loss of visual acuity due to _____.
- a. presbyopia
 - b. dark adaption
 - c. cataracts
 - *d. all of the above
- 2-44. (factual-58–59) Which of the following is NOT a change in sleep patterns with increasing age in adulthood?
- a. a reduction in the number of hours of deep sleep
 - *b. a reduction in the total number of hours of sleep needed
 - c. an increase in breathing disturbances
 - d. waking earlier in the morning
- 2-45. (factual-60) A problem with the results from cross-sectional and longitudinal research on the sexual activity of adults in the United States is that _____.
- a. the substantial majority are no longer sexually active
 - b. the substantial majority are still sexually active
 - *c. it reduces a complex human interaction to a simple frequency count
 - d. the data do not allow us to determine the answer to sexual frequency
- 2-46. (conceptual-63) Which of the following is the best statement about individual differences in the rate or pattern of physiological aging?
- a. The maturational sequences are very powerful; virtually all adults follow the same sequences at the same rates.
 - b. There are significant maturational sequences, although there is room for individual variation within relatively narrow limits.
 - *c. There are significant underlying maturational sequences, but there are very wide individual variations in rate and pattern.
 - d. There are no shared underlying maturational sequences.

- 2-47. (factual 53) The immune system does not function as well in later adulthood as it did in earlier years, partly due to the greater prevalence of chronic diseases and susceptibility to stress. _____ may help in later adulthood.
- Vitamin supplements
 - A high protein diet
 - Extensive exercise
 - Re-establishing a social network

SHORT ANSWER QUESTIONS

2-48. List two changes that occur in the cardiovascular system with age and two changes that occur in the nervous system with age.

2-49. Define the following terms:

climacteric
menopause
osteoporosis
life expectancy

2-50. Levy (1994) claims four distinct factors that affect the probability of sexual relations in older people. Briefly list and describe these factors.

2-51. For each of the following changes with age, indicate whether the change is most likely primary aging or secondary aging and why you think so.

- the reduction in efficiency of the immune system
- the accumulation of pigmented material in the eye, leading to nearsightedness
- the increase in size of the nose and ears with age

2-52. List and discuss several factors that appear to contribute to the wide individual variations in rate of physical aging in middle and late adulthood.

2-53. List all the factors that appear to contribute to the reduction in sexual activity we observe with age.

2-54. List and describe the five primary explanations for primary aging.

ESSAY QUESTIONS

2-55. There is an old adage to the effect that if a married couple put a bean in a jar for each time they have intercourse during the first year of marriage and take out a bean for every time they have intercourse in each year after the first, the jar will never become empty. Given the evidence on sexual activity in adulthood presented in the book, do you think this is true or not? Give specific support for your position.

2-56. A great many bodily changes with age have been described in the text. Which three of these many changes do you think are likely to have the biggest effect on the daily life of older adults? Why?

2-57. One of the common assumptions about midlife is that most (if not all) women experience major physical and psychological upheaval at menopause. Design a study to examine this

assumption.

2-58. Discuss the following statement: “There are such wide variations in individual rates and patterns of aging that it doesn’t make any sense to talk about ‘normal aging.’ There is no such thing.”

2-59. We observe a loss of muscle tissue, with accompanying loss of strength, over the years of adulthood. What explanations of this phenomenon have been offered? What kind of evidence exists for and against each explanation? What conclusion do you come to?

2-60. Discuss the two types of hormone replacement therapy that both men and women seem to benefit from.

2-61. Lips has argued that there are several reasons women live longer than men. List and describe these reasons.

2-62. Compare and contrast the climacteric for men and women. Make sure you describe the physiological changes as well as possible treatments.

2-63. Several researchers argue that there is a generalized “slowing” with age. Describe relevant research and give your personal view on this phenomenon.

2-64. Describe the physical changes of an aging adult, fictitious or real, including height, weight, bone structure, skin/hair, the senses, and internal systems. Be thorough, and use terminology from your textbook.

2-65. Compare and contrast two real-life or fictitious adults at age seventy in terms of primary aging. In your comparison, what factors account for the differences that you portray in your example?

2-66. Primary aging is affected by many individual differences. Illustrate how certain genetic predispositions might affect your aging process, use at least one member of your family as a comparative example.