

## REEDY-SENIOR COSMETOLOGY- OFF-SITE LEARNING PACKET DAY 6

1. PLEASE READ THE SUMMARY AND QUESTIONS PAGE FIRST
2. COMPLETE THE WORK SHEETS AND VOCABULARY WHERE IT PERTAINS. YOU MAY GOOGLE AND REFERENCE THE MILADY WEB SITE FOR VOCABULARY WORDS. NOT ALL ASSIGNMENTS CONTAIN VOCABLARY, OR WORK SHEETS. THEY MAY BE SLIGHTLY DIFFERENT.
3. COMPLETE THE PRACTICE TESTS TO THE BEST OF YOUR ABILITY.
4. YOU MAY USE YOUR MILADY OR COURSEMATE ONLINE PROGRAM TO ASSIST YOU IN ANY WAY.
5. PLEASE PUT YOUR NAME ON EVERY PAGE YOU HAVE COMPLETED.

## E. HAIR GROWTH PATTERNS

*Hair growth patterns are important to identify and consider, especially when preparing to shape and style the hair*

### 1. Hair stream

**Hair stream** is hair flowing in the same direction, resulting from follicles sloping in the same direction. *Two streams flowing in opposite directions from the head form a natural part in the hair.*

### 2. Whorl

A **whorl** occurs when hair leaves the follicles at an angle; the hair will lie in a particular direction forming patterns or streams on the head. *Often the streams spiral outward from a central point. Usually run in clockwise direction and sometimes more than one whorl can be seen in certain individuals*

### 3. Cowlick

A **cowlick** is due to a particular pattern of hair stream on the forehead. *Cowlicks are usually more noticeable at the front hairline in people with short, thick hair but they may be located anywhere on the head.*

## F. DRY HAIR AND SCALP

*Can be caused by inactive sebaceous glands; aggravated by excessive shampooing or by a dry climate. Should be treated with products that contain moisturizers and emollients. Avoid frequent shampooing along with the use of strong soaps, detergents, or products with a high alcohol content.*

## G. OILY HAIR AND SCALP

Characterized by a greasy buildup on the scalp and an oily coating on the hair. Caused by improper shampooing or overactive sebaceous glands. *Treat by properly washing with a normalizing shampoo, a well-balanced diet, exercise, regular shampooing, and good personal hygiene are essential to controlling oily hair and scalp.*

## H. HEALTHY HAIR, HAPPY CLIENTS

*The more you learn about the structure of hair and how to keep it healthy, the more you will understand how salon services affect different hair types. This is the key to consistent results with your services and happy clients who recommend you to their friends.*

## SUMMARY AND REVIEW

- We have learned that trichology enables the professional cosmetologist to better understand both the physical and microscopic properties of the hair.
- In order to give your clients the best possible consultative services, you must be able to recognize those conditions of the hair and scalp needing treatment.
- We've also learned that practicing proper disinfection procedures that are approved by your oversight regulatory agency will prevent the spread of disease.

## ✓ \* CHAPTER REVIEW QUESTIONS AND ANSWERS:

1. Name and describe the five main structures of the hair root.

**Answer:** The five main structures of the hair root are:

- Hair follicle: the tube-like depression or pocket in the skin or scalp that contains the hair root.
- Hair bulb: the thickened, club-shaped structure that forms the lower part of the hair root.

- Dermal papilla: the small, cone-shaped elevation located at the base of the hair follicle that fits into the hair bulb. It contains the blood and nerve supply that provides nutrients for hair growth.
- Arrector pili muscle: tiny, involuntary muscle fiber in the base of the hair follicle; causes goose bumps.
- Sebaceous glands: oil glands in the skin connected to hair follicles; secrete an oily substance called sebum that lubricates the hair and skin.

*Note: The answer to this question can be found on page 225 of Milady Standard Cosmetology.*

2. Name and describe the three layers of the hair shaft.

**Answer:** The three layers of the hair shaft are:

- Cuticle: outermost layer of hair consisting of overlapping layers of transparent, scale-like cells that look like shingles on a roof.
- Cortex: the middle layer of fibrous protein core formed by elongated cells containing melanin pigment
- Medulla: the innermost layer composed of round cells; it is quite common for very fine and naturally blond hair to lack a medulla layer.

*Note: The answer to this question can be found on pages 226–227 of Milady Standard Cosmetology.*

3. Explain the process of keratinization.

**Answer:** As newly formed cells in the hair mature, they fill up with keratin, move upward, lose their nucleus, and die.

*Note: The answer to this question can be found on page 227 of Milady Standard Cosmetology.*

4. What are polypeptide chains?

**Answer:** Polypeptide chains are long chains of amino acids linked by peptide bonds. Polypeptide chains are cross-linked like the rungs on a ladder by three different types of side bonds. These side bonds hold the polypeptide chains in place and account for the incredible strength and elasticity of human hair.

*Note: The answer to this question can be found on page 228 of Milady Standard Cosmetology.*

5. List and describe the three types of side bonds. Indicate whether they are strong or weak and why.

**Answer:** The three types of side bonds are:

- Hydrogen bonds: a physical side bond that is easily broken by water or heat. They are weak individually, but because there are so many, they account for about one-third of the hair's strength.
- Salt bonds: another weak, physical cross-link side bond between adjacent polypeptide chains. They are easily broken by strong alkaline or acidic solutions and account for about one-third of the hair's overall strength.
- Disulfide bonds: a strong chemical side bond. The disulfide bond joins the sulfur atoms of two neighboring cysteine amino acids to create one cystine. The cystine joins together two polypeptide strands like rungs on a ladder. There are far fewer disulfide bonds than the physical bonds, but they are stronger and account for about one-third of the hair's overall strength.

*Note: The answer to this question can be found on page 228 of Milady Standard Cosmetology.*

6. Name and describe the two types of melanin responsible for natural hair color.

**Answer:** The two types of melanin responsible for natural hair color are:

- Eumelanin: provides dark brown and black color to hair.
- Pheomelanin: provides natural hair colors from red and ginger to yellow/blond tones.

*Note: The answer to this question can be found on page 230 of Milady Standard Cosmetology.*

7. Name and describe the two types of hair and their locations on the body.

**Answer:** The two types of hair and their locations are:

- Vellus, or lanugo, hair is short, fine, and downy. Vellus hair is not pigmented and almost never has a medulla. On adults, is found in places that are normally considered hairless except the palms of the hands and soles of the feet.
- Terminal hair is the long, coarse hair found on the scalp, legs, arms, and body. It is coarser than vellus hair and, with the exception of gray hair, it is pigmented.

*Note: The answer to this question can be found on page 232 of Milady Standard Cosmetology.*

8. What are the three phases of the hair growth cycle? What occurs during each phase?

**Answer:** The phases of hair growth and what occurs during each phase are:

- Anagen, or growth phase: when the new hair is produced.
- Catagen or transition phase: the brief transition period between the growth and resting phases of a hair follicle.
- Telogen or resting phase: the final phase in the hair cycle and lasts until the fully-grown hair is shed.

*Note: The answer to this question can be found on pages 232–233 of Milady Standard Cosmetology.*

9. What is the reason for normal daily hair loss?

**Answer:** Normal daily hair loss is the natural result of the three phases of the hair's growth cycle. The growth cycle provides for the continuous growth, fall, and replacement of individual hair strands.

*Note: The answer to this question can be found on page 234 of Milady Standard Cosmetology.*

10. What are the most common types of abnormal hair loss?

**Answer:** The most common types of abnormal hair loss are:

- Androgenic alopecia: the result of genetics, age, and hormonal changes.
- Alopecia areata: when hair falls out in round patches or baldness in spots.
- Postpartum alopecia: experienced at the conclusion of a pregnancy.

*Note: The answer to this question can be found on pages 235–236 of Milady Standard Cosmetology.*

11. What are the only two approved hair loss treatments?

**Answer:** The only two approved hair loss treatments are Minoxidil™ and Finasteride™.

*Note: The answer to this question can be found on page 236 of Milady Standard Cosmetology.*

12. Name the two main types of dandruff. Can either one be treated in the salon?

**Answer:** The two main types of dandruff are:

- Pityriasis capitis simplex: This type of dandruff can be treated in a salon with the use of mild or medicated shampoos, scalp treatments, regular scalp massage, daily use of antiseptic scalp lotions, and medicated scalp ointments.
- Pityriasis steatoides: This type of dandruff must be referred to a physician.

*Note: The answer to this question can be found on page 239 of Milady Standard Cosmetology.*

13. Which hair and scalp disorders cannot be treated in the salon?

**Answer:** The types of hair and scalp disorders that cannot be treated in the salon are tinea, tinea capitis, tinea favosa, pediculosis capitis, scabies, carbuncles, furuncle and folliculitis.

*Note: The answer to this question can be found on pages 240–242 of Milady Standard Cosmetology.*

14. What four factors about the hair should be considered in a hair analysis?

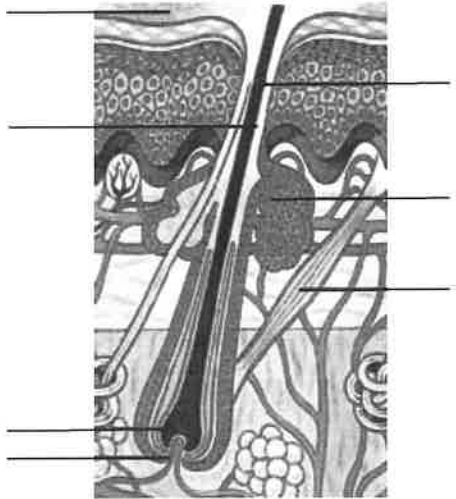
**Answer:** The four factors that should be considered in a hair analysis are: texture, porosity, elasticity, and density.

*Note: The answer to this question can be found on page 242 of Milady Standard Cosmetology.*

**ACTIVITY 3** Labeling the Hair Root

Pg. 225

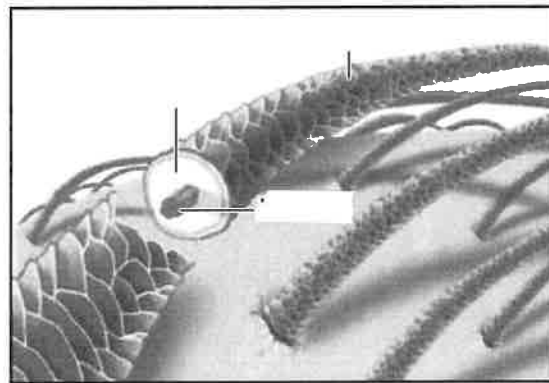
Label the following structures of the hair root.



**ACTIVITY 4** Structures of the Hair Shaft

Pgs. 226-227

Label the three main layers of the hair shaft in your cross-section. Then, write the three main layers below, and describe them.



1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_

## ESSENTIAL EXPERIENCE 5

# Recognize Disorders of the Hair and Scalp

## **ACTIVITY 1** Technical Terms for Hair and Scalp Disorders

For the following hair and scalp disorders, list the common name for the associated technical term.

Pgs. 237–242

Technical Term	Common Name
Canities	
Hypertrichosis	
Trichoptilosis	
Trichorrhexis nodosa	
Monilethrix	
Fragilitas crinium	
Pityriasis	
Tinea capitis	
Parasitic infections	
Pediculosis capitis	
Furuncle	

## **ACTIVITY 2** Physician Required

Identify the four disorders that should be treated by a physician in the list from Activity 1.

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_
4. \_\_\_\_\_  
\_\_\_\_\_

14. The \_\_\_\_\_ is the portion of the hair that is located below the surface of the scalp. Pg. 224
15. The small, cone-shaped area located at the base of the follicle is the \_\_\_\_\_. Pg. 225
16. Hair flowing in the same direction is known as \_\_\_\_\_. Pg. 246
17. Hair is composed of protein that grows from cells originating within the hair follicle. They mature in a process called \_\_\_\_\_. Pg. 227
18. The technical term for the most common type of hair loss is \_\_\_\_\_. Pg. 235
19. Hair protein is made up of long chains of \_\_\_\_\_, which are made up of elements. Pg. 228
20. A long chain of amino acids linked by peptide bonds is called a \_\_\_\_\_ chain. Pg. 228
21. A \_\_\_\_\_ bond is a physical side bond that is easily broken by water or heat. Pg. 228
22. The technical term for gray/unpigmented hair is \_\_\_\_\_. Pg. 237
23. An abnormal development of hair on areas of the body that normally bear only downy hair is known as \_\_\_\_\_ or hirsutism. Pg. 238
24. The technical term for split hair ends is \_\_\_\_\_. Pg. 224
25. The technical term for beaded hair is \_\_\_\_\_, which may be improved with scalp and hair treatments. Pg. 238
26. A \_\_\_\_\_ bond joins the sulfur atoms of two neighboring amino acids. Pg. 228
27. Pityriasis is the medical term for \_\_\_\_\_. Pg. 239
28. Two different types of melanin are \_\_\_\_\_ and pheomelanin. Pg. 230
29. Honeycomb ringworm is characterized by dry, sulfur-yellow, cuplike crusts on the scalp called \_\_\_\_\_. Pg. 240
30. A contagious condition caused by the head lice is \_\_\_\_\_. Pg. 240
31. A \_\_\_\_\_ is the result of an acute staphylococci infection and is larger than a furuncle. Pg. 242