

Chapter 11—Properties and Disorders of the Hair and Scalp

MULTIPLE CHOICE

- Trichology is the scientific study of ____, including its care and disorders.
 - the muscular system
 - the skeleton
 - hair
 - skin
- The main component of hair is a ____ called keratin.
 - pigment
 - protein
 - type of tissue
 - liquid
- The part of the hair that extends above the skin surface is the ____.
 - hair shaft
 - hair root
 - follicle
 - dermal papilla
- The portion of the hair that is enclosed within the follicle is the ____.
 - dermal papilla
 - hair bulb
 - hair shaft
 - hair root
- The dermal papilla is surrounded by the ____.
 - hair shaft
 - hair bulb
 - skin
 - hair follicle
- Hair's natural tendency to flow to one side is called the ____.
 - hair stream
 - hair texture
 - cuticle
 - porosity
- The hair bulb is the ____.
 - upper part of the hair root
 - lower part of the hair root
 - round-shaped part of the hair shaft
 - muscle that controls the growth of the hair
- The dermal papilla supplies ____ to the tissue that lines the hair follicle.
 - keratin
 - lymph
 - oxygen and nutrients
 - blood
- The ____ glands secrete sebum.
 - moisture
 - sweat
 - pili
 - sebaceous
- Sebum production is not affected by ____.
 - blood circulation
 - emotional disturbance
 - exercise
 - None of the answers are correct.
- The arrector pili is a minute, ____ in the skin attached to the underside and base of the hair follicle.
 - involuntary muscle fiber
 - voluntary muscle fiber
 - tendon
 - ligament
- The hair shaft consists of ____ main layers.
 - two
 - three
 - four
 - five

13. Swelling the hair raises the ____ of the cuticle layer and opens the spaces between them, allowing liquids to penetrate.
- | | |
|-------------|-----------|
| a. proteins | c. shafts |
| b. muscles | d. scales |
14. Oxidation tints and other chemical hair products must have a pH ____.
- | | |
|--------------|-------------------------------------|
| a. below 5.0 | c. above 7.0 |
| b. below 7.0 | d. None of the answers are correct. |
15. The cortex is the ____ layer of the hair.
- | | |
|--------------|--------------|
| a. outermost | c. innermost |
| b. middle | d. smallest |
16. The ____ accounts for about 90 percent of the hair's weight.
- | | |
|------------|------------|
| a. medulla | c. melanin |
| b. cortex | d. cuticle |
17. Hair that is missing the medulla is ____.
- | | |
|---------------|--------------------|
| a. not dyable | c. coarse |
| b. curly | d. naturally blond |
18. Hair ____ mature in a process called keratinization.
- | | |
|--------------|-----------|
| a. glands | c. shafts |
| b. follicles | d. bulbs |
19. Which of the following statements relating to visible hair is *not* correct?
- | |
|---|
| a. It is not alive. |
| b. It is made of keratinized protein. |
| c. It is possible to change the color with oxidation tints. |
| d. It is made up of keratinized carbohydrate. |
20. Protein makes up ____ percent of hair.
- | | |
|-------|-------|
| a. 65 | c. 87 |
| b. 72 | d. 91 |
21. The elements in human ____ are sulfur, carbon, oxygen, hydrogen, and nitrogen.
- | | |
|---------|-----------------------------|
| a. hair | c. nails |
| b. skin | d. All answers are correct. |
22. The chemical composition of average hair is ____ percent carbon.
- | | |
|-------|-------|
| a. 51 | c. 71 |
| b. 61 | d. 81 |
23. ____ are made up of amino acids.
- | | |
|-------------|-------------|
| a. Elements | c. Proteins |
| b. Oxides | d. Bonds |
24. Amino acids are joined ____ by peptide bonds.
- | | |
|----------------|-------------------------------------|
| a. end-to-side | c. side-to-side |
| b. end-to-end | d. None of the answers are correct. |
25. The strongest chemical bonds in the cortex are ____ bonds.
- | | |
|-----------|-------------|
| a. oxygen | c. physical |
| b. carbon | d. peptide |

26. The polypeptide chains intertwine around each other to create a coil or spiral of ____.
- keratin
 - protein
 - elastin
 - elements
27. In the ____, polypeptide chains are linked to each other by side bonds.
- cortex
 - cuticle
 - medulla
 - skin
28. The three different types of ____ bonds are hydrogen, salt, and disulfide.
- keratin
 - hair
 - side
 - chain
29. ____ side bonds are easily broken by water or heat.
- Chemical
 - Polypeptide
 - Hydrogen
 - Salt
30. When ____ bonds are broken through overstretching or the use of strong acidic or alkaline solutions, the hair can be weakened or damaged to the point of breakage.
- even a few
 - more than 30 percent of
 - more than 70 percent of
 - all
31. Hydrogen bonds add ____ to the hair and keep parallel polypeptide chains together.
- color
 - body
 - coarseness
 - sebum
32. Hydrogen bonds may be broken by ____.
- water
 - dilute alkaline solutions
 - neutral solutions
 - All answers are correct.
33. Salt bonds depend on pH and account for ____ of the hair's total strength.
- one-quarter
 - one-third
 - one-half
 - two-thirds
34. Disulfide bonds are the ____ side bonds in the cortex.
- strongest
 - weakest
 - most numerous
 - only physical
35. The atoms of neighboring ____ amino acids that are joined together by disulfide bonds are atoms of sulfur.
- lysteine
 - cysteine
 - sulfide
 - bisulfide
36. Ammonium thioglycolate permanent waves and ____ chemical hair relaxers break disulfide bonds.
- hydrogen peroxide
 - nitrogen oxide
 - carbon
 - sodium hydroxide
37. Black and brown hair colors are provided by ____.
- medulla
 - cuticle
 - eumelanin
 - pheomelanin
38. Red through light blond color hair is provided by ____.
- pheomelanin
 - the disulfide bonds
 - eumelanin
 - the cuticle

39. Natural hair color is the result of the ____ pigment found within the cortex.
- melanin
 - keratin
 - sulfide
 - side-bond
40. Blonds have approximately ____ hairs on the head.
- 90,000
 - 108,000
 - 110,000
 - 140,000
41. Vellus or lanugo hair is ____ and appears nearly everywhere on the body.
- terminal
 - long
 - short and coarse
 - short and fine
42. Secondary terminal hair appears on the ____.
- scalp
 - beard
 - scalp and beard
 - palms
43. Healthy hair on the scalp grows about $\frac{1}{2}$ ____.
- inch per month
 - inch per week
 - inch per year
 - foot every 2 years
44. Hair growth is not increased by any of the following *except* ____.
- shaving
 - trimming
 - applying ointments
 - the time of the year
45. A tuft of hair standing straight up is known as a ____.
- forelock
 - cowlick
 - wave pattern
 - whorl
46. During the ____ phase, the hair bulb disappears.
- resting
 - anagen
 - catagen
 - telogen
47. During the ____ phase, the hair is shed.
- telogen
 - catagen
 - anagen
 - transition
48. At any given time, about ____ percent of scalp hair is growing in the anagen phase.
- 10
 - 40
 - 60
 - 90
49. Hair texture is measured by the diameter of the hair strand and is classified as coarse, ____, or fine.
- intermediate
 - average
 - curly
 - medium
50. Hair with a ____ texture has the largest diameter.
- blonde
 - regular
 - coarse
 - fine
51. Fine hair ____.
- is most likely to be damaged by chemical services
 - requires the longest processing time for chemical services
 - is larger in diameter than coarse hair
 - is harder to process than coarse hair

52. Density is the number of hair strands ____ on the scalp.
- everywhere
 - per square inch
 - on the front portion
 - per square centimeter
53. The hair's ____ is its ability to absorb moisture.
- elasticity
 - porosity
 - density
 - texture
54. Resistant hair has ____ porosity.
- no
 - low
 - average
 - high
55. Wet hair with ____ elasticity can stretch up to 50 percent of its original length and return to that length without breaking.
- low
 - normal
 - high
 - extremely high
56. Alopecia is the technical term for ____.
- any abnormal hair loss
 - complete baldness
 - white hair
 - gray hair
57. ____ is hair loss that occurs as a result of genetics, age, and hormonal changes that cause the miniaturization of terminal hair, converting it to vellus hair.
- Porosity
 - Alopecia senilis
 - Androgenic alopecia
 - Alopecia prematura
58. Androgenic alopecia in men is also called ____.
- tonsure baldness
 - horseshoe baldness
 - premature hair loss
 - male pattern baldness
59. Alopecia ____ is characterized by hair falling out in round patches.
- temporalis
 - areata
 - prematura
 - senilis
60. ____ is a topical treatment that is applied to the scalp twice a day.
- Minoxidil
 - Alopecia
 - Furuncle
 - Folliculitis
61. Finasteride is ____.
- characterized by hair falling out suddenly
 - applied to the scalp
 - an oral medication for hair loss
 - available for women only
62. Dandruff is technically known as ____.
- eumelanin
 - androgenic alopecia
 - arrector pili
 - pityriasis
63. Scalp irritation, ____, and an itchy scalp are characteristic of pityriasis capitis simplex.
- hair falling out in patches
 - large dry flakes
 - small oily flakes
 - a red rash
64. ____ that stick to the scalp in patches are characteristic of pityriasis steatoides.
- Furuncles
 - Large dry scales
 - Greasy or waxy scales
 - Gray hairs

65. ____ is a fungal infection that occurs chiefly over the bearded area.
- | | |
|------------------------|------------------|
| a. Folliculitis barbae | c. Tinea sycosis |
| b. Pediculosis capitis | d. Tinea favosa |
66. ____ on the scalp are symptoms of tinea favosa.
- | | |
|-----------------------------------|--|
| a. Large, white, hairless patches | c. Red itchy patches |
| b. Dry scales | d. Dry, sulphur-yellow, cuplike crusts |
67. Animal parasites cause ____ and scabies.
- | | |
|-------------------------------|--------------------------|
| a. pityriasis capitis simplex | c. pheomelanin |
| b. pediculosis capitis | d. primary terminal hair |
68. Sycosis vulgaris, ____, and pseudofolliculitis barbae are staphylococcal infections involving the follicles.
- | | |
|------------------------|-----------------|
| a. pediculosis capitis | c. folliculitis |
| b. lanugo | d. medulla |
69. The technical term for a ____ is *furuncle*.
- | | |
|---------|--------------|
| a. boil | c. pimple |
| b. vein | d. blackhead |
70. Pseudofolliculitis barbae is referred to as “_____.”
- | | |
|----------------------------|------------------|
| a. secondary terminal hair | c. barber’s itch |
| b. boils | d. razor bumps |
71. ____ is abnormal hair growth and can be treated in the barbershop.
- | | |
|---------------------|-------------------|
| a. Tinea | c. Hypertrichosis |
| b. Sycosis vulgaris | d. Scabies |
72. ____ is caused by loss of natural melanin.
- | | |
|-------------------|-----------------------------|
| a. Hypertrichosis | c. Defective keratinization |
| b. Canities | d. Pediculosis capitis |
73. Split ends are called ____.
- | | |
|-------------------------|-------------------|
| a. trichorrhesis nodosa | c. monilethrix |
| b. hypertrichosis | d. trichoptilosis |
74. Brittle hair is technically known as ____.
- | | |
|-----------------------|-------------------------|
| a. fragilitas crinium | c. monilethrix |
| b. hypertrichosis | d. trichorrhesis nodosa |