

**MILADY STANDARD COSMETOLOGY COURSE MANAGEMENT GUIDE
CLASS SIGN-IN SHEET 20.0**

SUBJECT: HAIR CARE

TOPIC: CHEMICAL TEXTURE SERVICES: PERMANENT WAVING

LESSON OBJECTIVES:

Upon completion of the lesson, the student will be able to:

1. Explain the structure and purpose of each of the hair's layers.
2. Explain the chemical actions that take place during permanent waving.
3. Explain the difference between an alkaline wave and a true acid wave.
4. Explain the purpose of neutralization in permanent waving.
5. Describe how thio relaxers straighten the hair.
6. Describe how hydroxide relaxers straighten the hair.
7. Describe curl re-forming and what it is best used for.

IMPLEMENTS, EQUIPMENT, SUPPLIES REQUIRED:

Student	Instructor	Items
x	x	<i>Milady Standard Cosmetology</i>
x	x	<i>Milady Standard Cosmetology Theory Workbook, Practical Workbook, and Study Guide: The Essential Companion</i>
x		Student notebook
x		Pens, pencils

TEACHING AIDS (Audio/visual equipment, handouts, etc. used by Instructor):

1. Board
2. LCD Projector and *Milady Standard Cosmetology Instructor Support Slides* OR Overhead Projector and Transparencies
3. *Milady Standard Cosmetology DVD Series* and DVD player

FACILITY: Theory Classroom

TIME ALLOTMENT: 2–4 hours (adjust based on school schedule and student activities/participation)

PRIOR STUDENT ASSIGNMENT:

1. Read Chapter 20, *Milady Standard Cosmetology*

EDUCATOR REFERENCES:

1. *Milady Standard Cosmetology*
2. *Milady Standard Cosmetology Theory Workbook, Practical Workbook, and Study Guide: The Essential Companion*

INSTRUCTOR NAME	DATE TAUGHT	INSTRUCTOR NAME	DATE TAUGHT
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NOTES TO EDUCATOR:

1. Review chapter, entire lesson plan, and *Milady Standard Cosmetology Instructor Support Slides* prior to lesson.
2. Review Learning Reinforcement ideas/activities for this lesson and predetermine which are to be used.
3. Check the projector to ensure it is working properly.
4. Gather all materials and supplies needed for demonstrations prior to starting class.
5. Have students sign in for class and document attendance based on your school's procedure.
6. During Instructor preparation time and while students are entering and getting settled for the class, have the first *Milady Standard Cosmetology Instructor Support Slide* containing the inspirational quote projected (or write it on the board or flip chart). This will help get instructors and students into the appropriate mindset for learning and for the day.
7. SPECIAL NOTE: There are 14 practical procedures covered in this lesson plan. The procedure sheets that may be used as handouts for the students appear after the Learning Reinforcement Ideas and Activities at the end of this lesson plan. Hand out the sheets and have students follow along as you review each procedure. However, have the students put the sheets away when you begin your demonstration, as the sheets will be a distraction during the Practical Class. Present the applicable *Milady Standard Cosmetology DVD* as the demonstration which will ensure more consistency from class to class and will reduce use of tools and product in the classroom.
8. The information found in this lesson correlates with the information found in LP 18.0, 18.1, and 18.2 of the former *Milady Standard Cosmetology Course Management Guide*, 2008 edition.

LEARNING MOTIVATION (WHY?)

Salons around the world agree that permanent waving (also known as texture services) is one of the most popular services provided today. Because it is a service in such demand, you will be well-served by learning the various techniques and practicing them until they are mastered. Very primitive attempts at permanent waving were made by the early Egyptian and Roman civilizations. Egyptian men weaved their beards between sticks, applied mud and then baked in the sun for one or two days. Roman and Egyptian women were known to also apply mud to their hair and wrap it on crudely made wooden rollers and then bake it in the sun. They may have had curl for awhile, but the results were, of course, not permanent. Imagine having mud baked in your hair!

We will learn more about the modern methods of permanent waving during this unit of study. It is important to keep in mind that a properly completed perm provides many valuable benefits to both the client and the stylist. Texture services promote longer lasting styles and make hair more manageable for the client at home. Perms add volume and fullness for styling and especially help hair with a soft, fine texture. On the other hand, the perm will create greater control of hair that is coarse, wiry, and hard to manage.

In addition, cosmetologists who are skilled in the art of chemical hair relaxing are in great demand today. The service is used for clients of many nationalities who have extra curly hair. With today's technology, hair that is very curly or super curly can be relaxed and styled in a wide variety of methods without much difficulty. Great strides have been made since the early days when attempts to soften curly hair were made with a mixture of mashed potatoes, lye, and oil. Hair was also wrapped and twisted in an effort to straighten it. These unsophisticated techniques sometimes resulted in hair loss.

In today's salons, services such as chemical relaxing and soft curl permanents are priced higher than many other salon services. Therefore, it is of extreme benefit to you as a student of cosmetology to become proficient in all these services. These skills will truly generate revenue and increase your profits when you enter the salon.

Inspirational Thought for the Day:

"Results! Why, man, I have gotten lots of results. I know several thousand things that won't work."

—Thomas A. Edison

Remember, a good cosmetologist can do hair; but a great one can perform all types of services on all types of hair with success. Thorough hair and scalp analysis will be essential to creating successful styles using these chemical services. Chemical hair relaxing is nothing more than the process of permanently rearranging the basic structure of extremely curly hair into a straight (or less curly) form. When done professionally, it leaves the hair relaxed and in a satisfactory condition to be given a wide variety of styles. A professional relaxing service can literally be the difference between disaster and a dazzling finished look.

PRESENTATION OF THE SKILLS AND/OR INFORMATION LESSON PLAN 20.0

SUBJECT OUTLINE	IN-DEPTH NOTES <i>(Information to share during presentation)</i>
I. CHEMICAL TEXTURE SERVICES	Hair services that cause a chemical change that alters the natural wave pattern of the hair
A. PERMANENTLY ALTER WAVE PATTERN	
1. Curl straight hair	And add volume
2. Straighten over curly hair	And smooth
3. Soften coarse, straight hair	And make it more pliable and easier to work with
B. TYPES OF TEXTURE SERVICES	
1. Permanent waving	Adding wave or curl to hair
2. Relaxing	Removing curl, leaving hair smooth and wave-free
3. Soft-curl permanents	Also known as curl re-forming, they loosen curly hair, such as when tight curls are turned into loose curls or waves.
II. STRUCTURE OF HAIR	
A. CUTICLE	The tough outer layer of the hair; it surrounds the inner layers and protects hair from damage. See Figures 20–2 through 20–3 in the <i>Milady Standard Cosmetology</i> textbook.
B. CORTEX	Middle layer of hair located beneath cuticle; it is responsible for hair strength and elasticity. Side bonds must be broken to change the natural wave pattern.
C. MEDULLA	Innermost layer of hair; it is often called pith or core. It does not play a role in restructuring the texture. The medulla is missing in some types of hair.
D. pH AND TEXTURE	pH means potential hydrogen. It represents the quantity of hydrogen ions and measures the acidity and alkalinity of a substance. The pH scale has a range from 0 to 14 with 7 being neutral. Below 7 is acidic. Above 7 is alkaline. The natural pH of hair is between 4.5 and 5.5. Chemical texturizers raise the pH of the hair to an alkaline state to soften and swell the hair shaft.
E. BUILDING BLOCKS OF HAIR	
1. Amino acids	Compounds made up of carbon, oxygen, hydrogen, and nitrogen
2. Peptide bonds (end bonds)	Link amino acids together in long chains
3. Polypeptide chains	Formed by bonds that are linked together to form a polypeptide chain

SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

4. Keratin proteins

Long chains of amino acids linked together by peptide bonds or end bonds; they make up about 97 percent of the hair's structure.

5. Side bonds

Disulfide, salt, and hydrogen bonds cross-link polypeptide chains together. See Figures 20-4 through 20-8.

NOTE: Purchase a set of pop beads to demonstrate the polypeptide chains. You will find that many of your learners have never even heard of pop beads.

CAUTION: Polypeptide chains should NOT be broken as this will dramatically weaken the hair and cause breakage. Chemical hair texturizers must be used very carefully.

F. KERATIN PROTEINS

Made of long chains of amino acids linked together end-to-end like beads; the amino acid chains are linked together by peptide bonds (end bonds) and are called polypeptides. Keratin proteins are made of long, coiled, polypeptide chains, which are comprised of amino acids.

G. SIDE BONDS

The cortex is made of millions of polypeptide chains cross-linked by three types of side bonds, or cross bonds.

1. Disulfide bonds

Formed when sulfur atoms in two adjacent protein chains are joined together; they can only be broken by chemicals and account for about $\frac{1}{3}$ of hair's strength.

2. Salt bonds

Relatively weak and result from an attraction between negative and positive electrical charges; they are easily broken by changes in pH. Salt bonds are weaker than disulfide bonds. They account for about $\frac{1}{3}$ of hair's strength.

3. Hydrogen bonds

These are similar to salt bonds but are easily broken by water or heat and reform as hair dries or cools. They account for about $\frac{1}{3}$ of hair's strength.

III. PERMANENT WAVING

This is a two-step process. The first part is the physical change caused by wrapping the hair on rods.

The second part involves the chemical change caused by the waving solution and neutralizer.

A. THE PERM WRAP

1. Size, shape, and type of rod

Determined by size, shape and type of tool used for wrapping

2. Perm solution softens hair.

This allows it to conform to the shape after wrapping.

3. Tension produces the curl.

Too much tension can mark or break the hair; keep hair wet and wrap with uniform, even tension.

SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

B. PERM TOOLS

These come in a wide variety of shapes and sizes and can be combined with different wrapping methods to produce a wide range of results. See Figure 20–11.

C. ROD TYPES

1. Concave rods

Most common; they have a smaller circumference in the center and larger circumference on the ends. They produce a tighter curl in the center and a looser, larger curl on either side of the strand. See Figure 20–12.

2. Straight rods

Equal in diameter along the entire length of the rod or curling area; they produce a uniform curl along the entire width of the strand. See Figure 20–13.

Concave and straight rods come in a variety of lengths to accommodate different sections of the head. See Figure 20–14.

3. Soft bender rods

These are usually about 12 inches (30.5 cm) long with a uniform diameter along the entire length. They are soft foam rods with a stiff inner wire that allows them to take on a variety of shapes. See Figure 20–15.

4. Loop or circle rods

These are usually about 12 inches (30.5 cm) long with a uniform diameter; they are ideal for wrapping extremely long hair. When fastened together, they form a circle. See Figure 20–16.

D. END PAPERS

Also known as end wraps, they are absorbent papers used to control the ends of the hair when wrapping. When wrapping, papers should extend beyond the ends of the hair to prevent “fishhooks.”

1. Double flat wrap

Uses two end papers, one placed under and one over the hair strand; both papers extend past the hair ends. See Figure 20–17.

2. Single flat wrap

Uses one end paper placed over top of the strand of hair being wrapped. See Figure 20–18.

3. Bookend wrap

Uses one end paper folded in half over hair ends like an envelope. Pre-folded wraps or large end papers which can be folded are available; this eliminates excess paper and they can be used with short rods or with very short lengths of hair. See Figure 20–19.

E. SECTIONING

1. Panels

The size, shape, and direction of panels varies based on type of wrapping pattern and type and size of tool being used.

2. Base sections

Panels are divided into subsections called base sections. One tool is placed on each base section; the size of the base section is usually the length and width of the tool being used. See Figure 20–20.

SUBJECT OUTLINE**IN-DEPTH NOTES***(Information to share during presentation)***F. BASE PLACEMENT**

1. On-base placement
2. Half-off base placement
3. Off-base placement

Refers to the position of the rod in relation to its base section; determined by the angle at which hair is wrapped

Hair is wrapped at an angle of 45 degrees beyond perpendicular to its base section; the tool is positioned on its base section. See Figure 20–21.

Hair is wrapped at a 90-degree angle (perpendicular) to its base section; the tool is positioned half off its base section. This positioning minimizes stress and tension on hair. See Figure 20–22.

Hair is wrapped at an angle of 45 degrees *below* perpendicular to its base section; the tool is positioned completely off its base section. This creates the least amount of volume, and the curl pattern begins away from scalp. See Figure 20–23.

G. BASE DIRECTION

This refers to the angle at which the tool is positioned on the head: horizontally, vertically, or diagonally.

It also refers to the directional pattern in which hair is wrapped: backward, forward, to one side, etc. Wrapping against the natural growth pattern causes excess stress that may damage or break hair. See Figures 20–24a and 20–24b.

H. WRAPPING TECHNIQUES

1. Croquignole
2. Spiral
3. Piggyback

Hair strands are wrapped from the ends to the scalp, in overlapping concentric layers. The curl is tighter on ends and gets larger nearer the scalp. See Figure 20–25.

Hair is wound from the ends to the scalp; some tools, however, allow wrapping from the scalp to the ends. The angle at which the hair is wrapped causes the hair to spiral along the length of the tool, like the grip on a tennis racquet. This technique produces a more uniform curl from scalp to ends. Hair is wrapped at an angle other than perpendicular to the length of the rod. See Figures 20–26 and 20–27.

This is also called a double rod wrap. In extra-long hair, hair is wrapped on one rod from the scalp to midway down the hair strand. Another rod is used to wrap the remaining hair strand. See Figure 20–28.

IV. CHEMISTRY OF PERM WAVING

Alkaline solutions soften and swell the hair and open the cuticle. See Figure 20–29 illustrating hair saturated in an alkaline solution for five minutes showing the swelling of the cuticle layer. Conversely, see Figure 20–30 to see hair saturated in an acid-balanced solution for five minutes. Note there is far less swelling.

SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

A. REDUCTION REACTION

Once in the cortex, the waving solution breaks the disulfide bonds through a chemical reaction called reduction. Reduction involves either the addition of hydrogen or the removal of oxygen.

B. PERM WAVING REACTIONS

1. Disulfide bond joins sulfur atoms.
2. The disulfide bond is broken.
3. Sulfur atoms attach to hydrogen in the solution.
4. Polypeptide chains reform.

Creating two adjacent polypeptide chains

By adding a hydrogen atom to each of its sulfur atoms
This breaks their attachment to each other.

Once a disulfide bond is broken, the polypeptide chains can form into a new curled shape. Reduction breaks disulfide bonds and oxidation reforms them. See Figure 20–31.

C. REDUCING AGENTS

1. Thio compounds
2. Strength of solutions
3. Thioglycolic acid

Found in all permanent wave solutions

These are commonly referred to as *thio*. Thioglycolic acid is the most common.

This is determined by the concentration of thio. Stronger solutions have a higher concentration of thio with a greater number of hydrogen atoms. The greater the hydrogen atoms available, the more disulfide bonds are broken.

It is a colorless liquid with a strong, unpleasant odor. It provides the hydrogen that causes the reduction in permanent waving solutions. It is an acid that does not swell hair or penetrate the cortex; therefore, manufacturers have to add an alkalinizing agent. When added, a new chemical called ammonium thioglycolate is formed and this is alkaline.

4. Ammonium thioglycolate
5. Perm pH

The main active ingredient or reducing agent in alkaline perms (ATG)

This is the second factor in the overall strength of permanent waving solution. Coarse hair with a strong, resistant cuticle layer may need additional swelling and penetration. The pH of solution should correspond to the resistance, strength, and porosity of the cuticle layer.

C. TYPES OF PERMANENT WAVES

1. Alkaline waves or cold waves
2. Acid waves

See Figure 20–32.

First developed in 1941 using ammonium thioglycolate (ATG), they became known as cold waves since they process at room temperature without adding heat; they usually have a pH between 9.0 and 9.6.

Glyceryl monothioglycolate (GMTG) is the main active ingredient in true acid and acid-balanced waving lotions. It has a low pH.

SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

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| <p>3. True acid waves</p> <p style="margin-left: 20px;">a. Have a pH below 7.0</p> <p style="margin-left: 20px;">b. A pH of 5.0 is neutral for hair.</p> <p style="margin-left: 20px;">c. Acid-balanced waves and components</p> <p>4. Exothermic waves and components</p> <p style="margin-left: 20px;">a. Permanent waving solution</p> <p style="margin-left: 20px;">b. Activator</p> <p>5. Endothermic waves</p> <p>6. Ammonia-free waves</p> <p>7. Thio-free waves</p> <p>8. Low-pH waves</p> <p style="margin-left: 20px;">a. Sulfates</p> <p style="margin-left: 20px;">b. Sulfites</p> <p style="margin-left: 20px;">c. Bisulfates</p> | <p>Introduced in the early 1970s, they usually have a pH of 4.5 to 7.0 and require heat to speed processing. They have three separate components: waving solution, activator, and neutralizer. The activator tube contains GMTG. Acid waves process more slowly and do not produce as firm a curl as alkaline waves.</p> <p>See Figure 20–33.</p> <p>Because pH is calculated on a logarithmic scale, a pH of 7.0 is 100 times more alkaline than the pH of hair; therefore, acid waves can swell the hair.</p> <p>Most have a pH between 7.8 and 8.2, which means they are not true acid waves; modern acid waves are acid-balanced and process more quickly and produce firmer curls than true acid waves.</p> <p>These perms create an exothermic chemical reaction that heats up the solution and speeds up the processing.</p> <p>Solution contains thio</p> <p>The activator contains an oxidizing agent (usually hydrogen peroxide); mixing an oxidizer with the solution causes a rapid release of heat and an increase of temperature of the solution. Heat increases the rate of the chemical reaction and reduces the processing time.</p> <p>These perms are activated by an outside heat source, usually a conventional hood dryer; they will not process properly at room temperature.</p> <p>The main ingredient does not evaporate as readily as ammonia. Aminomethylpropanol (AMP) and monoethanolamine (MEA) are examples of alkanolamines that are used as substitutes for ammonia. Odor is reduced but damage can still occur.</p> <p>These perms use a reducing agent other than ammonium thioglycolate, such as cysteamine or mercaptamine, which are thio compounds. At a high concentration, the reducing agents in thio-free waves can be as damaging as thio.</p> <p>They are weak and do not provide a firm curl; they are usually marketed as body waves.</p> <p>These are alternatives to ammonium thioglycolate.</p> |
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SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

D. SELECTING THE RIGHT TYPE OF PERM

NOTE: Refer to Table 20–1 that lists the common types of permanent waves and the advantages and disadvantages of each. Point out that these are general guidelines only.

CAUTION: Always follow the manufacturer's instructions and the MSDS for each product for accurate, detailed product information.

E. PERMANENT WAVE PROCESSING

1. Most processing takes 5 to 10 minutes.
2. Additional time

Allows polypeptide chains to shift to a new configuration

F. OVERPROCESSED HAIR

1. Does not mean overly curly
2. May be completely straight

If too many disulfide bonds are broken, hair will be too weak to hold a firm curl.

Hair at the scalp is usually stronger than at the ends so *over processed* hair is usually curlier at the scalp and straighter at the ends. See Figure 20–35.

G. UNDERPROCESSED HAIR

If too few disulfide bonds are broken, the hair will not be sufficiently softened and will not hold the desired curl. Hair at the scalp is usually not as curly as at the ends; more processing will make it curlier. See Figure 20–36.

H. PERMANENT WAVING (THIO) NEUTRALIZATION

1. Deactivates waving solution
2. Rebuilds the disulfide bonds

The process of stopping the action of a solution and hardening the hair in its new form

Should any be left in the hair

Into their new shape. Neutralizers are oxidizers; the most common neutralizer is hydrogen peroxide—concentrations vary between 5 volume (1.5%) and 10 volume (3%).

3. Stage One

The first function is deactivation of the waving solution that remains in the hair after rinsing.

- a. Rinse hair for 5 full minutes.
- b. Towel blot thoroughly.
- c. If directed, apply a pre-neutralizing conditioner.

Blot each rod several times using dry towels.

An acidic liquid protein conditioner can be applied to the hair and dried under a warm dryer for five minutes or more prior to neutralization; this is beneficial for damaged hair. Always follow the manufacturer's directions.

4. Proper rinsing and blotting

- a. Rinse with warm water.
- b. Use a gentle stream.
- c. Avoid pressure on the rods.
- d. Rinse fragile areas first.
- e. Thoroughly rinse the nape area.

SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

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| <ul style="list-style-type: none"> f. Rinse for the recommended time. g. Smell hair; continue rinsing if needed. h. Gently blot hair with a towel. i. Check for excess moisture. j. Adjust loose rods. | <p>Look especially at the nape of the neck. Blot thoroughly prior to neutralizing.</p> |
| <p>5. Stage Two</p> <ul style="list-style-type: none"> a. Disulfide bonds are broken. b. Disulfide bonds are rebuilt. c. Hydrogen bonds attract oxygen. d. A water molecule is formed. e. Water is removed. f. Side bonds are reformed. | <p>Waving solution breaks disulfide bonds by adding hydrogen atoms to sulfur atoms in the disulfide bonds.</p> <p>Thio neutralization rebuilds disulfide bonds by removing extra hydrogen atoms.</p> <p>Hydrogen atoms attract to oxygen in the neutralizer and release their bond with the sulfur atoms and join with the oxygen.</p> <p>Each oxygen atom joins with two hydrogen atoms to rebuild one disulfide bond and make one molecule of water.</p> <p>Water is removed in the final rinse and the disulfide bonds from in their new curled position.</p> <p>Side bonds are reformed into their new shape as different pairs. See Figure 20–38.</p> |
| <p>I. PARTIAL PERMS</p> | <p>These can be used for clients with long hair and crown but short sides and nape; clients who only need volume and lift in certain areas; or when the desired style is curls along perimeter with a smooth crown, for example. See Figure 20–44.</p> |
| <p>J. MEN'S PERMS</p> | <p>Many men are looking for added texture, fullness, style, and low maintenance that only a perm can provide. Techniques are essentially the same as for women.</p> |
| <p>K. PRELIMINARY TEST CURLS</p> <ul style="list-style-type: none"> 1. Correct processing time 2. Expected results from solution 3. Expected from rods and wrap | <p>Used to determine how hair will react to a perm</p> <p>Used to determine best processing time for best curl development</p> |
| <p>L. WRAPPING PATTERNS</p> | <p>Basic wrapping patterns may be combined in different ways to create a wide variety of specialized perm wraps that provide an unlimited number of styling options.</p> |
| <p>M. SAFETY PRECAUTIONS</p> <ul style="list-style-type: none"> 1. Protect the client's clothing. | <p>Have the client change into a gown, use a water-proof cape, and double drape with towels to absorb accidental spills.</p> |

SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

2. Determine allergic reaction.
3. Examine the scalp.
4. Determine the extent of damage.
5. Determine prior hydroxide relaxers.
6. Perform the metallic salt test.
7. Apply a protective barrier
8. Do not dilute or add ingredients.
9. Keep solution away from eyes and skin.
10. Always follow the manufacturer's directions.
11. Wear gloves when applying solutions.
12. Replace wet cotton or towels.
13. Discard unused product.

N. METALLIC SALTS

O. PRACTICAL PROCEDURES

1. Pre-Service Procedure 15-1
2. Post-Service Procedure -15-2
3. Preliminary Test Curl for Perm Procedure 20-1

Do not proceed if the client has experienced an allergic reaction before.

Do not proceed if skin abrasions or scalp disease is present.

Do not proceed if there is extensive damage or signs of breakage.

Do not proceed if hair has been treated with hydroxide relaxers.

Apply to the hairline and around the ears.

Unless so specified in manufacturer's directions

If exposed, rinse thoroughly with cool water.

Do not save unused waving lotion or neutralizer.

NOTE: This test may not be found in the textbook. Home haircoloring products containing metallic salts are not compatible with chemical texture services. Perform a metallic salt test to prevent damage.

Test: In glass or plastic bowl, mix 1 ounce of 20-volume peroxide with 20 drops of 28% ammonia. Immerse at least 20 strands of hair in the solution for 30 minutes. If metallic salts are not present, the hair will lighten slightly and you may proceed. If metallic salts are present, the hair will lighten rapidly and the solution may get hot and emit an unpleasant odor. Do not proceed with service.

NOTE: Explain to the students when and where the Practical Class will occur (perhaps now) and that you will hand out procedure sheets for each of the following procedures and they will follow along as you review. They will put away the procedure sheets during the actual demonstration, either performed by you or by the applicable Milady DVD (to ensure consistency between demonstrations).

NOTE: Pre- and post-service procedures are found in Chapter 15, Milady Standard Cosmetology, 2012.

SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

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| <p>4. Basic Perm Wrap
Procedure 20-2</p> | <p>Also known as the straight set wrap; all rods in a panel move in the same direction and are positioned on equal-sized bases. All base sections are horizontal and are the same length and width as the rod. The base control is the position of the tool/rod in relation to its base section, determined by the angle at which the hair is wrapped. See Figure 20-39.</p> |
| <p>5. Curvature Perm Wrap
Procedure 20-3</p> | <p>In the curvature perm wrap, partings and bases radiate throughout the panels and follow the curvature of the head. It uses pie-shaped sections in the curvature areas. See Figure 20-40.</p> |
| <p>6. Bricklay Perm Wrap
Procedure 20-4</p> | <p>Similar to the actual technique of bricklaying; base sections are offset from each other row by row to prevent noticeable splits and to blend the flow of the hair. It can be used with a variety of sectioning, base control, base direction, wrapping techniques, and perm rods. See Figure 20-41.</p> |
| <p>7. Weave Perm Wrap
Procedure 20-5</p> | <p>This technique uses zigzag partings to divide base areas. It can be used throughout or in selected areas only. It is effective for blending between perm rods with opposite directions or when transitioning between wrapped and unwrapped areas. See Figure 20-42.</p> |
| <p>8. Double-Rod or Piggyback
Technique Procedure 20-6</p> | <p>Extra-long hair is wrapped on one rod from the scalp to midway down the hair shaft. Another rod is used to wrap the remaining hair strand in the same direction. This helps ensure an even wave pattern throughout the hair strand.</p> |
| <p>9. Spiral Wrap Technique
Procedure 20-7</p> | <p>In a spiral wrap, the hair is wrapped at an angle other than perpendicular to the length of the rod. It can be compared to the stripes on a barber pole or a candy cane. It is effective for longer hair. Conventional rods, bendable soft foam rods, and loop rods can be used for this technique. See Figure 20-43</p> |

V. CHEMICAL HAIR RELAXERS

A. CHEMICAL HAIR RELAXERS

Chemical hair relaxing is the process of rearranging the basic structure of extremely curly hair into a straighter or smoother form. See Figure 20-45.

The chemical process is very similar although the results are opposite from permanent waving of hair. The chemistry of thio relaxers and permanent waving is exactly the same. All relaxing and permanent waving services change the shape of the hair by breaking disulfide bonds even though the chemistry in hydroxide relaxers is different.

SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

B. OVERLY CURLY HAIR

This hair grows in long twisted spirals or coils. Cross-sections are highly elliptical (deviate from perfect circular or spherical form) as they vary in shape and thickness along their lengths. The thinnest and weakest sections are located at the twists.

C. THIO RELAXERS

Main ingredient is ammonium thioglycolate (ATG), the same reducing agent used in permanent waving

1. Usually have a pH above 10
2. Usually have a higher concentration of ammonium thioglycolate
3. Thicker, with a higher viscosity

Than used in permanent waving

4. Break disulfide bonds and soften hair

Viscosity measures the thickness of a product and affects how the fluid flows. This is more suitable for application as a relaxer.

After enough bonds are broken, hair is straightened into new shape and the relaxer is rinsed from hair.

D. THIO NEUTRALIZATION

The neutralizer is an oxidizing agent, usually hydrogen peroxide. The oxidation reaction rebuilds the disulfide bonds that were broken by the thio relaxer.

E. JAPANESE THERMAL STRAIGHTENERS

Sometimes called thermal reconditioning or TR, it combines the use of a thio relaxer with flat ironing.

1. Hair is shampooed and conditioned.
2. Straightener is distributed evenly on sections.
3. It is processed to desired curl reduction.
4. Hair is thoroughly rinsed (10 minutes).
5. Hair is conditioned and blown dry.
6. Each section is flat ironed.
7. Hair is neutralized and blown dry.

Several passes of the iron are required.

This service can take several hours, requires special certification training, and is not always appropriate for extremely curly hair or some color-treated hair.

F. HYDROXIDE RELAXER EXAMPLES

The hydroxide ion is the active ingredient.

1. Sodium hydroxide
2. Potassium hydroxide
3. Lithium hydroxide
4. Guanidine hydroxide

All four are types of hydroxide relaxers; they are strong alkalis that can swell hair up to twice its normal diameter.

5. Not compatible with thio relaxers

SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

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| <p>6. Have a pH of 13.0 or more</p> <p>7. Lanthionization</p> <p>G. TYPES OF HYDROXIDE RELAXERS</p> <p>1. Metal hydroxide relaxers</p> <p>2. Lye-Based Relaxers</p> <p>3. Lithium Hydroxide and Potassium hydroxide</p> <p>4. Guanidine Hydroxide Relaxers</p> <p style="padding-left: 20px;">a. Hydroxide ion is still active ingredient</p> <p style="padding-left: 20px;">b. Require two components which must be mixed</p> <p style="padding-left: 20px;">c. Straighten hair completely</p> <p style="padding-left: 20px;">d. Less scalp irritation than other Hydroxide relaxers</p> <p style="padding-left: 20px;">e. Recommended for sensitive scalps</p> <p style="padding-left: 20px;">f. Do not reduce hair damage</p> <p>H. LOW-pH RELAXERS</p> <p>I. BASE RELAXERS</p> | <p>Since each step in the pH scale is a tenfold change in concentration, a pH of 13.0 is 100 million times more alkaline than a pH of 5.0. See Figure 20–46.</p> <p>The process by which a sulfur atom is removed from the disulfide bond and converted into a lanthionine bond</p> <p>Disulfide bonds that are <i>broken</i> by hydroxide relaxers are broken <i>permanently</i> and can never be reformed.</p> <p>These are ionic compounds formed by a metal: sodium (Na), potassium (K), or lithium (Li), which is combined with oxygen (O) and hydrogen (H). Metal hydroxide relaxers include sodium hydroxide (NaOH), potassium hydroxide (KOH), and lithium hydroxide (LiOH).</p> <p>The active ingredient is the hydroxide ion.</p> <p>Sodium hydroxide relaxers; also known as caustic soda. This is the oldest and most common type of hair relaxer. It is the same chemical as used in drain cleaners and chemical hair depilatories.</p> <p>These relaxers are often advertised as “no mix-no lye” relaxers. They are not lye but their chemistry and performance are nearly identical.</p> <p>Advertised and sold as “no lye” relaxers</p> <p>Sold over-the-counter</p> <p>They swell hair slightly more than other hydroxide relaxers and are also more drying to the hair.</p> <p>Sulfites and bisulfites; they are marketed as mild alternative relaxers. They are compatible with thio relaxers but not compatible with hydroxide relaxers. They do not completely straighten extremely curly hair. Low pH relaxers are intended for use on color-treated hair.</p> <p>These require application of a base cream. Base cream is an oily cream used to protect the skin and scalp during hair relaxing.</p> |
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SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

J. NO-BASE RELAXERS	These do not require the application of a protective base cream as they contain a base cream that melts at body temperature. A protective base cream may be applied around the ears and hairline.
K. RELAXER STRENGTHS	Most come in three different strengths: mild, regular, and super.
<ol style="list-style-type: none"> 1. Mild 2. Regular 3. Super 	<p>Formulated for fine, color-treated, or damaged hair</p> <p>Intended for normal hair texture with medium natural curl</p> <p>Used for maximum strengthening on extremely curly, coarse hair</p>
L. PERIODIC STRAND TESTING	<p>CAUTION: Extreme damage can occur if thio or hydroxide relaxers are applied to hair that has been colored with products containing metallic salts.</p> <p>Processing time varies according to strength of the relaxer and hair type and condition. You may stretch the strand to determine if curls are removed or you may smooth and press the strand to the scalp (with the back of a comb, brush, or finger). If the strand remains smooth, it is sufficiently relaxed.</p>
M. HYDROXIDE NEUTRALIZATION	This process does not involve oxidation or rebuilding of disulfide bonds.
<ol style="list-style-type: none"> 1. Hair remains at high pH 2. Acid-balanced shampoo used 	<p>Rinsing alone will not neutralize the relaxer. An acid-balanced shampoo or normalizing lotion neutralizes the remaining hydroxide ions.</p> <p>CAUTION: Hair that has been treated with hydroxide relaxers is unfit for thio relaxers or soft curl permanents.</p>
N. ADVANTAGES AND DISADVANTAGES	See Table 20–2 and discuss how to select the correct relaxer for each hair type and circumstance.
O. KERATIN STRAIGHTENING TREATMENTS	<p>These are also called Smoothing Treatments or Brazilian Keratin Treatments. They contain silicone polymers and formalin, which release formaldehyde gas when heated to high temperatures. They work by fixing the keratin in place in a semipermanent manner; they do not break bonds. Treatment is applied and hair is blown dry and a flat iron set at 450 degrees Fahrenheit is used on narrow sections, one by one, to polymerize a coating on the hair. Local source capture ventilation is recommended. Generally, treatment eliminates up to 95 percent of frizz and curl and lasts three to five months.</p>

SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

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| <ol style="list-style-type: none"> 1. Consultation is key. 2. Pre-conditioning 3. Permanent color/highlights 4. Toners or demi-gloss | <p>Discuss the client's history and prior chemical treatments. Discuss home care maintenance: no shampoo for three days; no moisture in hair for three days; no pins, clips, ponytails holders or sunglasses on hair. The length and density should be considered before quoting a price.</p> <p>Helps to equalize porosity for hair that is overprocessed, damaged or very curly</p> <p>Use regular to mild shampoo during haircolor service. Do not use a clarifying product with 70 percent or more highlights.</p> <p>This should be performed at least three to five days after the keratin treatment to prevent color loss and to avoid wetting the newly straightened hair.</p> |
| <p>P. SAFETY PRECAUTIONS</p> | |
| <ol style="list-style-type: none"> 1. Thorough hair analysis and consultation 2. Examine the scalp for abrasions. 3. Keep accurate and detailed client records of the services. 4. Have the client sign a release statement. 5. Do not apply a hydroxide relaxer on hair previously treated with thio relaxer. 6. Do not apply a thio relaxer or soft curl perm on hair previously treated with hydroxide relaxer. 7. Do not chemically relax hair treated with a metallic dye. 8. Do not relax overly damaged hair. 9. Do not shampoo the client prior to application of a hydroxide relaxer. 10. The client's hair and scalp must be completely dry and free from perspiration prior to the application of a hydroxide relaxer. 11. Apply a protective base cream to avoid scalp irritation. | <p>Do not proceed with the service if redness, swelling, or skin lesions are present.</p> <p>This indicates that the client understands the possible risks involved in the service.</p> <p>Suggest instead a series of reconstruction treatments.</p> |

SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

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| <p>12. Wear gloves during the relaxer application.</p> <p>13. Protect the client's eyes.</p> <p>14. Flush the eyes.</p> | <p>If any solution accidentally gets into the client's eye, flush the eye immediately with warm water and refer the client to a doctor.</p> |
| <p>15. Do not allow chemical relaxers to contact ears, scalp, or skin.</p> <p>16. Perform periodic strand tests.</p> <p>17. Avoid scratching the scalp with the comb or fingernails.</p> <p>18. Do not allow application of a relaxer retouch to overlap onto previously relaxed hair.</p> | <p>To see how fast the natural curls are being removed.</p> |
| <p>19. Never use a strong relaxer on fine or damaged hair.</p> <p>20. Do not attempt to remove more than 80 percent of the natural curl.</p> | <p>It may cause breakage.</p> |
| <p>21. Thoroughly rinse chemical relaxer from the hair.</p> <p>22. Use a normalizing lotion to restore hair and scalp to normal acidic pH.</p> <p>23. Use neutralizing shampoo with a color indicator to guarantee that hair and scalp have been restored to normal acidic pH.</p> <p>24. Use a conditioner and wide-tooth comb to eliminate excessive stretching when combing out tangles.</p> <p>25. Do not use hot irons or excessive heat on chemically relaxed hair.</p> | <p>Failure to rinse properly can cause excessive skin irritation and hair breakage.</p> |
| <p>Q. PRACTICAL PROCEDURES</p> | <p>NOTE: Explain to the students when and where the Practical Class will occur (perhaps now) and that you will hand out procedure sheets for each of the following procedures and they will follow along as you review. They will put away the procedure sheets during the actual demonstration, either performed by you or by the applicable Milady DVD (to ensure consistency between demonstrations).</p> |
| <p>1. Hydroxide and Thio relaxers</p> | <p>All hydroxide relaxers follow the same procedure, but different application methods are used for virgin and retouch relaxers.</p> |

SUBJECT OUTLINE

IN-DEPTH NOTES

(Information to share during presentation)

2. Virgin Relaxer Procedure 20–10
This is used only for hair that has not had previous chemical texture services. Product is applied $\frac{1}{4}$ to 2 inch (.6 to 1.25 cm) from the scalp and includes the entire strand up to the porous ends. To avoid overprocessing and scalp irritation, do not apply relaxer to scalp hair or ends until the last few minutes of processing.
3. Retouch Relaxer Procedure 20–11
Used for hair that has had previous chemical texture services
Application starts $\frac{1}{4}$ to $\frac{1}{2}$ inch (.6 to 1.25 cm) away from the scalp and includes new growth only. To avoid overprocessing and scalp irritation, do not apply relaxer to scalp hair until the last few minutes of processing. If the previously relaxed hair requires additional straightening, relaxer may be applied for the last few minutes of processing.
4. Texturizing or retexturizing service
Product is gently combed through hair using a large toothed comb.
5. Normalizing solution
These are conditioners with an acidic pH that condition the hair and restore the natural pH after rinsing out the relaxer and prior to shampooing. Some products include a normalizing or neutralizing shampoo that must be used after rinsing out the relaxer to restore the natural pH.
6. Soft Curl Permanent Procedure 20–12
Soft curl permanents (curl re-forming) do not straighten the hair; they make the existing curl larger and looser. It is a combination of a thio relaxer and a thio permanent that is wrapped on large rods to make an existing curl larger and looser. Soft curl perms use ATG and oxidation neutralizers, just as thio permanent waves do.

SUMMARY AND REVIEW

Hair structure has a significant impact on the physical and chemical actions which occur in permanent waving. Proper hair and scalp analysis as well as a thorough client consultation must be completed prior to giving a perm service. Hair condition, texture, length, porosity, elasticity, and so forth will affect the rod size you choose for perming. Depending on the client's desired results, you will choose one of many products and wrapping patterns.

One of the best ways for you to obtain control of the texture of your client's overcurly hair is through the use of chemical relaxers. Products which are used to relax overcurly hair are formulated with sodium hydroxide, ammonium thioglycolate (thio), or acid-based relaxers. Sodium hydroxide is used most often. Thorough hair and scalp examination and evaluation is critical prior to giving any type of chemical service, including chemical relaxers. You must place the client's safety first and foremost. In addition, thorough analysis will aid you in determining which type of product and what strength of product to use on the client's hair. The strand test prior to the service is a crucial and integral part of the service. It will guide you as to how long the product can remain on the hair before the desired results are achieved or damage will occur. Chemical relaxing can be done routinely and safely as long as the stylist is careful to follow prescribed procedures and the manufacturer's directions and performs frequent test curls during the service to prevent overprocessing.

The speed attained in applying relaxer product will become very important in this service. Extensive practice using mock products will be of great benefit to you as a student to ensure that you can apply relaxing chemicals to the hair with sufficient speed to eliminate damage to the hair. It is important to review, remember, and practice all the safety precautions identified for these services and to remember never to relax the hair more than 80 percent.

LET'S REVIEW:

1. Name the structures of and purpose for each of the hair's layers.

Answer:

- The cuticle is the tough exterior layer of the hair. It surrounds the inner layers and protects the hair from damage. Texture chemicals must penetrate through the cuticle to their target in the cortex in order to be effective.
- The cortex is the middle layer of the hair, located directly beneath the cuticle layer. The cortex is responsible for the incredible strength and elasticity of human hair. Breaking the side bonds of the cortex makes it possible to change the natural wave pattern of the hair.
- The medulla is the innermost layer of the hair and is often called the pith or core of the hair. The medulla does not play a role in chemical texture services and may be missing in fine hair.

2. What are the chemical actions that take place during permanent waving?

Answer: A disulfide bond joins the sulfur atoms in two adjacent polypeptide chains. Permanent wave solution breaks a disulfide bond by adding a hydrogen atom to each of its sulfur atoms. The sulfur atoms attach to the hydrogen from the permanent waving solution, breaking their attachment to each other. Once the disulfide bond is broken, the polypeptide chains can form into their new curled shape. Reduction breaks disulfide bonds and oxidation reforms them.

3. What is the difference between an alkaline wave and a true acid wave?

Answer: An alkaline wave has a pH between 9.0 and 9.6, uses ATG as the reducing agent, and processes at room temperature without the addition of heat. True acid waves have a pH between 4.5 and 7.0 and require heat to process. GMTG, which has a low pH, is the active ingredient. Although a lower pH tends to cause less damage to the hair, acid waves process more slowly, may require the added heat of a hair dryer, and do not usually produce as firm a curl as alkaline waves.

4. Why do permanent waves need to be neutralized?

Answer: Neutralization performs two important functions:

- Any waving solution that remains in the hair is deactivated (neutralized).
- Disulfide bonds that were broken by the waving solution are rebuilt.

5. How do thio relaxers straighten the hair?

Answer: Thio relaxers break disulfide bonds and soften hair. After enough bonds are broken, the hair is straightened into its new shape.

6. How do hydroxide relaxers straighten the hair?

Answer: In the process by which they permanently straighten hair, called lanthionization, hydroxide relaxers remove a sulfur atom from a disulfide bond and convert it into a lanthionine bond. A disulfide bond consists of two bonded sulfur atoms. Lanthionine bonds contain only one sulfur atom. The disulfide bonds that are broken by hydroxide relaxers are broken permanently, and can never be reformed.

7. What is curl re-forming and what is it best used for?

Answer: Curl re-forming makes the existing curl larger and looser. Also called a soft curl permanent, it is a combination of a thio relaxer and a thio permanent that is wrapped on large rods to make existing curls larger and looser.

LEARNING REINFORCEMENT IDEAS AND/OR ACTIVITIES

1. Have students complete Chapter 20 of the *Milady Standard Cosmetology Theory Workbook*, *Practical Workbook*, and *Study Guide: The Essential Companion*.
2. Have students complete review and final testing with *Milady Standard Cosmetology Online Licensing Preparation*.
3. At the end of any class, consider dividing the students into pairs for a “partner-review” process. One partner will pretend he/she has just arrived late to class. The other partner will take five to seven minutes to update the tardy student on what has been covered in class so far. When the student giving the review is finished, the tardy student (who was really present all along) will state any important information that the first student missed. Both students’ memory will be enhanced after having to articulate what they have learned. In addition, by sharing information, each will probably glean some points that he/she may have otherwise missed.
4. Divide students into pairs and have each conduct a client consultation and perform a hair and scalp analysis on the other. They should record their results on the sample client record card. Have the pairs then switch partners and ask the new partner to verify the analysis results of the former partners.
5. Have senior students volunteer to share a personal “horror story” about chemical relaxing services with the students. This will bring humor to the class and also help overcome the fears the newer students have by letting them see that anyone can experience difficulty in the beginning.
6. **DART BOARD REVIEW** Duplicate the dart board found on LP 20.0, TT-2, onto a 24 inch square (61 cm by 61 cm) piece of poster board which will then be tacked up on an even larger bulletin board (to prevent damage to school walls). Each of the perm categories to be reviewed is assigned points, with the bull’s eye representing the highest points. Create two teams of five to seven players, with one captain on each team. Players will stand 10 feet from the dart board. The first player will throw a dart. If the target is missed entirely, the player can throw until a category is hit. When a category is hit, a question is asked of the *entire group* based on the points in the category. Teams are given 30 seconds to formulate the answer that is presented by the team captain. If the team provides an incorrect answer,

the opposing team is given the opportunity to answer and take the points. When a category question has been answered for a point total, that area is closed (if another player hits that area, he/she loses his/her turn). Winning teams are awarded token prizes.

7. Others (the instructor writes in activities, assignments, or ideas that have been used effectively with this lesson in order to aid other instructors who may use this lesson plan in the future):

PRE-SERVICE: PROCEDURE 15-1

CLEANING AND DISINFECTING

- 1. Wear gloves.** Put on a fresh pair of gloves while performing this pre-service to prevent possible contamination of the implements by your hands and to protect your hands from the powerful chemicals in the disinfectant solution.
- 2. Clean tools.** Clean all tools and implements such as combs, brushes, rollers, clips, scissors, and any other reusable, nonelectrical items by first rinsing them in warm running water, and then thoroughly washing them with soap, a small nylon brush, and warm water. Brush grooved items, if necessary, and open hinged tools to scrub the revealed area.
- 3. Rinse and dry tools.** Rinse away all traces of soap with warm running water. The presence of soap in most disinfectants can cause them to become inactive. Dry the items thoroughly with a clean fabric or disposable towel, or allow them to air dry on a clean towel. Your implements are now properly cleaned and ready to be disinfected.
- 4. Immerse implements.** Immerse cleaned implements in an appropriate disinfection container holding an EPA-registered disinfectant for the required time (usually 10 minutes). If the disinfectant solution is cloudy, the solution has been contaminated and must be replaced.
- 5. Remove implements.** Avoid skin contact, and rinse and dry tools thoroughly.
- 6. Store implements.** Store disinfected implements in a clean, dry container until needed.
- 7. Wash hands.** Remove gloves and thoroughly wash your hands with liquid soap. Then rinse and dry them with a clean fabric or disposable towel.

BASIC STATION SETUP

- 8. Clean station.** Clean your station and client chair with an approved disinfectant cleaner.
- 9. Fill disinfectant container.** Ensure that your disinfection container is filled with clean disinfectant solution at least 20 minutes before your first service of the day. Use any disinfectant solution approved by your state board regulations, but make sure that you use it exactly as directed by the manufacturer. Also make sure that you change the disinfectant every day or when the solution is visibly contaminated with debris.
- 10. Collect implements.** Collect all implements and professional products that you will use during the service, along with any electrical equipment such as a blowdryer or clippers, and bring them to your station.

STYLIST PREPARATION

- 11. Review schedule.** Review your appointment schedule for the day and resolve any potential time conflicts or challenges you perceive.
- 12. Review intake form.** Retrieve the client's intake form and consultation card and review them. If the appointment is for a new client, be sure to either have a blank intake form at your station, or ensure that the receptionist will provide one to the client.
- 13. Self-preparation.** Organize yourself by taking care of your personal needs before the client arrives—use the restroom, get a drink of water, return a personal call—complete whatever you need to so that when your client arrives, your full attention is focused on her needs.
- 14. Eliminate distractions.** Turn off your cell phone, pager, or PDA. Be sure that you eliminate anything that can distract you from your client while she is in the salon.
- 15. Clear your head.** Take a moment to clear your head of all personal concerns and issues. Take a couple of deep breaths and remind yourself that you are committed to providing your client with fantastic service and your full attention.
- 16. Wash hands.** Wash your hands thoroughly before going to greet your client.

LP 20.0, P-1 continues

GREET CLIENT

- 17. Greet client.** Greet the client in the reception area with a warm smile and in a professional manner. Introduce yourself if you have never met, and shake hands. The handshake is very important because it is your first physical contact. If the client is new, ask her for the intake form she filled out in the reception area.

LP 20.0, P-1 *continued*

POST-SERVICE: PROCEDURE 15-2

ADVISE CLIENTS AND PROMOTE PRODUCTS

- 1. Determine client satisfaction.** Before your client leaves your styling chair, show her all angles of the completed service. Determine if the client is satisfied with the outcome of your service by asking if she (or he) is pleased or has any questions or concerns to discuss. Be receptive and listen. Never be defensive. If possible, make any adjustments for total satisfaction or give an explanation as to what adjustments are achievable. Determine a plan for future visits. Give the client ideas to think over for next time.
- 2. Establish a home-maintenance regimen.** Advise the client about proper at-home maintenance for the service received and explain how using the recommended professional products will ensure that the hair service maintains its beauty and performance until your client returns for another visit. This is the time to discuss your retail product recommendations. Explain why the recommended products are important and how to use them.

SCHEDULE NEXT APPOINTMENT AND THANK CLIENT

- 3. Write up ticket and recommend retail.** Escort the client to the reception desk, write up a service ticket that describes the service provided, and recommend home care. Place all the recommended professional retail home-care products on the counter for the client. Review the service ticket and the product recommendations with your client.
- 4. Schedule next appointment.** After the client has paid for her service and take-home products, ask her if you can schedule her next appointment for her. Set up the date, time, and services for this next appointment. Write the information on your business card and give it to the client.
- 5. Thank client.** Thank the client for the opportunity to work with her. Express an interest in working with her again in the near future. Invite her to contact you should she have any questions or concerns about the service provided. If the client seems apprehensive, offer to call her in a day or two in order to check in with her about any issues she may encounter. Genuinely wish her well, shake her hand, and wish her a great day.
- 6. Complete client records.** Once you return to your station, be sure to record service information, observations, and product recommendations on the intake form or consultation card. Be sure you return the intake form or consultation card to the proper place for filing.

PREPARE WORK AREA AND IMPLEMENTS FOR NEXT CLIENT

- 7. Clean station.** Disinfect and reorganize your station, and sweep and dispose of hair properly in a covered trash receptacle. Place all used towels and capes in the laundry. Close and remove any styling products or aids you used.
- 8. Disinfect tools.** Wash and disinfect all used tools and implements. Follow all steps for disinfecting implements described in the pre-service procedure.
- 9. Reset station.** Reset your station with disinfected tools and the proper styling products and prepare to greet your next client.

LP 20.0, P-2

PRELIMINARY TEST CURL FOR A PERMANENT WAVE: PROCEDURE 20-1

IMPLEMENTS AND MATERIALS

Acid-balanced shampoo (optional), applicator bottles, conditioner (optional), cotton coil or rope, disposable gloves, end papers, neutralizer, neutralizing bib, perm rods, perm solution, plastic clips for sectioning, plastic tail comb, preneutralizing conditioner (optional), protective barrier cream, roller picks, shampoo cape, spray bottle, styling comb, timer, towels

PROCEDURE

Perform standard pre-service procedure.

- 1. Drape the client for a shampoo.**
- 2. Gently shampoo and towel-dry hair.** Avoid irritating the client's scalp. Re-drape the client for a chemical service.
- 3. Wrap test rods.** Wrap one rod in each different area of the head (top, side, and nape).
- 4. Wrap cotton around each rod.**
- 5. Apply waving lotion.** Apply waving lotion to the wrapped curls. Do not allow waving lotion to come into contact with unwrapped hair.
- 6. Set the timer.** Set a timer, and process according to the manufacturer's directions.
- 7. Perform test curls.** Check each test curl frequently for proper curl development. Unfasten the rod and unwind the curl about one to two turns of the rod. Do not allow the hair to become loose or completely unwound. Gently move the rod toward the scalp to encourage the hair to fall loosely into the wave pattern.
- 8. Confirm S formation.** Curl development is complete when a firm S is formed that reflects the size of the rod used. Different hair textures will have slightly different S formations. The wave pattern for fine, thin hair may be weak, with little definition. The wave pattern for coarse, thick hair is usually stronger and better defined.
- 9. Rinse thoroughly.** When the curl has been formed, rinse thoroughly with warm water for at least five minutes, blot thoroughly, apply neutralizer, and process according to the manufacturer's directions. Gently dry the hair and evaluate the results. Do not proceed with the permanent if the test curls are extremely damaged or overprocessed. If the test curl results are satisfactory, proceed with the perm, but do not re-perm these preliminary test curls. Rinse and process the test rods, but wait to remove them with the rest of the rods after the perm is completed.

Complete Standard post-service procedure.

LP 20.0, P-3

BASIC PERM: PROCEDURE 20-2

IMPLEMENTS AND MATERIALS

Acid-balanced shampoo (optional), applicator bottles, conditioner (optional), cotton coil or rope, disposable gloves, end papers, neutralizer, neutralizing bib, perm rods, perm solution, plastic clips for sectioning, plastic tail comb, preneutralizing conditioner (optional), protective barrier cream, roller picks, shampoo cape, spray bottle, styling comb, timer, towels

Complete standard pre-service procedure.

- 1. Seat the client and shampoo if indicated.**
- 2. Re-drape the client for a chemical service.**
- 3. Section hair.** Divide the hair into nine panels. Use the length of the tool to measure the width of the panels. Keep the hair wet as you wrap.
- 4. Wrap sections.** Begin wrapping the front hairline or crown. Make a horizontal parting the same size as the tool. Using two end papers, roll hair down to the scalp in the direction of hair growth. Position the rod half off base. The band should be smooth, not twisted, and fastened straight across the top of the rod. Excessive tension may cause band marks or hair breakage. Continue wrapping the remainder of the first panel using the same technique. *OPTION:* Insert roller picks to stabilize the tools.
- 5. Continue wrapping.** Proceed wrapping the remaining eight panels in numerical order, using the same technique.
- 6. Apply protection.** Apply protective barrier cream to the hairline and ears. Apply roll cotton around the entire hairline and offer the client a towel to blot any drips.
- 7. Apply perm solution.** Slowly and carefully apply perm solution with a bottle to the hair on each tool. Ask the client to lean forward while you apply to the back area; ask the client to lean back while applying solution to the front and sides. Avoid splashing and dripping. Continue to apply solution until each tool is completely saturated.
- 8. Aerate cap.** If a plastic cap is used, punch holes in it and cover the hair completely without touching the client's skin.
- 9. Check the cotton and towels.** If saturated with solution, replace them.
- 10. Process the perm.** Process according to the manufacturer's directions. Processing usually takes less than 20 minutes at room temperature.
- 11. Check a curl.** Check frequently for curl development. Unwind a tool and check the S formation described in the preliminary test curl procedure.
- 12. Rinse the hair.** When processing is completed, rinse hair thoroughly for at least five minutes, then towel-blot the hair on each tool to remove any excess moisture. Another option that some manufacturers recommend is to apply a preneutralizing conditioner to hair, after rinsing and blotting and before applying neutralizer. This step is optional. Always follow the manufacturer's directions and the procedures approved by your instructor.
- 13. Neutralize.** Apply neutralizer slowly and carefully to the hair on each tool. Ask the client to lean forward while you apply solution to the back area, then lean back as you apply solution to the front and sides. Avoid splashing and dripping. Continue to apply neutralizer until each tool is completely saturated.
- 14. Time processing.** Set the timer according to the manufacturer's directions. After processing, remove tools and work the remaining neutralizer through the hair gently with your hands.
- 15. Rinse thoroughly.** It is optional to shampoo and condition at this point. Always follow the manufacturer's directions and procedures approved by your instructor.
- 16. Style the hair as desired.**

Complete standard post-service procedure.

LP 18.0, P-4

CURVATURE PERM WRAP: PROCEDURE 20-3

IMPLEMENTS AND MATERIALS

Acid-balanced shampoo (optional), applicator bottles, conditioner (optional), cotton coil or rope, disposable gloves, end papers, neutralizer, neutralizing bib, perm rods, perm solution, plastic clips for sectioning, plastic tail comb, preneutralizing conditioner (optional), protective barrier cream, roller picks, shampoo cape, spray bottle, styling comb, timer, towels

Perform standard pre-service procedure.

- 1. Seat the client and shampoo if indicated.**
 - 2. Re-drape for a chemical service.**
 - 3. Section the hair.** Begin sectioning at the front hairline on one side of the part. Comb hair in the direction of growth, then section out individual panels to match the length of the rod.
 - 4. Section panels.** Alternate from side to side as you section out all curvature panels over the entire head. Sectioning panels in advance creates a road map that provides direction and gives continuity to the wrapping pattern.
 - 5. Begin wrapping.** Begin wrapping the first panel at the front hairline, on one side of the part. Comb out a base section with the same width as the diameter of the rod. Base direction should point away from face. Hold hair at a 90-degree angle to the head. Using two end papers, roll the hair down to the scalp and position the rod half off-base.
 - 6. Complete wrapping.** The remaining base sections in the panel should be wider on the outside of the panel (the side farthest away from the face). Continue wrapping the rest of the rods in the panel, alternating rod diameters.
 - 7. Insert picks.** Insert picks to stabilize the rods and eliminate any tension caused by the band.
 - 8. Change direction.** When you reach last rod at the hairline, comb the hair flat at the base and change base direction. Direct the rod up and toward the base, keeping the base area flat.
 - 9. Continue wrapping.** Continue with panel two, which is the front panel on the other side of the part. Repeat the same procedure as on the first panel.
 - 10. Wrap the third panel.** Continue with the third panel, which is the panel behind and next to the first panel. Repeat the same procedure until you reach the last two rods at the hairline. Comb the hair flat at the base and change base direction. Direct the last two rods up and toward base, keeping base area flat.
 - 11. Wrap the fourth panel.** Continue with the fourth panel, on the opposite side of the head, behind and next to the second panel. Repeat the same procedure used with the third panel.
 - 12. Wrap the fifth panel.** Follow the same procedure with the fifth panel. The base direction should remain consistent with the pattern already established. The base direction in the back flows around and contours to the perimeter hairline area.
 - 13. Fit and blend the panels.** All panels should fit the curvature of the head and blend into the surrounding panels.
 - 14. Process and style the hair.**
- #### **Complete standard post-service procedure.**

LP 20.0, P-5

BRICKLAY PERM WRAP: PROCEDURE 20-4

IMPLEMENTS AND MATERIALS

Acid-balanced shampoo (optional), applicator bottles, conditioner (optional), cotton coil or rope, disposable gloves, end papers, neutralizer, neutralizing bib, perm rods, perm solution, plastic clips for sectioning, plastic tail comb, preneutralizing conditioner (optional), protective barrier cream, roller picks, shampoo cape, spray bottle, styling comb, timer, towels

- 1. Seat the client and shampoo if indicated.**
 - 2. Re-drape for a chemical service.**
 - 3. Section at the front hairline.** Begin sectioning at the front hairline on one side of the part. Comb the hair in the direction of growth, and then section out individual panels to match the length of the rod.
 - 4. Part the base section.** Begin by parting out a base section parallel to the front hairline that is the length and width of the rod being used. The base direction is back, away from the face. Hold the hair at a 90-degree angle to the head. Using two end papers, roll the hair down to the scalp and position the rod half off-base.
 - 5. Part the second row.** In the second row directly behind the first rod, part out two base sections for two rods offset from the center of the first rod. Hold the hair at a 90-degree angle to the head. Using two end papers, roll the hair down to the scalp and position the rods half off-base.
 - 6. Insert picks.** Insert picks to stabilize the rods and eliminate any tension caused by the band.
 - 7. Part the third row.** Begin the third row by parting out a base section at the point where the two rods meet in the previous row. This same pattern is used throughout the entire wrap.
 - 8. Continue to part.** Continue to part out rows that radiate around the curve of the head, through the crown area. Extend rows around and down to the side hairline, parting out base sections at the center of the point where the two rods meet in the previous row.
 - 9. Finish the crown.** Stop the curving rows after you have finished wrapping the crown area. Part out horizontal sections throughout the back of the head, and continue with the bricklay pattern. You may need to change the length of the rods from row to row to maintain the pattern.
 - 10. Process and style the hair.**
- Complete standard post-service procedure.**

LP 20.0, P-6

WEAVE WRAP: PROCEDURE 20-5

IMPLEMENTS AND MATERIALS

Acid-balanced shampoo (optional), applicator bottles, conditioner (optional), cotton coil or rope, disposable gloves, end papers, neutralizer, neutralizing bib, perm rods, perm solution, plastic clips for sectioning, plastic tail comb, preneutralizing conditioner (optional), protective barrier cream, roller picks, shampoo cape, spray bottle, styling comb, timer, towels

- 1. Seat the client and shampoo if indicated.**
 - 2. Re-drape for a chemical service.**
 - 3. Section at the front hairline.** Begin sectioning at the front hairline on one side of the part. Comb the hair in the direction of growth, and then section out individual panels to match the length of the rod.
 - 4. Part the base section.** Part out one base section the same size as two rods. Comb the entire base section at a 90-degree angle to the head, and use a tail comb to make a zigzag parting along the length of the base section.
 - 5. Roll the strand.** Using two end papers, roll half of the strand down to the scalp.
 - 6. Wrap the remaining half of the section.** Comb the remaining half of the base section at a 90-degree angle, use two end papers, and roll the strand down to the scalp.
 - 7. Secure the rods.** Secure the rods and insert picks to stabilize the rods and to eliminate any tension caused by the band.
 - 8. Continue wrapping.** Continue with the same procedure in any sections where the effect is desired.
 - 9. Process and style as desired.**
- Complete standard post-service procedure.**

LP 20.0, P-7

DOUBLE TOOL (PIGGYBACK) WRAP: PROCEDURE 20-6

IMPLEMENTS AND MATERIALS

Acid-balanced shampoo (optional), applicator bottles, conditioner (optional), cotton coil or rope, disposable gloves, end papers, neutralizer, neutralizing bib, perm rods, perm solution, plastic clips for sectioning, plastic tail comb, preneutralizing conditioner (optional), protective barrier cream, roller picks, shampoo cape, spray bottle, styling comb, timer, towels

- 1. Seat the client and shampoo if indicated.**
 - 2. Re-drape for a chemical service.**
 - 3. Section at the front hairline.** Begin sectioning at the front hairline on one side of the part. Comb the hair in the direction of growth, and then section out individual panels to match the length of the rod.
 - 4. Place the rod in middle of the strand.** Begin by placing the base rod in the middle of the strand. Wrap the end of the strand one revolution around the rod while holding it to one side.
 - 5. Roll the strand.** Roll the rod up to the base area, letting the loose ends follow as you roll.
 - 6. Insert picks.** Insert picks to stabilize the rods and to eliminate any tension caused by the band.
 - 7. Use two endpapers and roll.** Place two end papers on the ends of the strand and position a rod to roll from the ends toward the base area. Secure the end rod on top of the base rod.
 - 8. Continue the procedure.** Continue with the same procedure in any sections where the effect is desired.
 - 9. Process and style the hair.**
- Complete standard post-service procedure.**

LP 20.0, P-8

SPIRAL PERM WRAP: PROCEDURE 20-7

IMPLEMENTS AND MATERIALS

Acid-balanced shampoo (optional), applicator bottles, conditioner (optional), cotton coil or rope, disposable gloves, end papers, neutralizer, neutralizing bib, perm rods, perm solution, plastic clips for sectioning, plastic tail comb, preneutralizing conditioner (optional), protective barrier cream, roller picks, shampoo cape, spray bottle, styling comb, timer, towels

- 1. Seat the client and shampoo if indicated.**
 - 2. Re-drape for a chemical service.**
 - 3. Section at the front hairline.** Begin sectioning at the front hairline on one side of the part. Comb the hair in the direction of growth, and then section out individual panels to match the length of the rod.
 - 4. Part off four sections.** Part the hair into four panels, from the center of the front hairline to the center of the nape, and from ear to ear. Section out a fifth panel from ear to ear in the nape area.
 - 5. Comb first the section.** Section out the first row along the hairline in the nape area. Comb the remainder of the hair up, and secure it out of the way.
 - 6. Begin wrapping.** Part out the first base section on one side of the first row. Hold the hair at a 90-degree angle to the head. Using one or two end papers, begin wrapping at one end of the rod. Starting the wrap from the right or left side of the rod will orient the curl in that direction.
 - 7. Spiral the hair.** Roll the first two full turns at a 90-degree angle to the rod to secure the ends of the hair, and then start spiraling the hair on the rod by changing the angle to an angle other than 90 degrees.
 - 8. Roll to the scalp.** Continue to spiral the hair toward the other end of the rod. Roll the hair down to the scalp, position the rod half off-base, and secure it by fastening the ends of the rod together.
 - 9. Continue wrapping.** Continue wrapping with the same technique, in the same direction, until the first row is completed.
 - 10. Section the second row.** Section out the second row above and parallel to the first row. Comb the remainder of the hair up and secure it to keep it out of the way.
 - 11. Wrap the opposite side.** Begin wrapping at the opposite side from the side where the first row began, and move in the direction opposite the direction established in the first row.
 - 12. Complete the second row.** Follow the same procedure to wrap the second row but begin wrapping each rod at the opposite end established in the first row. Continue wrapping with the same technique, in the same direction, until the second row is completed.
 - 13. Section the third row.** Section out the third row above and parallel to the second row. Follow the same wrapping procedure, alternating the rows from left to right as you move up the head. This will alternate the orientation of the curl throughout the head. Complete wrapping.
 - 14. Process and style the hair.**
- Complete Standard post-service procedure.**

LP 20.0, P-9

THIO RELAXER TO VIRGIN HAIR: PROCEDURE 20-8

IMPLEMENTS AND MATERIALS

Acid-balanced shampoo, bowl and applicator brush, conditioner, disposable gloves, hard rubber comb, plastic clips, preneutralizing conditioner, protective base cream, shampoo cape, spray bottle, styling comb, thio neutralizer, thio relaxer, timer, towels

PROCEDURE FOR APPLYING VIRGIN HYDROXIDE RELAXERS

Complete standard pre-service procedure.

- 1. Analyze the hair and scalp.** Perform tests for porosity and elasticity.
- 2. Drape the client for a chemical service.**
- 3. Section and clip hair.** Part the hair into four sections, from the center of the front hairline to the center of the nape, and from ear to ear. Clip the sections up to keep them out of the way.
- 4. Protect the client.** Apply protective base cream to the hairline and ears. *Option:* Take ¼-inch to ½-inch (.6 to 1.25 cm) horizontal partings, and apply a protective base cream to the entire scalp. (Always follow the manufacturer's directions and the procedures approved by your instructor).
- 5. Begin application.** Wear gloves on both hands. Begin application in the most resistant area, usually at the back of the head. Make ¼-inch to ½-inch (.6 to 1.25 cm) horizontal partings, and apply the relaxer to the top of the strand first, then to the underside. Apply the relaxer with a brush or the back of a tail comb or fingers. Apply relaxer ¼ inch to ½ inch (.6 to 1.25 cm) away from the scalp and up to the porous ends. To avoid scalp irritation, do not allow the relaxer to touch the scalp until the last few minutes of processing.
- 6. Continue application.** Continue applying the relaxer, working your way down the section toward the hairline.
- 7. Finish application.** Continue the same application procedure with the remaining sections. Finish the most resistant sections first.
- 8. Smooth with the back of the comb.** After the relaxer has been applied to all sections, use the back of the comb or your hands to smooth each section. Never comb the relaxer through the hair.
- 9. Process and perform strand tests.** Process according to the manufacturer's directions. Perform periodic strand tests. Processing usually takes less than 20 minutes at room temperature. Always follow the manufacturer's processing directions.
- 10. Work the relaxer to the scalp.** During the last few minutes of processing, work the relaxer down to the scalp and through the ends of the hair, using additional relaxer as needed. Carefully smooth all sections using an applicator brush, fingers, or the back of the comb.
- 11. Rinse thoroughly.** Rinse thoroughly with warm water to remove all traces of the relaxer.
- 12. Shampoo with acid-balanced shampoo.** Shampoo at least three times with an acid-balanced neutralizing shampoo. It is essential that all traces of the relaxer be removed from the hair. *Option:* If you are using a neutralizing shampoo with a color indicator, a change in color will indicate when all traces of the relaxer are removed and the natural pH of the hair and scalp has been restored.
- 13. Blot excess water from the hair.**
- 14. Apply neutralizer.** Apply in ¼- to ½-inch (.6 to 1.25 cm) sections throughout the hair and smooth with your hands or the back of the comb.
- 15. Process the neutralizer according to the directions.**
- 16. Rinse thoroughly, shampoo, condition, and style as desired.**

Complete standard post-service procedure.

LP 20.0, P-10

THIO RELAXER RETOUCH: PROCEDURE 20-9

IMPLEMENTS AND MATERIALS

Acid-balanced shampoo, bowl and applicator brush, conditioner, disposable gloves, hard rubber comb, plastic clips, preneutralizing conditioner, protective base cream, shampoo cape, spray bottle, styling comb, thio neutralizer, thio relaxer, timer, towels

- 1. Analyze the hair and scalp.** Perform tests for porosity and elasticity.
 - 2. Drape the client for a chemical service.**
 - 3. Section and clip hair.** Divide the hair into four sections, from the center of the front hairline to the center of the nape, and from ear to ear. Clip the sections up to keep them out of the way.
 - 4. Protect your hands.** Wear gloves on both hands. Apply a protective base cream to the hairline and ears. *Option:* Take ¼-inch to ½-inch horizontal (.6 to 1.25 cm) partings and apply protective base cream to the entire scalp.
 - 5. Apply the relaxer.** Begin application of the relaxer in the most resistant area, usually at the back of the head. Make ¼-inch to ½-inch (.6 to 1.25 cm) horizontal partings and apply the relaxer to the top of the strand. Apply the relaxer ¼ inch to ½ inch (.6 to 1.25 cm) away from the scalp and only to new growth. Do not allow the relaxer to touch the scalp until the last few minutes of processing. To avoid over processing or breakage, do not overlap the relaxer onto the previously relaxed hair.
 - 6. Continue application.** Continue applying the relaxer, using the same procedure and working your way down the section toward the hairline.
 - 7. Continue application.** Continue the same application procedure with the remaining sections, finishing the most resistant sections first.
 - 8. Smooth sections.** After the relaxer has been applied to all sections, use the back of the comb, the applicator brush, or your hands to smooth each section.
 - 9. Process and perform strand tests.** Process according to the manufacturer's directions. Perform periodic strand tests. Processing usually takes less than 20 minutes at room temperature. Always follow the manufacturer's processing directions.
 - 10. Work the relaxer to the scalp.** During the last few minutes of processing, gently work the relaxer down to the scalp.
 - 11. Work the relaxer to the ends.** If the ends of the hair need additional relaxing, work the relaxer through to the ends for the last few minutes of processing. Do not relax the ends during each retouch; doing this will cause overprocessing. *Option:* A cream conditioner may be applied to relaxed ends to protect them from overprocessing caused by overlapping.
 - 12. Rinse thoroughly.** Use warm water to remove all traces of the relaxer.
 - 13. Shampoo three times.** Shampoo at least three times with an acid-balanced shampoo. It is essential that all traces of the relaxer be removed from the hair. *Optional:* Apply the preneutralizing conditioner and comb it through to the ends of the hair. Leave it on for approximately five minutes and then rinse. Always follow the manufacturer's directions and the procedures approved by your instructor.
 - 14. Blot excess water from the hair.**
 - 15. Apply neutralizer.** Apply in ¼- to ½-inch (.6 to 1.25 cm) sections throughout the hair and smooth with hands or the back of the comb.
 - 16. Neutralize.** Process the neutralizer according to the manufacturer's directions.
 - 17. Rinse thoroughly, shampoo, condition, and style.**
- Complete standard post-service procedure.**

LP 20.0, P-11

APPLYING HYDROXIDE RELAXER TO VIRGIN HAIR: PROCEDURE 20-10

IMPLEMENTS AND MATERIALS

Acid-balanced shampoo, bowl and applicator brush, conditioner, disposable gloves, hard rubber comb, hydroxide neutralizer, hydroxide relaxer, plastic clips, protective base cream, shampoo cape, spray bottle, styling comb, timer, towels

PROCEDURE

Perform standard pre-service procedure

- 1. Analyze the hair and scalp.** Perform tests for porosity and elasticity.
 - 2. Drape the client for a chemical service.** To avoid scalp irritation, do not shampoo the hair. *The hair and scalp must be completely dry prior to the application of a hydroxide relaxer.*
 - 3. Section and clip the hair.** Part the hair into four sections, from the center of the front hairline to the center of the nape, and from ear to ear. Clip the sections up to keep them out of the way.
 - 4. Apply a protective base cream.** Apply to the hairline and ears. *Option:* Take ¼-inch to ½-inch horizontal partings, and apply a protective base cream to the entire scalp. Always follow the manufacturer's directions and the procedures approved by your instructor.
 - 5. Begin application.** Wear gloves on both hands. Begin application in the most resistant area, usually at the back of the head. Make ¼-inch to ½-inch (.6 to 1.25 cm) horizontal partings, and apply the relaxer to the top of the strand first and then to the underside. Apply the relaxer with an applicator brush, the back of the comb, or your fingers. Apply relaxer ¼ inch to ½ inch (.6 to 1.25 cm) away from the scalp, and up to the porous ends. To avoid scalp irritation, do not allow the relaxer to touch the scalp until the last few minutes of processing.
 - 6. Continue application.** Continue applying the relaxer, working your way down the section toward the hairline. Continue the same application procedure with the remaining sections. Finish the most resistant sections first.
 - 7. Smooth the sections.** After the relaxer has been applied to all sections, use the back of the comb or your hands to smooth each section. Never comb the relaxer through the hair.
 - 8. Process.** Process according to the manufacturer's directions. Perform periodic strand tests. Processing usually takes less than 20 minutes at room temperature. Always follow the manufacturer's processing directions.
 - 9. Work the relaxer through the ends.** During the last few minutes of processing, work the relaxer down to the scalp and through the ends of the hair, using additional relaxer as needed. Carefully smooth all sections using an applicator brush, fingers, or the back of the comb.
 - 10. Rinse thoroughly.** Rinse with warm water to remove all traces of the relaxer.
 - 11. Apply normalizing lotion.** *Optional:* Apply the normalizing lotion and comb it through to the ends of the hair. Leave it on for approximately five minutes and then rinse thoroughly. (Always follow the manufacturer's directions and the procedures approved by your instructor.)
 - 12. Shampoo.** Shampoo at least three times with an acid-balanced neutralizing shampoo. It is essential that all traces of the relaxer be removed from the hair. *Option:* If you are using a neutralizing shampoo with a color indicator, a change in color will indicate when all traces of the relaxer are removed and the natural pH of the hair and scalp has been restored.
 - 13. Rinse thoroughly, condition, and style as desired.**
- Complete standard post-service procedure.**

LP 20.0, P-12

HYDROXIDE RELAXER RETOUCH: PROCEDURE 20-11

IMPLEMENTS AND MATERIALS

Acid-balanced shampoo, bowl and applicator brush, conditioner, disposable gloves, hard rubber comb, hydroxide neutralizer, hydroxide relaxer, plastic clips, protective base cream, shampoo cape, spray bottle, styling comb, timer, towels

PROCEDURE

Perform standard pre-service procedure.

- 1. Analyze the hair and scalp.** Perform tests for porosity and elasticity.
- 2. Drape the client for a chemical service.** To avoid scalp irritation, do not shampoo the hair. *The hair and scalp must be completely dry prior to the application of a hydroxide relaxer retouch.*
- 3. Section and clip the hair.** Divide the hair into four sections, from the center of the front hairline to the center of the nape, and from ear to ear. Clip sections up to keep them out of the way.
- 4. Apply a protective base cream.** Wear gloves on both hands. Apply a protective base cream to the hairline and ears, unless you are using a no-base relaxing product. *Option:* Take ¼-inch to ½-inch horizontal (.6 to 1.25 cm) partings and apply a protective base cream to the entire scalp.
- 5. Begin application.** Begin application of the relaxer in the most resistant area, usually at the back of the head. Make ¼-inch to ½-inch (.6 to 1.25 cm) horizontal partings, and apply the relaxer to the top of the strand. Apply the relaxer as close to the scalp as possible, but do not touch the scalp with the product. Only allow the relaxer to touch the scalp itself during the last few minutes of processing. To avoid overprocessing or breakage, do not overlap the relaxer onto the previously relaxed hair.
- 6. Continue application.** Continue applying the relaxer, using the same procedure and working your way down the section toward the hairline.
- 7. Finish application.** Continue the same application procedure with the remaining sections, finishing the most resistant sections first.
- 8. Smooth the sections.** After the relaxer has been applied to all sections, use the back of the comb, the applicator brush, or your hands to smooth each section.
- 9. Process.** Process according to the manufacturer's directions. Perform periodic strand tests. Processing usually takes less than 20 minutes at room temperature. Always follow the manufacturer's processing directions.
- 10. Work the relaxer to the scalp.** During the last few minutes of processing, gently work the relaxer down to the scalp.
- 11. Work the relaxer to the ends.** If the ends of the hair need additional relaxing, work the relaxer through to the ends for the last few minutes of processing. Do not relax the ends during each retouch; doing this will cause overprocessing. *Option:* Apply a cream conditioner to relaxed ends to protect them from overprocessing caused by overlapping.
- 12. Rinse thoroughly.** Rinse thoroughly with warm water to remove all traces of the relaxer.
- 13. Shampoo.** Shampoo at least three times with an acid-balanced neutralizing shampoo. It is essential that all traces of the relaxer be removed from the hair.
- 14. Style hair as desired.**

Complete standard post-service procedure

LP 20.0, P-13

CURL RE-FORMING (SOFT CURL PERM): PROCEDURE 20-12

IMPLEMENTS AND MATERIALS

Acid-balanced shampoo, applicator bottles, applicator brush, conditioner, plastic or glass bowl, pre-neutralizing conditioner (optional), protective base cream, thio cream relaxer (curl rearranger), thio curl booster, thio neutralizer

PROCEDURE

Perform standard pre-service procedure

- 1. Analyze the hair and scalp.** Perform tests for porosity and elasticity. Remember, this procedure requires that the hair and scalp be completely dry.
 - 2. Drape the client for a chemical service.** Follow steps 1-12 of Procedure 20-10, Applying Hydroxide Relaxer To Virgin Hair.
 - 3. Section the hair.** After rinsing the hair, towel-blot and part it into nine panels. Use the length of the rod to measure the width of the panels. Roll hair on the appropriate sized perm rods. Begin wrap. Wear gloves on both hands and begin wrapping at the most resistant area. Apply and distribute the thio curl booster to each panel as you wrap the hair. Make a horizontal parting the same size as the rod. Hold the hair at a 90-degree angle to the head. Using two end papers, roll the hair down to the scalp. Position the rod half off-base. *Option:* Insert roller picks to stabilize the rods and eliminate any tension caused by the band.
 - 4. Continue wrapping first the panel.** Use the same technique. Maintain even dampness as you work.
 - 5. Finish wrapping all panels.** Continue wrapping the remaining eight panels in numerical order using the same technique.
 - 6. Place cotton.** Place cotton around the hairline and neck and apply thio curl booster to all the curls until they are completely saturated.
 - 7. Aerate the cap.** If a plastic cap is used, punch a few holes in the cap and cover all the hair completely. Do not allow the plastic cap to touch the client's skin. Check cotton and towels. If they are saturated with solution, replace them.
 - 8. Process.** Process according to the manufacturer's directions. Processing time will vary according to the strength of the product, the hair type and condition, and desired results. Processing usually takes less than 20 minutes at room temperature. Check for proper curl development.
 - 9. Rinse thoroughly.** When processing is completed, rinse the hair thoroughly for at least five minutes. Then towel-blot the hair on each rod to remove excess moisture. *Option:* Apply preneutralizing conditioner according to the manufacturer's directions.
 - 10. Neutralize.** Apply the neutralizer slowly and carefully to the hair on each rod. Avoid splashing and dripping. Make sure each rod is completely saturated. Distribute the remaining neutralizer. Set a timer and neutralize according to the manufacturer's directions.
 - 11. Remove the rods and rinse.** Remove the rods, distribute the remaining neutralizer through the ends of the hair, and rinse thoroughly. *Option:* Shampoo and condition.
 - 12. Style hair as desired.**
- Complete standard post-service procedure.**

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PRACTICAL COSMETOLOGY SKILLS COMPETENCY EVALUATION CRITERIA

The following criteria may be used with the school's practical grading procedures to determine a student's competency in entry-level practical skills. Upon completion of this lesson and the assigned practice, the student should be able to competently perform each of the criteria listed. Each criterion is written as a positive and accurate statement. The answer is either *yes* or *no*. Convert the number of criteria in each category to the school's grading scale. For example, if your grading scale is on a 100-point system and there are 10 criteria, each criterion would be worth 10 points. The student would be given 10 points for each criterion that was checked as a *yes*.

PROCEDURE FOR PRELIMINARY TEST CURLS ASSESSMENT

- _____ Draped the client for a shampoo
- _____ Gently shampooed and towel-dried hair
- _____ Re-draped for a chemical service
- _____ Wrapped one tool in each different area of the head: the top, the side, and the nape
- _____ Wrapped a coil of cotton around each tool
- _____ Applied waving lotion to the wrapped curls
- _____ Did not allow waving lotion to come into contact with unwrapped hair
- _____ Set a timer and processed according to the manufacturer's directions
- _____ Checked each test curl frequently for proper curl development by unfastening the tool and unwinding about ½ turn of the tool
- _____ Did not allow hair to become loose or completely unwound
- _____ Gently moved the tool toward the scalp to encourage hair to fall loosely into the wave pattern
- _____ Curl development was complete with a firm and definite "S"
- _____ Rinsed thoroughly with warm water for at least five minutes
- _____ Blotted thoroughly
- _____ Rewrapped with a coil of cotton
- _____ Applied neutralizer
- _____ Processed according to the manufacturer's directions
- _____ Gently dried hair and evaluated results
- _____ Did not proceed with service if test curls were extremely damaged or overprocessed

PROCEDURE FOR BASIC PERM WRAP (STRAIGHT SET WRAP) ASSESSMENT

- _____ Used the length of the tool to measure the width of the panels and divided into nine panels
- _____ Kept hair wet during wrapping
- _____ Began wrapping the front hairline
- _____ Made a horizontal parting the same size as the tool
- _____ Held hair at 90-degree angle to the head
- _____ Using two end papers, rolled hair down to the scalp
- _____ Positioned the tool half off-base
- _____ The band was smooth, not twisted, and fastened straight across the top of the tool
- _____ Inserted picks to stabilize rods and eliminate any tension caused by band as needed
- _____ Continued wrapping the remaining eight panels in numerical order, using the same technique
- _____ Applied protective barrier cream to the hairline and ears
- _____ Applied roll cotton around the entire hairline
- _____ Offered the client a towel to blot any drips
- _____ Slowly and carefully applied perm solution with a bottle to the hair on each tool
- _____ Asked the client to lean forward while applying to the back area

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- _____ Asked the client to lean back while applying solution to front and sides
- _____ Avoided splashing and dripping
- _____ Continued to apply solution until each tool was completely saturated
- _____ If a plastic cap was used, punched a few holes in it and covered the hair completely
- _____ Did not allow the cap to touch the skin
- _____ Checked the cotton and towels
- _____ If saturated with solution, replaced them
- _____ Processed according to the manufacturer's directions
- _____ Checked frequently for curl development
- _____ When processing was completed, rinsed hair thoroughly for at least five minutes
- _____ Towel-blotted the hair on each tool to remove any excess moisture
- _____ Applied neutralizer slowly and carefully to the hair on each tool
- _____ Asked the client to lean forward while applying neutralizer to the back area
- _____ Asked the client to lean back while applying neutralizer to the front and sides
- _____ Avoided splashing and dripping
- _____ Continued to apply neutralizer until each tool was completely saturated
- _____ Set timer according to manufacturer's directions
- _____ After processing, removed tools and worked the remaining neutralizer through the hair gently
- _____ Rinsed thoroughly
- _____ Styled hair as desired

CURVATURE PERM WRAP ASSESSMENT

- _____ Began sectioning at the front hairline on one side of the part
- _____ Combed hair in the direction of growth
- _____ Sectioned out individual panels to match the length of the rod
- _____ Alternated from side to side when sectioning out all curvature panels over the entire head
- _____ Began wrapping the first panel at the front hairline, on one side of the part
- _____ Combed out a base section with the same width as the diameter of the rod
- _____ Base direction pointed away from the face
- _____ Held hair at 90-degree angle to the head
- _____ Using two end papers, rolled hair down to the scalp
- _____ Positioned the rod half off base
- _____ Remaining base sections in the panel were wider on the outside of the panel (the side farthest away from the face)
- _____ Continued wrapping the rest of the rods in the panel, alternating rod diameters
- _____ When the last rod at the hairline was reached, combed hair flat at the base and directed the rod up and toward the base, keeping the base area flat
- _____ Continued with panel two and repeated the same procedure as on the first panel
- _____ Continued with the third panel and repeated the same procedure until reaching the last two rods at the hairline
- _____ Combed hair flat at the base and directed the last two rods up and toward the base, keeping the base area flat
- _____ Continued with the fourth panel, on the opposite side of head, behind and next to the second panel
- _____ Repeated the same procedure used with the third panel
- _____ Followed the same procedure with the fifth panel
- _____ The base direction remained consistent with the pattern already established
- _____ The base direction in back flowed around and contoured to the perimeter hairline area
- _____ All panels fit the curvature of the head and blended into the surrounding panels

LP 20.0, TT-1 *continued*

BRICKLAY PERM WRAP ASSESSMENT

- _____ Began by parting out a base section parallel to the front hairline that was the length and width of the rod being used
- _____ Base direction was back, away from the face
- _____ Held hair at 90-degree angle to the head
- _____ Using two end papers, rolled hair down to the scalp
- _____ Positioned the rod half off-base
- _____ In the second row directly behind the first rod, parted out two base sections for rods offset from the center of the first rod
- _____ Held hair at 90-degree angle to the head
- _____ Using two ends papers, rolled hair down to the scalp
- _____ Positioned the rods half off-base
- _____ Began the third row by parting out a base section at the point where the two rods met in the previous row
- _____ Used same pattern throughout the entire wrap
- _____ Continued to part out rows that radiated around the curve of the head through the crown area
- _____ Extended the rows around and down to the side hairline, parting out base sections at the center of the point where the two tools met in the previous row
- _____ Stopped the curving rows after wrapping the entire crown area
- _____ Parted out horizontal sections throughout the back of the head and continued with the bricklay pattern
- _____ Length of rods was changed from row to row to maintain the pattern as necessary

WEAVE WRAP ASSESSMENT

- _____ Parted one base section the same size as two rods
- _____ Combed the entire base section at a 90-degree angle to the head
- _____ Used a rattail comb to make a zigzag parting along the length of the base section
- _____ Using two end papers, rolled the top half of the strand down to the scalp
- _____ Combed the remaining half of the base section at a 90-degree angle
- _____ Used two end papers, and rolled strand down to the scalp
- _____ The remaining half was rolled down in the opposite direction of the first half
- _____ Continued with the same procedure in any sections where the zigzag effect was desired

DOUBLE TOOL (PIGGYBACK) WRAP ASSESSMENT

- _____ Began by placing a base rod in the middle of the strand
- _____ Wrapped the end of the strand one revolution around the rod while holding it to one side
- _____ Rolled the rod to the base area, letting the loose ends flow
- _____ Placed two end papers on the ends of the strand and positioned the rod
- _____ Rolled from the ends toward the base area
- _____ Secured the end rod on top of the base rod
- _____ Continued with the same procedure in any sections where the effect was desired

SPIRAL PERM WRAP ASSESSMENT

- _____ Began at the nape and worked up toward the top of the head
- _____ Sectioned out the first row along the hairline in the nape area
- _____ Combed the remainder of the hair up and secured it out of the way
- _____ Parted out the first base section on one side of the first row
- _____ Held hair at a 90-degree angle to the head

LP 20.0, TT-1 *continued*

- _____ Using one or two ends papers, began wrapping at one end of the tool
- _____ Rolled the first two full turns at a 90-degree angle to the tool to secure the ends of the hair
- _____ Then started spiraling the hair on the tool by changing the angle
- _____ Continued to spiral the hair toward the other end of the tool
- _____ Rolled hair down to the scalp
- _____ Positioned the tool half off-base
- _____ Secured it by fastening the ends of the tool together
- _____ Continued wrapping with the same technique, in the same direction, until the first row was completed
- _____ Sectioned out the second row above and parallel to the first row
- _____ Combed the remainder of the hair up and secured it to keep it out of the way
- _____ Began wrapping at the opposite side from the side where the first row began
- _____ Moved in the opposite direction established in the first row
- _____ Followed the same procedure to wrap the second row but began wrapping each tool at the opposite end established in the first row
- _____ Continued wrapping with the same technique, in the same direction, until the second row was completed
- _____ Sectioned out the third row above and parallel to the second row
- _____ Followed the same wrapping procedure, alternating rows from left to right while moving up the head

PROCEDURE FOR APPLYING VIRGIN THIO RELAXERS ASSESSMENT

- _____ Parted hair into four sections, from the center of the front hairline to the center of the nape, and from ear to ear
- _____ Clipped the sections up to keep them out of the way
- _____ Applied protective base cream to the hairline and ears
- _____ Wore gloves on both hands
- _____ Began application in the most resistant area, usually at the back of the head
- _____ Made ¼ to ½ inch (.6 to 1.25 cm) horizontal partings and applied relaxer to the top of the strand first, then to the underside
- _____ Applied relaxer ¼ to ½ inch (.6 to 1.25 cm) away from the scalp and up to the porous ends
- _____ Did not allow relaxer to touch the scalp until the last few minutes of processing
- _____ Continued applying the relaxer, working down the section toward the hairline
- _____ Continued the same application procedure with the remaining sections. Finished the most resistant sections first
- _____ After the relaxer was applied to all sections, used the back of the comb or hands to smooth each section
- _____ Processed according to the manufacturer's directions
- _____ Performed periodic strand tests
- _____ During the last few minutes of processing, worked the relaxer down to the scalp and through the ends of the hair, using additional relaxer as needed
- _____ Carefully combed and smoothed all sections
- _____ Rinsed thoroughly with warm water to remove all traces of the relaxer
- _____ Shampooed with an acid-balanced shampoo
- _____ Blotted excess water from the hair
- _____ Applied neutralizer in ¼ to ½-inch (.6 to 1.25 cm) sections
- _____ Smoothed with hands or the back of the comb
- _____ Processed the neutralizer according to directions
- _____ Rinsed thoroughly
- _____ Shampooed and conditioned hair

LP 20.0, TT-1 *continued*

PROCEDURE FOR THIO RELAXER RETOUCH ASSESSMENT

- _____ Divided hair into four sections, from the center of the front hairline to the center of the nape, and from ear to ear
- _____ Clipped sections up to keep them out of the way
- _____ Wore gloves on both hands
- _____ Applied a protective base cream to the hairline and ears
- _____ Began application of the relaxer in the most resistant area, usually at the back of the head
- _____ Made ¼- to ½-inch horizontal partings and applied the relaxer to the top of the strand
- _____ Applied the relaxer ¼ to ½ inch (.6 to 1.25 cm) away from the scalp and only to new growth
- _____ Did not allow relaxer to touch the scalp until the last few minutes of processing
- _____ Did not overlap the relaxer onto the previously relaxed hair
- _____ Continued applying the relaxer, using the same procedure and working down the section toward the hairline
- _____ Continued the same application procedure with the remaining sections, finishing the most resistant sections first
- _____ After the relaxer had been applied to all sections, used the back of the comb or hands to smooth each section
- _____ Processed according to the manufacturer's directions
- _____ Performed periodic strand tests
- _____ During the last few minutes of processing, worked the relaxer down to the scalp
- _____ If the ends of the hair needed additional relaxing, worked the relaxer through to the ends for the last few minutes of processing
- _____ Rinsed thoroughly with warm water
- _____ Shampooed three times with an acid-balanced shampoo
- _____ Blotted excess water from the hair
- _____ Applied neutralizer in ¼- to ½-inch (.6 to 1.25 cm) sections throughout the hair
- _____ Smoothed with hands or the back of the comb
- _____ Processed the neutralizer according to the directions
- _____ Rinsed thoroughly
- _____ Shampooed and conditioned

PROCEDURE FOR SOFT CURL PERMANENTS (CURL RE-FORMING)

NOTE: This assessment begins after the first 12 steps of Procedure 20-10, Applying Hydroxide Relaxer to Virgin Hair.

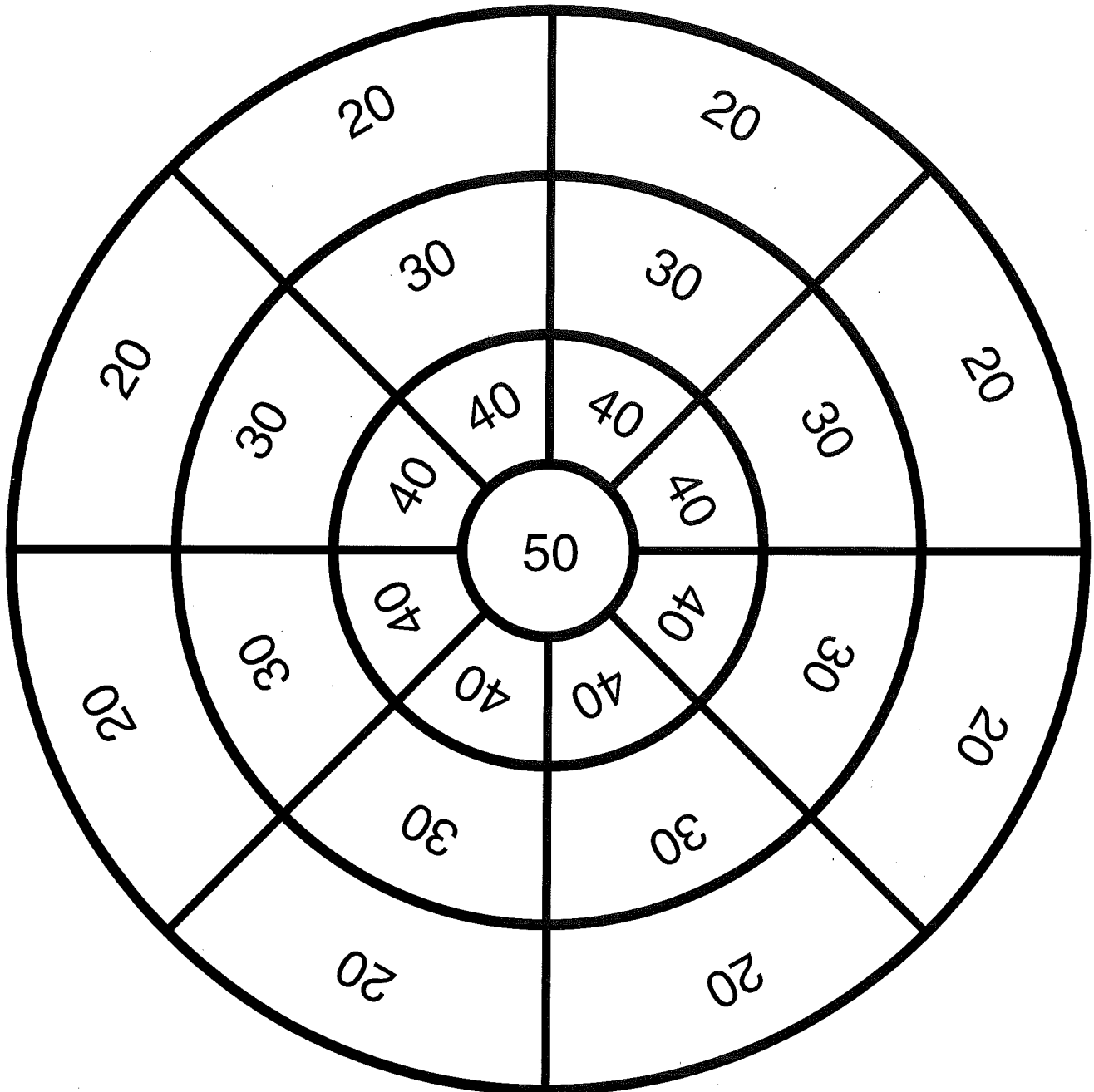
- _____ Sectioned hair into nine panels using the length of the rod to measure the width of the panels
- _____ Rolled hair on the appropriate sized perm rods
- _____ Wore gloves on both hands
- _____ Began wrapping in at the most resistant area
- _____ Applied and distributed thio curl booster to each panel as it was wrapped
- _____ Made a horizontal parting in the same size as the rod
- _____ Held hair at a 90-degree angle to the head
- _____ Using two end papers, rolled hair down to the scalp
- _____ Positioned the rod half off-base
- _____ Inserted roller picks to stabilize the rods and eliminate any tension caused by band
- _____ Continued wrapping the first panel using the same technique
- _____ Maintained even dampness
- _____ Continued wrapping the remaining eight panels in numerical order using the same technique
- _____ Placed cotton around the hairline and neck

LP 20.0, TT-1 *continued*

- _____ Applied this curl booster to all the curls until they were completely saturated
- _____ Punched a few holes in the plastic cap and covered the hair completely
- _____ Did not allow the cap to touch the client's skin
- _____ Checked the cotton and towels and replaced if saturated
- _____ Processed according to the manufacturer's directions
- _____ Checked for proper curl development
- _____ After processing, rinsed the hair thoroughly for at least five minutes
- _____ Towel-blotted hair on each rod to remove excess moisture
- _____ Option: Applied preneutralizing conditioner according to the manufacturer's directions
- _____ Applied the neutralizer slowly and carefully to the hair on each rod
- _____ Avoided splashing and dripping
- _____ Made sure each rod was completely saturated
- _____ Distributed the remaining neutralizer
- _____ Set a timer and neutralized according to the manufacturer's directions
- _____ Removed the rods, distributed the remaining neutralizer through the ends of the hair, and rinsed thoroughly
- _____ Option: Shampooed and conditioned

LP 20.0, TT-1 *continued*

DART BOARD REVIEW



LP 20.0, TT-2

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TEST A—CHAPTER 20—CHEMICAL TEXTURE SERVICES: PERMANENT WAVING

1. The main active ingredient or reducing agent in alkaline perms is:
 - a) glycerol monothioglycolate
 - b) ammonium thioglycolate
 - c) hydrogen peroxide
 - d) sodium hydroxide
2. The main active ingredient in acid-balanced waving lotions is:
 - a) glycerol monothioglycolate
 - b) ammonium thioglycolate
 - c) hydrogen peroxide
 - d) sodium hydroxide
3. The degree to which hair absorbs the waving lotion is related to its:
 - a) texture
 - b) length
 - c) elasticity
 - d) porosity
4. The action of waving lotion is to:
 - a) discolor the hair
 - b) shrink the hair
 - c) expand the hair
 - d) condition the hair
5. If hair breaks under very slight strain, it has:
 - a) excellent elasticity
 - b) very good elasticity
 - c) average elasticity
 - d) little or no elasticity
6. A method of wrapping a permanent wave that is suitable for very long hair is the:
 - a) double halo method
 - b) double tool technique
 - c) single halo method
 - d) straight back method
7. Keratin proteins are made of long chains of _____ linked together end-to-end like beads.
 - a) amino acids
 - b) peptide bonds
 - c) cross links
 - d) polypeptide acids
8. Hair texture describes the _____ of a single strand of hair and is classified as fine, medium, or coarse.
 - a) length
 - b) color
 - c) curl
 - d) diameter
9. Waves that process more quickly and produce firmer curls than true acid waves are considered to be _____.
 - a) alkaline
 - b) acid-balanced
 - c) ammonium thioglycolate
 - d) sodium hydroxide

10. The perm that is activated by heat created chemically within the product is known as:
- endothemic
 - alkaline
 - exothermic
 - sodium hydroxide
11. Polypeptide chains are long chains of amino acids joined together by:
- hydroxide bonds
 - amino acids
 - peptide bonds
 - peptide adhesive
12. A perm activated by an outside heat source, usually a conventional hood dryer is known as:
- exothermic
 - endothemic
 - disulfide
 - thioglycolate
13. Bonds that are formed when the sulfur atoms in two adjacent polypeptide chains are joined together are:
- salt
 - chemical
 - hydrogen
 - disulfide
14. The chemical action of _____ breaks the disulfide bonds and softens the hair.
- ammonia
 - hydrogen peroxide
 - waving lotion
 - neutralizer
15. When hair has assumed the desired shape, the broken disulfide bonds must be _____ rebonded.
- chemically
 - physically
 - temporarily
 - semipermanently
16. Straight rods are equal in:
- length
 - diameter
 - width
 - strength
17. _____ rods have a small diameter in the center area and gradually increase to their largest diameter at the ends, resulting in a tighter curl at the hair ends, with a loose, wider curl at the scalp.
- Convex
 - Straight
 - Concave
 - Colored
18. What type of hair is more fragile, easier to process, and more susceptible to damage from perm services?
- coarse texture
 - medium texture
 - nonelastic
 - fine texture

19. What type of hair requires more processing than medium or fine hair and may also be more resistant to processing?
- coarse texture
 - medium texture
 - nonelastic
 - fine texture
20. All perm wraps begin by sectioning the hair into panels which are further divided into subsections called _____.
- panels
 - base sections
 - base panels
 - base control
21. Base control refers to the position of the tool in relation to its _____ and is determined by the angle at which the hair is wrapped.
- panel
 - base section
 - base panel
 - scalp position
22. The basic perm wrap is also called a _____ wrap.
- curvature perm
 - bricklay perm
 - weave technique
 - straight set
23. The _____ wrap creates a movement that curves within sectioned-out panels .
- curvature perm
 - bricklay perm
 - weave technique
 - straight perm
24. The _____ wrap uses zigzag partings to divide base areas.
- curvature perm
 - weave technique
 - bricklay perm
 - straight perm
25. When the strand of hair is wrapped at an angle 45 degrees beyond perpendicular to its base section, it will result in:
- half-off base placement
 - off-base placement
 - on-base placement
 - on-stem placement
26. When the strand of hair is wrapped at an angle 90 degrees (perpendicular) to its base section, it will result in:
- half-off base placement
 - off-base placement
 - on-base placement
 - on-stem placement

27. End wraps are absorbent papers used to _____ of the hair when wrapping and winding hair on the perm tools.
- decrease moisture
 - control ends
 - control elasticity
 - decrease elasticity
28. When you place one end wrap on top of the hair strand and hold it flat, it is called the:
- double flat wrap
 - bookend wrap
 - single flat wrap
 - top-hand wrap
29. When one end paper is folded in half over the hair ends like an envelope, it is called the:
- double end paper wrap
 - book end wrap
 - single end paper wrap
 - top-hand wrap
30. What can be used to determine the actual processing time needed to achieve optimum curl results when giving a perm for the first time on a client?
- patch test
 - strand test
 - porosity test
 - preliminary test curl
31. If too many _____ bonds are broken in the perming process, the hair will be too weak to hold a firm curl.
- disulfide
 - hydrogen
 - salt
 - polypeptide
32. Underprocessing is caused by _____ processing time of the waving lotion.
- excessive
 - increasing
 - insufficient
 - exact
33. In permanent waving, most of the processing takes place as soon as the solution penetrates the hair, within the first _____ minutes.
- one to two
 - two to three
 - three to four
 - five to ten
34. The length of time required for the hair strands to absorb the waving lotion and for the hair to re-curl is called:
- application time
 - processing time
 - rinsing time
 - development time

35. Always rinse perm solution from the hair for at least _____ minutes before applying the neutralizer.
- two
 - three
 - four
 - five
36. Some manufacturers recommend the application of a _____ after blotting and before application of the neutralizer.
- pre-neutralizing conditioner
 - pre-neutralizing shampoo
 - post-processing moisturizer
 - post-processing shampoo
37. Neutralization rebuilds the _____ by removing the extra hydrogen bonds created by the waving solution.
- salt bonds
 - hydrogen bonds
 - disulfide bonds
 - polypeptide chains
38. If the hair is not _____, the hydrogen peroxide in the neutralizer can react with waving lotion and cause the hair color to lighten.
- thoroughly shampooed
 - rinsed properly
 - lightly shampooed
 - lightly rinsed
39. Relatively weak physical side bonds that are the result of an attraction between opposite charges are _____ bonds.
- peptide
 - nitrogen
 - oxygen
 - hydrogen
40. An _____ liquid protein conditioner can be applied to the hair and dried under a warm dryer for five minutes or more prior to neutralization if hair is damaged.
- alkaline
 - emulsified
 - ammonia-free
 - acidic
41. In neutralization, the bonds in the hair are re-formed:
- immediately
 - slowly
 - sporadically
 - randomly
42. Chemical bonds that join amino acids together to form polypeptide chains are _____ bonds.
- hydrogen
 - nitrogen
 - oxygen
 - peptide

43. Metallic salts leave a coating on the hair that may cause _____, severe discoloration, or hair breakage.
- mild odor
 - uneven curls
 - calcification
 - smooth curls
44. The measurement of the thickness or thinness of a liquid that affects how the fluid flows is known as _____.
- heaviness
 - resistancy
 - viscosity
 - fluidity
45. Perming only a section of a whole head of hair is called:
- section perming
 - spotmatic perming
 - partial perming
 - limited perming
46. The _____ wrap is used to prevent noticeable splits and to blend the flow of the hair.
- curvature perm
 - bricklay perm
 - spiral perm
 - basic perm
47. The _____ wrap is done at an angle that causes the hair to spiral along the length of the tool, like the grip on a tennis racquet.
- spiral
 - croquignole
 - brickly
 - barber pole
48. When performing a procedure for a preliminary test curl, wrap one tool in each different area of the head including the top, the side, and the:
- bang
 - temple
 - nape
 - occipital
49. In order to make a smooth transition from the rolled section of the head to an unrolled section, use a larger tool for the last tool next to an unrolled section when giving a _____.
- curvature perm
 - partial perm
 - spiral perm
 - full perm
50. Many male clients are looking for added _____, fullness, style, and low maintenance that only a perm can provide.
- color
 - shine
 - texture
 - length

TEST KEY A—CHAPTER 20—CHEMICAL TEXTURE SERVICES: PERMANENT WAVING ANSWER KEY

- | | | |
|-------|-------|-------|
| 1. b | 18. d | 35. d |
| 2. a | 19. a | 36. a |
| 3. d | 20. b | 37. c |
| 4. c | 21. c | 38. b |
| 5. d | 22. d | 39. d |
| 6. b | 23. a | 40. d |
| 7. a | 24. b | 41. a |
| 8. d | 25. c | 42. d |
| 9. b | 26. a | 43. b |
| 10. a | 27. b | 44. c |
| 11. c | 28. c | 45. c |
| 12. b | 29. b | 46. b |
| 13. d | 30. d | 47. a |
| 14. c | 31. a | 48. c |
| 15. a | 32. c | 49. b |
| 16. b | 33. d | 50. c |
| 17. c | 34. b | |

TEST B—CHAPTER 20—CHEMICAL TEXTURE SERVICES: CHEMICAL HAIR RELAXING AND SOFT CURL PERMANENT

1. The process of permanently rearranging the basic structure of overly curly hair into a straight form is called:
 - a) thermal straightening
 - b) chemical hair relaxing
 - c) permanent waving
 - d) chemical hair softening
2. Of the general types of hair relaxers, which one does not require pre-shampooing?
 - a) sodium hydroxide
 - b) sodium thioglycolate
 - c) ammonium thioglycolate
 - d) acid-based relaxers
3. The chemical required to stop the action of the chemical relaxer is:
 - a) petroleum cream
 - b) neutralizer
 - c) conditioner
 - d) waving lotion
4. The processing time of a chemical relaxer is affected by:
 - a) styling products used
 - b) the client's age
 - c) the hair's porosity
 - d) the hair color
5. What stops the action of any chemical relaxer?
 - a) softener
 - b) breakdown cream
 - c) swelling compound
 - d) neutralizer
6. Hydroxide relaxers are usually sold in _____ formulas.
 - a) base and no base
 - b) lye and no lye
 - c) stabilizer and no stabilizer
 - d) cream and no cream
7. What are the three basic steps used in chemical hair relaxing?
 - a) wrapping, application, rinsing
 - b) processing, neutralizing, conditioning
 - c) shampooing, application, conditioning
 - d) processing, neutralizing, stabilizing
8. The strength of relaxer is determined by the strand test. General guidelines suggest that for fine, tinted, or lightened hair, the following strength is used:
 - a) extra mild
 - b) regular
 - c) mild
 - d) strong or super

9. The strength of relaxer is determined by the strand test. General guidelines suggest that for coarse virgin hair, the following strength is used:
 - a) extra mild
 - b) regular
 - c) mild
 - d) strong or super
10. Before giving a relaxing treatment to overly curly hair, the cosmetologist must judge its texture, porosity and:
 - a) length and elasticity
 - b) elasticity and silkiness
 - c) elasticity and extent of damage, if any
 - d) softness and extent of damage, if any
11. The action of a sodium hydroxide relaxer causes the hair to:
 - a) soften and swell
 - b) soften and shrink
 - c) expand and harden
 - d) harden and set
12. The process of breaking the hair's disulfide bonds during processing and converting them to lanthionine bonds when the relaxer is rinsed from the hair is known as:
 - a) lanolination
 - b) lanthionization
 - c) neutralization
 - d) normalization
13. The scalp and skin are protected from possible burns when using a hair relaxer by applying:
 - a) cotton strip
 - b) stabilizing conditioner
 - c) base cream
 - d) conditioning shampoo
14. After the hair has been processed with a sodium hydroxide relaxer and before the shampoo, the hair should be thoroughly:
 - a) oiled
 - b) rinsed
 - c) dried
 - d) conditioned
15. The relaxer cream is applied near the scalp last because processing is accelerated in this area by:
 - a) body heat
 - b) application speed
 - c) body perspiration
 - d) sebaceous glands
16. If using a "no base" relaxer, a protective cream may be applied:
 - a) at the nape of the neck
 - b) over the ear lobes
 - c) over the entire scalp
 - d) to the hairline and around the ears
17. The best type of shampoo to use after the chemical relaxer is:
 - a) an organic shampoo
 - b) an antibacterial shampoo
 - c) a neutralizing shampoo
 - d) a dry shampoo

18. When applying sodium hydroxide relaxer, the processing cream is applied last to the _____ and _____.
- scalp area, middle of hair shaft
 - scalp area, hair ends
 - middle of hair shaft, hair ends
 - nape area, hair ends
19. When using the comb method of application, how is the relaxing cream applied?
- with the back of the comb
 - with the fingers
 - with the applicator brush
 - with the teeth of the comb
20. Inspecting the action of the relaxer by stretching the strands to see how fast the natural curls are being removed is called:
- periodic patch testing
 - periodic relaxer testing
 - periodic strand testing
 - periodic elasticity testing
21. When hair has been sufficiently straightened, the hair is rinsed rapidly and thoroughly with _____ water.
- hot
 - cold
 - cool
 - warm
22. The most commonly used methods of hair relaxing are the sodium hydroxide method and the _____ method.
- thermal
 - thio
 - ammonia
 - peroxide
23. When performing a sodium hydroxide retouch, where is the product applied first?
- to the hair ends
 - to the new growth only
 - to the middle of the hair shaft
 - to the scalp area only
24. A hair relaxing treatment should be avoided when an examination shows the presence of:
- scalp abrasions
 - strong curls
 - excessive oils
 - pityriasis steatoides
25. To check relaxer processing, smooth and press a strand to the scalp using the back of the comb or your finger. If the curl returns, _____.
- rinse immediately
 - add neutralizer
 - continue processing
 - add conditioner

26. The combination of a thio relaxer and a thio permanent wrapped on large tools is called a:
- soft curl permanent
 - thioglycolate reconstructor
 - relaxer curl permanent
 - hard curl permanent
27. What is one safety precaution that must be followed with all chemical hair relaxing services?
- shampooing the client's hair
 - pre-conditioning the hair
 - advising the client regarding processing time
 - wearing protective gloves
28. One safety precaution for hair relaxing is to avoid _____ the scalp with the comb or fingernails.
- massaging
 - scratching
 - smoothing
 - stimulating
29. After saturating the rods with neutralizer in a soft curl permanent and processing according to directions, the next step is to:
- rinse with hot water
 - remove rods carefully
 - completely dry the hair
 - apply a protective base
30. Relaxers which are ionic compounds formed by a metal combined with oxygen and hydrogen are known as:
- guanidine hydroxide relaxers
 - metal hydroxide relaxers
 - low-pH relaxers
 - no-base relaxers
31. Sodium hydroxide relaxers are commonly called:
- guanidine hydroxide relaxers
 - low pH relaxers
 - lithium hydroxide relaxers
 - lye relaxers
32. When processing is complete for a soft curl permanent, what is done after rinsing the hair thoroughly with warm water?
- each curl is blotted with towel
 - conditioner is applied
 - client is placed under a dryer
 - test curl is taken
33. What is used to restore the hair and scalp to their normal acidic pH?
- cream conditioner
 - medicated shampoo
 - conditioning filler
 - normalizing lotion

TEST KEY B—CHAPTER 20— CHEMICAL TEXTURE SERVICES: CHEMICAL HAIR RELAXING AND SOFT CURL PERMANENT ANSWER KEY

- | | | |
|-------|-------|-------|
| 1. b | 12. b | 23. b |
| 2. a | 13. c | 24. a |
| 3. b | 14. b | 25. c |
| 4. c | 15. a | 26. a |
| 5. d | 16. d | 27. d |
| 6. a | 17. c | 28. b |
| 7. b | 18. b | 29. b |
| 8. c | 19. a | 30. b |
| 9. d | 20. c | 31. d |
| 10. c | 21. d | 32. a |
| 11. a | 22. b | 33. d |