

CHAPTER

19

Advanced Topics and Treatments

Chapter Outline

- Why Study Advanced Topics and Treatments?
- Chemical Exfoliation
- Microdermabrasion
- Laser Technology
- Light Therapy
- Microcurrent Machines
- Ultrasound and Ultrasonic Technology
- Spa Body Treatments
- Cellulite
- Manual Lymph Drainage
- Medical Aesthetics

Learning Objectives

After completing this chapter, you will be able to:

- L01** Recognize the contraindications of chemical exfoliation procedures.
- L02** Explain chemical peels.
- L03** Describe the benefits of AHA peels and microdermabrasion.
- L04** Understand light therapy and lasers.
- L05** Be familiar with microcurrent and ultrasound technology.
- L06** Describe spa body treatments and services.
- L07** Be familiar with medical aesthetics.
- L08** Be familiar with injectables.
- L09** Be familiar with various surgical procedures.

Key Terms

Page number indicates where in the chapter the term is used.

abdominoplasty pg. 553	cellulite pg. 547	laser resurfacing pg. 552	rhinoplasty pg. 552
ayurveda pg. 543	cosmetic surgery (esthetic surgery) pg. 551	liposuction pg. 553	rhytidectomy pg. 551
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Advanced esthetics is an ever-expanding subject (Figure 19–1). There are many interesting topics to study and techniques to utilize. Advanced esthetics goes beyond the basics and is traditionally part of postgraduate studies. Chemical exfoliation, microdermabrasion, light therapy, clinical skin care, and spa body treatments are just some of the specialized services offered in the world of esthetics. This chapter presents an overview of some of the advanced esthetic topics. Estheticians can incorporate many of these treatments into their service menus.

The public's growing interest in maintaining the health of the body, coupled with tremendous scientific advances, has generated a trend toward integrating beauty, health, and therapeutic services. As a result, estheticians are required to be more knowledgeable about new tools and technology. Procedures such as microdermabrasion have expanded the esthetician's repertoire to include more results-driven services.

Why Study Advanced Topics and Treatments?

Estheticians should study and have a thorough understanding of advanced topics and treatments so they can better serve their clients while increasing their service revenues and menus. Advanced treatments have expanded the esthetician's repertoire to include more results-driven services such as chemical exfoliation and microdermabrasion.

- Chemical exfoliation, microdermabrasion, light therapy, clinical skin care, and spa body treatments are just some of the specialized services estheticians are expected to be knowledgeable about, including the benefits and contraindications of the treatments.
- The public's growing interest in maintaining the health of the body, coupled with tremendous scientific advances, has generated a trend toward integrating beauty, health, and therapeutic services.
- Offering advanced treatments will keep technicians competitive in the market place.

Chemical Exfoliation

Offering chemical exfoliation in your skin care practice will be one of the most exciting and financially rewarding areas of your treatment "bag of tricks." In the field of skin care, we define the process of removing excess accumulations of dead cells from the corneum layers of the epidermis as *superficial peeling*, *exfoliation*, *keratolysis*, and *desquamation*. These are all interchangeable terms. This process can be accomplished mechanically (microdermabrasion), manually (scrubs), or chemically



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▲ Figure 19–1
The world of advanced esthetics continues to grow.

CAUTION!

Chemical exfoliation and peels can result in burns that may require medical attention and can scar a client. It is important to obtain as much training as possible in working with chemicals. Make certain that you consult with the client before applying a chemical exfoliant, follow the manufacturer's instructions, and always patch test (inside the arm or behind the ear) 24 to 48 hours before giving a treatment to watch for adverse reactions to the product.

by the use of specific products (glycolic acid) formulated to achieve these results.

Physicians use procedures designed to penetrate deeper into the skin (the dermal layer) that are referred to as *medium* or *deep peels*. Skin care therapists, in contrast, use procedures designed to penetrate only the epidermis. These are referred to as *light peels*, or *chemical exfoliation*. These light "peels" are noninvasive and nonaggressive in nature and are designed to treat the epidermis—not the dermis, or living tissue.

Peel History

More than 5,000 years ago, the Egyptians used a form of chemical peeling. They understood the value of lactic acid from milk and the various fruit acids for skin conditioning. Thus, when Cleopatra relaxed in her milk bath, she was actually using a method of chemical exfoliation.

Physicians began using deeper peels in 1882, employing resorcinol, trichloroacetic acid (TCA), salicylic acid, and phenol. These procedures became very popular in the 1930s and 1940s, when Antoinette la Gasse brought the procedures from France to the United States. In the 1980s, the practice of superficially peeling clients by estheticians was just beginning. Alpha hydroxy acid (AHA) peels were the buzzword of the 1990s, and they are even more popular today.

The Cell Renewal Factor (CRF)

The **cell renewal factor (CRF)**, or *cell turnover rate*, is the rate of cell mitosis and migration from the dermis to the top of the epidermis. This process slows down with age. The average rate of cell turnover rate for babies is 14 days; for teenagers, 21 to 28 days; for adults, 28 to 42 days; for those 50 and older, 42 to 84 days. Keeping the cell mitosis going is one of the goals for skin preservation.

Factors influencing the CRF include genetics, the natural environment, and one's medical history, lifestyle, personal care, and exfoliation methods. The keratinized corneum layer is composed of approximately 15 to 20 layers and varies in thickness in different body areas. While exfoliating is great for the skin, a hydrolipidic balance must be maintained, especially for alipidic (dry) skins. Over-peeling is detrimental to the skin.

Deep Peels versus Light Peels

Deep peels are administered by physicians and make use of the following chemicals: resorcinol, phenol (carbolic acid, also called *Baker's peel*), trichloroacetic acid (TCA), glycolic acid (50 percent or more), and Jessner's peel (4 to 10 coats). **Jessner's peel** contains lactic acid, salicylic acid, and resorcinol in an ethanol solvent. It is very strong. TCA is a medium-depth peel that removes the epidermis down to the dermis. Phenol is a highly acidic deep peel that peels down into the dermis.

Light peels (chemical exfoliators) are esthetician administered. These make use of glycolic acid (30 percent or less), lactic acid (30 percent or less), enzyme peels, and in some cases Jessner's solution (1 to 3 coats). *Chemical exfoliation* is used in place of the word peel to differentiate between the deeper clinical *peels* and the lighter chemical exfoliation with AHAs used in salons and spas.

AHAs and BHAs

Alpha Hydroxy Acids (AHAs) and Beta Hydroxy Acids (BHAs) are mild acids. **Glycolic acid** is the strongest alpha hydroxy acid and is derived from sugar cane. Acids are used in different percentages and pH factors to dissolve the desmosomes between cells to keep skin cells exfoliated (**Figure 19–2**). Other AHAs promote superficial peeling as well. Beta hydroxy acids, while milder, are also used to effectively exfoliate the skin.

AHAs penetrate the corneum via the intercellular matrix and loosen the bonds between the cells. The intercellular matrix between the skin cells consists of ceramides, lipids, glycoproteins, and active enzymes. AHAs also stimulate the production of intercellular lipids. Glycolic acid can penetrate into the epidermis more effectively because it has the smallest molecular size of the AHAs.

AHAs include glycolic acid derived from sugar cane; lactic acid derived from milk; tartaric acid derived from grapes; citric acid from citrus fruit; and malic acid derived from apples. Citric acid is now considered an AHA, rather than a BHA.

BHAs (salicylic acid) also dissolve oil and are used for oily skin and acne. Salicylic acid—derived from sweet birch, willow bark, and wintergreen—has antiseptic and anti-inflammatory properties. Aspirin is derived from salicylates, so those clients allergic to aspirin may be allergic to salicylic ingredients.

Acid, Alkaline, and pH Relationships

The pH is an important consideration in peel products. Acids have a pH of 1 to 6, neutral is 7, and alkalies range from 8 to 14. The average pH of skin ranges from 4.5 to 5.5. Acids penetrate into the skin and can be a cause of irritation. A pH of less than 3 is not recommended for salon peels; most states do not allow using a lower pH. A 30 percent concentration of glycolic acid is usually formulated to have a pH of 3 if buffered properly.

Buffering agents are ingredients added to products to help make them less irritating. Products with a higher percent of acid and a lower pH are more irritating. The acid needs to have a pH lower than the skin's pH to be effective (**Figure 19–3**, page 532). Over the counter (OTC) AHA product formulations contain from 2 to 15 percent of an acid. The most common AHAs sold by salons range from 5 to 10 percent. Physicians carry products with higher percentages.

REGULATORY AGENCY ALERT

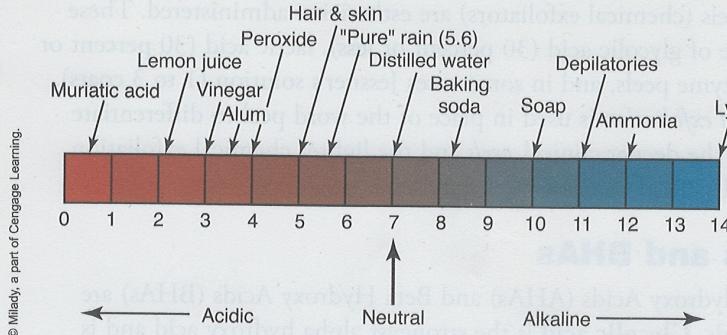
Each regulatory agency is different, so check your local laws to see what is acceptable in performing exfoliation services under your esthetics license.



▲ Figure 19–2
A glycolic acid exfoliation treatment.

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► Figure 19-3
pH relationships.



CAUTION!

Exfoliated skin needs to be protected from sun exposure or tanning to avoid hyperpigmentation and damage to the skin. Sunscreen must be used daily when using AHAs or other strong exfoliating products or treatments.

Peels and Chemical Exfoliation Benefits

Peels and chemical exfoliation result in:

- Improved texture of the skin, barrier function, and moisture retention.
- Increased CRE, hydration, and intercellular lipids.
- Reduced fine lines, wrinkles, and surface pigmentation.
- Skin that looks and feels smoother and softer.
- Improved skin conditions such as acne, hyperpigmentation, clogged pores, and dry skin.
- Potentially stimulating elastin and collagen production.

Who Should Have a Chemical Exfoliation Treatment?

Who are the best candidates for chemical exfoliation? When determining whether a series of treatments is appropriate for a client, consider the following factors: skin type, sebaceous gland activity, skin conditions, the client's philosophy of sun exposure, her cosmetic and product use, whether she is using Retin-A® or other acids/AHAs, or acne drugs such as tetracycline.

Contraindications

Chemical exfoliation contraindications include the following:

- Recent cosmetic surgeries, laser resurfacing, chemical peels, or dermabrasion
- Recent injectables, fillers, or Botox®
- Use of Retin-A or other medications that exfoliate or thin the skin
- Allergies or sensitivities to products or ingredients
- Pregnancy
- Herpes simplex
- Hyperpigmentation tendencies

- Inflamed rosacea or acne
- Infectious diseases
- Open sores or suspicious lesions
- Sunburn or irritated skin
- Photosensitizing medications (makes skin very sensitive to sun)
- Other contraindicated drugs or medication L01

Before a chemical exfoliation service, discuss the issues and contraindications during the client consultation. Explain the procedures, the expected outcome, and realistic goals. In a diagnostic facial or skin analysis before scheduling treatments, note the condition of the skin, dehydration, hyperpigmentation, open lesions, and any other skin conditions on the client intake form. Also choose the type of exfoliant based on the client's skin condition and the results desired. Additional ingredients added to formulas include pigment lighteners, acne ingredients, moisturizers or hydrators, and others (**Table 19–1**).

The Procedure for AHAs

Your regulatory agency will determine the guidelines regarding the strength and pH of the product. The treatment selection will include the type of acid, the procedure time, strength, and the assisting ingredients. Protocols vary depending on the product line. Advanced training and certification are necessary to perform glycolic treatments. The basic process consists of applying the product and removing it within a few minutes. Exfoliation services are efficient and take less time than the more relaxing, in-depth facials.

Treatments can be scheduled in a series of four to eight sessions, one time per week for 4 to 8 weeks. More than eight weekly treatments in a row is not recommended. A series of treatments every 3 or 4 months is the typical recommendation. Treatments can also be scheduled once a month or as needed. The optimum facial maintenance schedule is once a month or every 6 weeks. The schedule will depend on the product strength and the client's tolerance to AHAs.

Here's a Tip

Because sun is stronger during the summer and outdoor exposure is more frequent, chemical exfoliation and other exfoliation procedures (microdermabrasion) are not recommended during those months.

CAUTION!

To prevent skin damage, warn your clients to avoid sun exposure, scrubs, rubbing, pulling dead skin, depilatories, waxing, benzoyl peroxide, and exfoliating or glycolic acid products for at least 24 to 48 hours before or after any chemical exfoliation procedure. Recommend a longer period of time if the client's condition warrants it.

BENEFICIAL INGREDIENTS TO COMBINE WITH CHEMICAL EXFOLIATION

SKIN CONDITION	BENEFICIAL INGREDIENTS
Mature and/or sensitive skin	glycolic acid, lactic acid, ceramides, hyaluronic acid, phospholipids, linoleic acid, aloe vera, allantoin, kojic acid, licorice root, peptides
Hyperpigmentation	glycolic acid, kojic acid, licorice root, mulberry extract, bearberry extract, azelaic acid, ascorbic acid
Acne	glycolic acid, lactic acid, salicylic acid, azelaic acid, citric acid

◀ Table 19–1
Beneficial Ingredients to Combine with Chemical Exfoliation.

Mini Procedure

CHEMICAL EXFOLIATION

Do not perform this procedure without advanced training and instructor supervision. It is included here as it is important to be familiar with the basic procedure. See *Milady Standard Esthetics: Advanced* textbook for the full procedure on peels and other advanced treatments.

Follow the manufacturer protocol for the strength and timing of the procedure.

1. Prepare and cleanse the skin.
2. Let the skin dry and put protective eye pads on.
3. Set the timer and give clients a fan to keep the skin cool if it feels itchy or warm during the peel.
4. Apply the product carefully with a large disposable cotton swab, two small disposable cotton swabs, or brush. Avoid the eyes.
5. Remove the product with cool cotton pads saturated with water. Rinse at least six times.
6. Ask the client if there are any warm or itchy areas to make sure all of the product is neutralized.
7. Apply a soothing product such as aloe vera or a calming cucumber mask.
8. Finish with a high-performance serum, moisturizer, and a sunscreen.
9. Rebook the next weekly treatment and remind the client how to take care of freshly exfoliated skin.

CAUTION!

Machines can do more harm than good if used improperly. To avoid injuring clients, estheticians performing services using machines should receive thorough training, including clinical practice, before using any machine. Advanced training is recommended because manufacturer training alone is generally not enough education to use machines safely. Advanced equipment should be used only by licensed, well-trained skin care professionals.

Post-Chemical Exfoliation Home-Care

Discussion of home-care with clients includes issuing precautions and product advice. Clients should avoid the sun and additional exfoliation outside of the recommended home-care program. An example of a glycolic home-care product is a 5 percent cream in a moisturizer base. This product may be used approximately every other day. It is put on under sunscreen or at night on dry skin (not damp). Water or moisture on the skin can make the cream more active and cause it to tingle or sting. Strong exfoliation does make the skin drier on the surface because the top layer is sloughed off, so keeping the skin hydrated is important. Make sure to communicate these points clearly to your clients.

It can take approximately 6 weeks to notice a difference in the skin, but sometimes improvements are visible after only one session or 1 week of using the home-care products. L02

Microdermabrasion

Microdermabrasion (my-kroh-der-mah-BRAY-shun) is a form of mechanical machine exfoliation that originated in Europe. Some

of the first machines entered the U.S. market around 1995.

Today, many microdermabrasion models are available for both the esthetician's and physician's use. These machines are utilized in many skin care clinics, spas, and medical offices (Figure 19–4).

The microdermabrasion machine is a powerful electronic vacuum. Microdermabrasion is achieved by spraying high-grade microcrystals, composed of corundum (kah-RUN-dum) powder or aluminum oxide, across the skin's surface through a hand piece (Figure 19–5). Crystals can also be used manually without the machine—this process is considered gentler on the skin. Other machines have hard applicators, such as diamond tips, applied without crystals.

The microdermabrasion technique is similar to running the vacuum/suction machine across the face. Crystals are first sprayed on the skin through the hand piece, and then are vacuumed off after the spraying application is complete. Microdermabrasion treatments are quick 30-minute services that can be offered alone or as part of a facial. A quick hydrating and nourishing mask is usually part of exfoliation treatments.

Microdermabrasion Benefits

Microdermabrasion can be used to diminish the following conditions: sun damage, pigmentation, open and closed comedones, fine lines and wrinkles, enlarged pores, and coarsely textured skin. In addition to the typical exfoliation benefits, the vacuum mechanism stimulates cell metabolism and blood flow. Those who cannot tolerate acids may be candidates for microdermabrasion.

The difference between AHAs and microdermabrasion is that AHAs are chemical and penetrate into the epidermis. The AHA product and its penetration into the skin have many benefits. Microdermabrasion is a mechanical method of exfoliation. It exfoliates the epidermis more effectively than a 30 percent AHA product does, but the benefits of the chemical products are not produced. For example, acids penetrate into the skin and stimulate cell mitosis and the cell turnover rate more than microdermabrasion. The vacuum used in microdermabrasion does stimulate cell metabolism and circulation. Generally, you can think of microdermabrasion as a more effective tool for surface exfoliation and AHAs as more effective below the surface. Using both peels and microdermabrasion in a treatment series is a common practice.  L03

Microdermabrasion Cautions

Technique plays a vital role in creating a positive outcome with the microdermabrasion machine. Proper use of the hand piece, rate of crystal flow, and vacuum setting all contribute to a successful treatment. Do not use microdermabrasion so aggressively that the



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▲ Figure 19–4
The microdermabrasion machine.



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Photograph by Rob Werne.

▲ Figure 19–5
Microdermabrasion machines exfoliate the skin.

CAUTION!

To avoid eye damage or breathing in crystals during microdermabrasion, technicians need to wear eye glasses and protective masks. Clients must keep eyes closed at all times. Avoid getting crystals in client's eyes, mouth, nose, or ears.

REGULATORY AGENCY ALERT

Check with your regulatory agency about laws governing advanced machine use such as microdermabrasion and light therapy. Many areas require special licensing and training to legally operate certain equipment.

ACTIVITY

Research microdermabrasion machines and chemical exfoliation products. See what is offered in salons. Which product or manufacturer do you like? Why do you think one is better than the others? What services would you choose to offer? How much would you charge per treatment?

client is uncomfortable. Once the skin shows erythema or redness, this is considered the stopping point for the procedure.

A series of treatments that incorporate complementary products, along with a complete home-care program, makes the difference in obtaining the best results. Topical vitamins and antioxidants are even more effective when used after exfoliation procedures. The esthetician's professional expertise in analyzing the skin and recommending the best program help make these procedures safe and effective.

Improper use of microdermabrasion can actually cause hypopigmentation and hyperpigmentation. It can also lead to sensitivity and other problems. Any strong exfoliation procedure requires sun abstinence and daily sunscreen. Microdermabrasion is not recommended for sensitive or couperous skin, rosacea, or for those with a predisposition to pigmentation problems.

Reading a manual does not provide instant experience in using this machine. Training and certification are absolutely mandatory. Microdermabrasion machines should be used by licensed, trained skin care professionals only. New technology for microdermabrasion devices and those similar to microdermabrasion is constantly emerging.

Microdermabrasion Equipment Maintenance

Daily care and proper use prevents unnecessary machine repairs. Microdermabrasion machines consist of internal motors, hoses, filters, and hand pieces. Hoses and hand pieces must be dry so that the crystals will flow properly. Use only the crystals recommended by the manufacturer. It is not necessary to overuse crystals to obtain good results. A constant, even flow of crystals will give a smooth and effective treatment. Crystals should flow onto the skin's surface only. Avoid breathing the crystals or getting them in the eyes or the nose.

Carefully clean up crystals while wearing rubber gloves and a mask. Machines that have separate crystal containers for both clean and used crystals are preferred. This way the used crystals stay contained and do not come into contact with the technician. These sealed containers are safer to dispose of properly. Follow the manufacturer's directions for disposal and maintenance. The treatment room and linens also need to be cleaned and checked for crystal residue and contamination.

Laser Technology

Lasers (LAY-zurs) are medical devices used for hair removal and skin treatments (Figure 19–6). Lasers are high-powered devices that use intense pulses of electromagnetic radiation and a single wavelength at one time. Different wavelengths affect different components of the skin. These different treatments can stimulate collagen production,

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▲ Figure 19–6
Lasers are medical devices.

reduce spider veins, reduce hair growth, or peel the skin (Figure 19–7). Some lasers target specific substances—such as melanin, dark hair, blood vessels, skin growths, and pigmentation—that absorb the energy from the laser.

All lasers and light therapy methods use selective *photothermolysis*. Lasers emit lightwaves of the same wavelength, while non-laser photo devices, such as IPL, use a spectrum of different wavelengths. For skin rejuvenation, heating and damaging the dermal tissue stimulates fibroblasts to repair and rebuild tissue such as collagen. The laser is a precise tool used for surgical procedures. In laser skin resurfacing, pulsed lasers are so precise that they can be directed to “burn” off the surface of the skin without ever touching the lower dermis.

A laser produces colored light. Wavelengths are selected to treat a range of skin conditions. For instance, one laser is designed to produce yellow light. Yellow light will selectively absorb into the color red. Laser light passes harmlessly through the skin and targets only the hemoglobin of the red blood cell. The laser energy then heats and destroys the cell, leaving the normal skin cell completely intact.

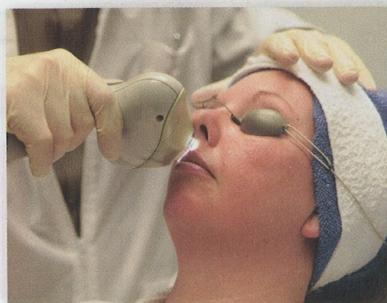
Lasers are now more commonly used for noninvasive procedures. Lasers include the alexandrite, diode, and Nd:YAG lasers. Another treatment is referred to as *photodynamic* therapy and is best for primarily treating actinic keratoses. Many manufacturers have different names for their devices and specific treatments, which can be confusing. New devices are constantly coming on the market.

Lasers combined with radio frequencies are considered to be even more effective. This combined energy technology targets and heats connective tissue to stimulate collagen production and produce a firming effect. Radio waves of a certain frequency penetrate and are absorbed by the tissues. The strong damaging heat effect is what promotes skin healing and tightening. It is also effective for hair removal and used for cellulite reduction. The effect of using radio waves in the skin is a similar process to how a microwave cooks food. Medical devices that use this technology are very strong, while those sold for home use are much weaker.

Lasers and light therapy are advanced topics. It is not necessary at this stage to learn all of the details concerning these devices. They are mentioned to familiarize you with the technology, which continues to evolve. See Chapter 18, Hair Removal, for additional information on lasers used for hair removal.

Light Therapy

Light therapy is the application of light rays to the skin for the treatment of wrinkles, capillaries, pigmentation, or hair removal. Light therapy uses different types of devices: lasers, intense pulsed light

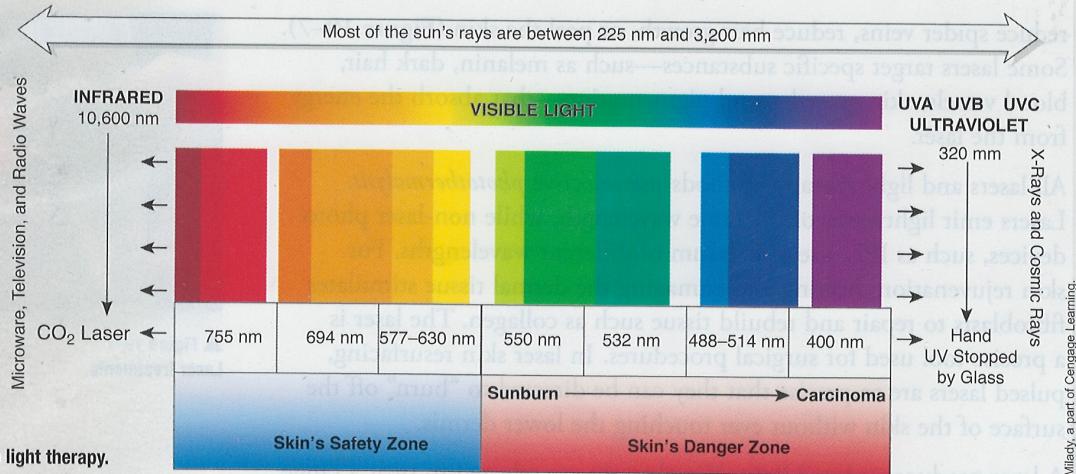


▲ Figure 19–7
Laser treatments.

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Did You Know?

Lasers produce a powerful beam of light that creates heat. The direct beam of radiation penetrates the dermis and creates a reaction. Some beams are thin enough to make holes the size of a pinhead. Some lasers are forceful enough to pierce a diamond, and others can produce a nuclear reaction. Bursts of laser light can record music or store data on a compact disk. Lasers can be used over long distances with no loss of power and are used in fiberoptic communications. Electrical signals are changed into pulses (bursts) of laser light. An optical fiber is about as thin as a human hair and can carry as much information as several thousand copper wires. Using laser technology, a tremendous amount of information can be carried relatively inexpensively over telephones, televisions, and computers.



► **Figure 19-8**
Wavelengths used in light therapy.

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(IPL), and light-emitting diode (LED) technologies. The power and effectiveness of the machines vary and depend on such factors as the wavelength, heat, and penetration power. Lasers and IPL are strong machines that are rated as Class IV medical devices by the Food and Drug Administration (FDA). LED is rated as a safer Class I or II device and is regulated less strictly.

The range of wavelengths used in light therapy are visible, infrared, and far infrared (**Figure 19-8**). Lasers such as Nd:YAG tighten skin and reduce wrinkles and spider veins. Intense pulse light devices use pulses of multiple wavelengths to reduce pigmentation, remove surface capillaries, and rejuvenate the skin. Intense pulse light emits light absorbed by hemoglobin (vascular), melanin (pigmented lesions), or hair follicles (hair removal).

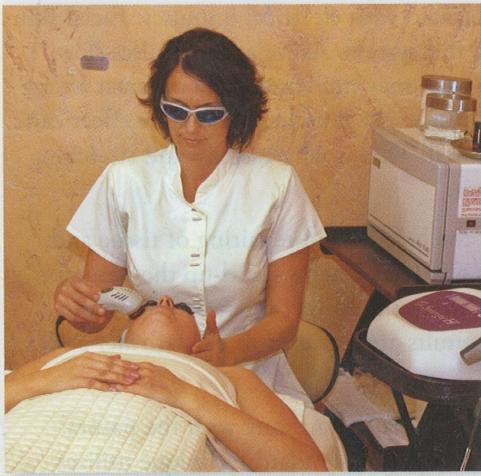
LED technology is nonthermal, meaning it does not use heat. Estheticians use LED light for skin rejuvenation. LED individual wavelengths are used at low intensity and are not as strong as the laser and intense pulse light modalities. LED uses visible light such as blue, red or amber, and infrared (invisible). Different colors of light produce different effects on the skin. Blue light is considered effective in treating acne. Amber and red are used for muscles and healing. Infrared is used for rejuvenation. Infrared light is also used to detoxify the body and reduce pain. LED is used for photosynthesis because it converts light to cellular energy that stimulates the body's collagen and metabolism (**Figure 19-9**).

Photorejuvenation (FO-toh-rih-joo-vin-A-shun) is another term used for the growing technology that utilizes light therapy to enhance the skin (**Figure 19-10a** and **b**). Light therapy such as infrared heat has been used for years to treat physical conditions such as pain and to promote healing. LED has been shown to help the lymph system and increase ATP energy production in the cells.

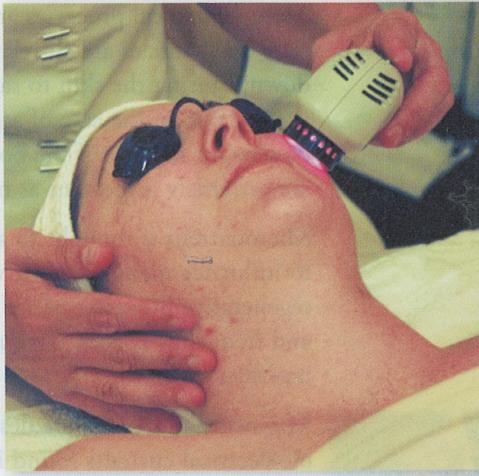


▲ **Figure 19-9**
LED light therapy.

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▲ Figure 19–10a and b
LED light therapy.

Therapeutic lamps are also used for light therapy. Color therapy uses different colors of light for various psychological effects: red is considered stimulating, while green is calming (**Figure 19–11**).

LEDs are used in facials for approximately 15 minutes. Eye goggles are used to protect both the technician's and client's eyes. Hand-held devices are increasingly popular. The use of machines, light therapy, and medical aesthetics continues to develop. Scientific discoveries and advances are changing the face of the antiaging industry. **L04**

Microcurrent Machines

Modern medicine utilizes microcurrent to treat many conditions, such as Bell's palsy and stroke paralysis. The growing uses of microampere electrical neuromuscular stimulation include healing muscles and wounds, controlling pain, and even fusing bones. There is even greater potential for this type of therapy. In the esthetics realm, microcurrent is used to tone the muscles by stimulating motor nerves and contracting the muscles.

Facial Benefits of Microcurrent

Microcurrent (MY-kroh-kur-runt), or wave therapy, devices mimic the way the brain relays messages to the muscles. In esthetics, microcurrent is used primarily to tone and stimulate facial muscles. Considered a passive form of exercise, this therapeutic technique helps stimulate motor nerves until a contraction of the muscles can be seen. Microcurrent has the ability to firm muscles and boost cellular activity. It improves blood and lymph circulation and can also assist with product absorption. In the past, faradic current has been used to stimulate motor nerves.



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▲ Figure 19–11
Color therapy has psychological benefits.



Most high-tech devices such as LED and microcurrent require multiple sessions to achieve desired results.

Many biological processes are associated with electrical impulses. Facial skin tone and muscles are all related to this system. As we age, impulses slow down, causing the skin to sag. Muscles may not completely contract after use, such as in the case of sagging jowls (jaw muscles). The same effect can be seen on the rest of the body as well. That is why exercise and stretching are extremely important as one ages.

Microcurrent is thought to aid in the healing and repairing of tissue and to influence metabolism. It works gently and helps speed up the natural regenerative processes of the body when the correct intensity of current and frequency is used. Treatment results are expected to show firmer and healthier skin.



▲ Figure 19–12
The microcurrent machine.

Microcurrent devices are designed to work in harmony with the natural bioelectrical currents found in the body. The standard technique utilizes two hand-held probes placed on facial muscle groups (**Figure 19–12**). A specific movement technique is used on all of the designated facial points. A gel, such as a collagen ampoule, is placed on the skin before beginning the treatment. The electrical current is regulated according to the skin's resistance. Treatments are given one time per week for at least 10 sessions to see visible results. Treatments must be given every 4 weeks to maintain the benefits and results.

Some models of hand-held devices are combined with ultrasound technology (**Figure 19–13**) for additional penetration and added exfoliation effects.

Microcurrent combined with light therapy can be even more effective. When using any electrical device, you should obtain a complete client health history and conduct a consultation before treatment. Contraindications are the same as those described for other electrical devices.

As with all electrical current devices, microcurrent should not be used on clients with the following health conditions: pacemakers, epilepsy, cancer, pregnancy, phlebitis, or thrombosis; or on anyone currently under a doctor's care for a condition that may be contraindicated.



▲ Figure 19–13
Ultrasound technology.

Ultrasound and Ultrasonic Technology

Ultrasound and *ultrasonic* are synonymous terms referring to a frequency that is above the range of sound audible to the human ear. This equipment uses noninvasive sound waves to create results-oriented treatments. **Ultrasonic** equipment is based on high-frequency mechanical oscillations produced by a metal spatula-like tool. The vibrations, created through a water medium, help cleanse and exfoliate the skin by removing dead skin cells. Ultrasound contraindications include epilepsy, pregnancy, and cancerous lesions. Like all machines, overuse can be damaging.

Ultrasound technology in esthetics is also used for product penetration and for cellulite reduction. Ultrasound is deep-penetrating—it stimulates tissue, increases blood flow, and promotes oxygenation. Keep in mind that the lower the frequency, the greater the penetration; conversely, a higher frequency has less penetration. Cellulite is affected through the heat manipulation of the tissue and lymphatic movements performed with the device. Heat is created, and the vibration in the cells stimulates circulation, metabolism, and lymph drainage. The heat damage from ultrasound and other modalities (such as lasers) is what stimulates collagen production.

Ultrasound also sends waves through the skin to assist in product penetration. This process is called *sonophoresis* (SAHN-oh-for-EE-sus), which is similar to iontophoresis (iontophoresis uses electrically charged ions, so an electrical charge is needed from electrodes). Some esthetic ultrasound equipment is rated as an FDA Class II device and may not be within an esthetician's scope of practice outside of a medical facility. Advanced training and technical research on equipment claims are necessary before using any advanced esthetic machine. Different frequencies of ultrasound are also used for medical imaging, physical therapy, and pain management. Lower-frequency ultrasonic devices are used for toothbrushes and jewelry cleaners.

Hand-held devices for a consumer's personal skin care that are used at home are milder but should be used in moderation to avoid damaging the skin. **L05**

FOCUS ON

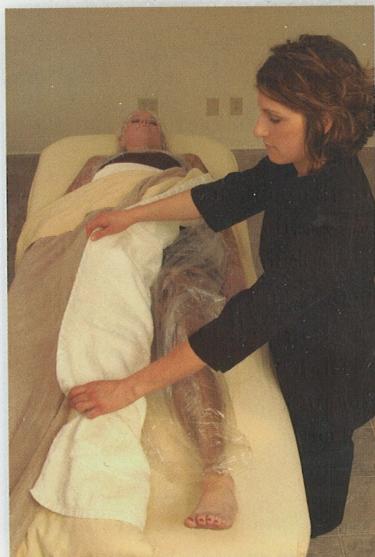
Dermal Rolling

Cosmetic and medical rolling are forms of collagen induction therapy (CIT). This procedure causes tiny needle pricks across the skin from rollers that induce collagen formation from the wound healing process. This also improves the skin's appearance in other ways. Studies conclude that the .05 mm ($\frac{3}{64}$ in) needles achieve the best results. In conjunction with dermal rolling, oral and topical vitamins, amino acids, and other nutrients are required for collagen synthesis. These are not used on acne or other skin lesions.

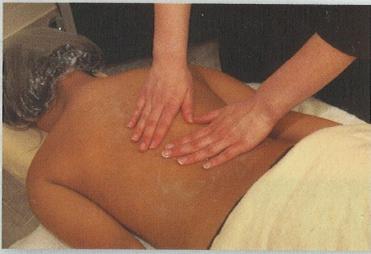
Spa Body Treatments

Spa treatments provide a wonderful, relaxing experience. Body treatments have a therapeutic effect and treat the skin of the whole body. They include wraps, scrubs, and masks. Be mindful of contraindications and allergies to ingredients (seaweed, nuts) before working on clients.

- **Body wraps** are treatments where product is applied on the body and then covered or wrapped up. Wraps are used for various reasons and can either remineralize, hydrate, stimulate, detoxify, or promote relaxation. The product used will determine the effects and results. Aloe, gels, lotions, oils, seaweed, herbs, clay, or mud products can all be used for wraps. Linens or plastic can be used to wrap clients and to promote product penetration. Blankets or sheets are the cocoon of the "wraps." Inch-loss wraps, another type of wrap, are designed to flush toxins out of the body and promote inch loss. Inch-loss wraps have a diuretic effect and are controversial in their effectiveness. If done properly, detoxifying the body may aid in weight reduction (**Figure 19–14**).
- **Body scrubs** use friction to exfoliate and hydrate, increase circulation, and nourish skin using a combination of ingredients such as ground



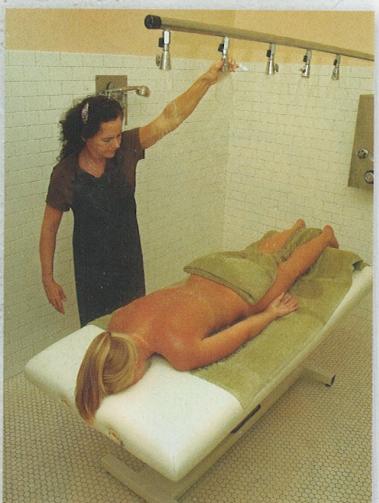
▲ Figure 19–14
A body wrap.



▲ Figure 19–15
A salt glow.



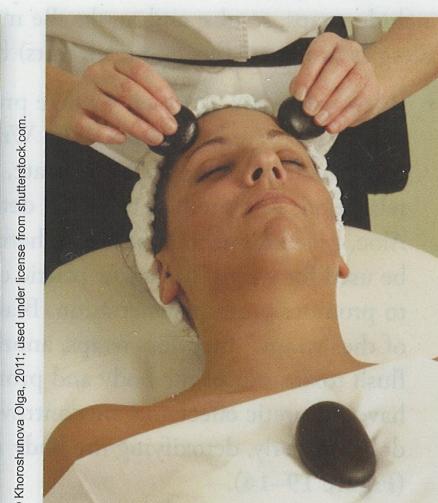
▲ Figure 19–16
A body mask.



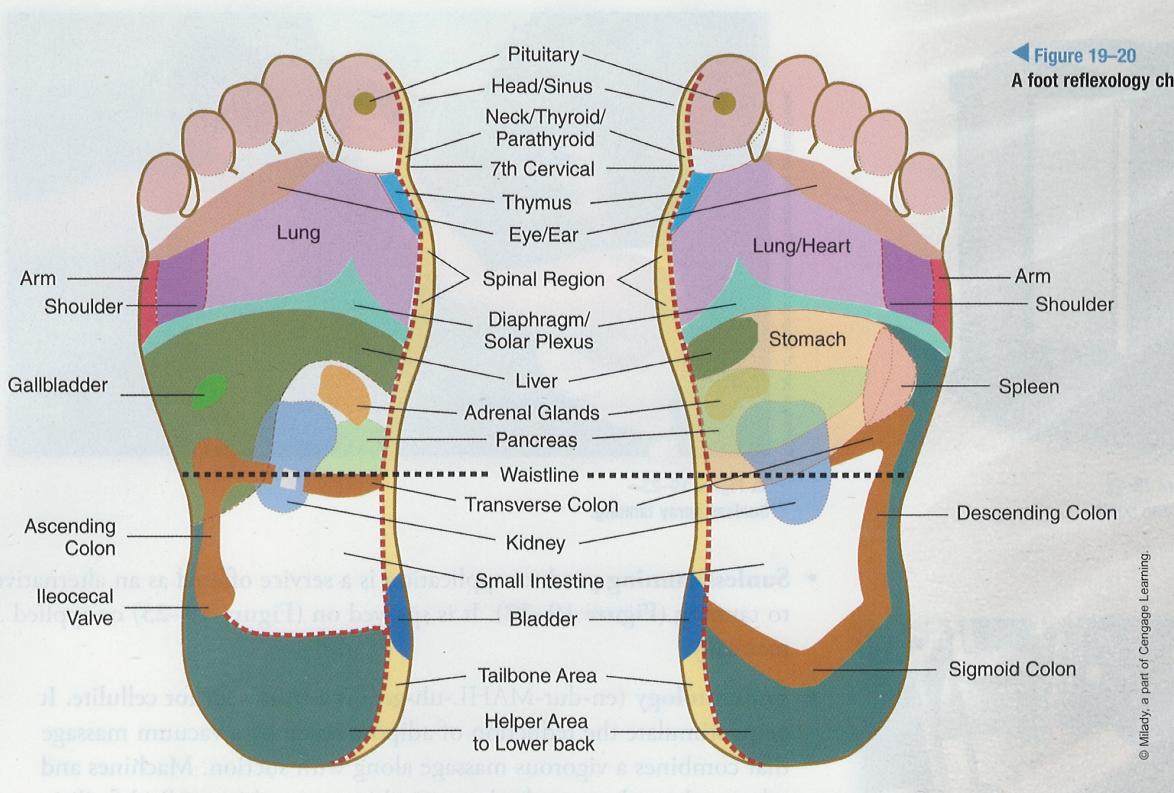
▲ Figure 19–17
The Vichy shower.



▲ Figure 19–18
Balneotherapy.

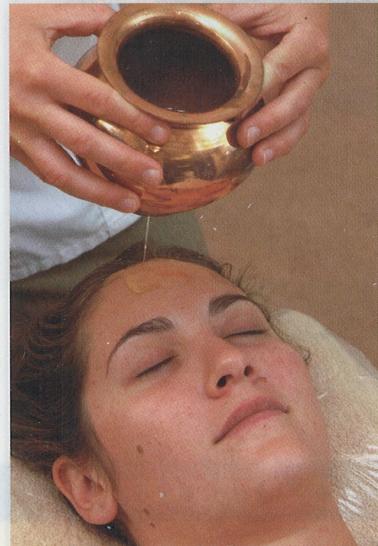


▲ Figure 19–19
Stone therapy on the face.



▲ Figure 19-20
A foot reflexology chart.

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▲ Figure 19-21
Shirodhara.

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- **Foot reflexology** (ree-flex-AHL-uh-jee) is the technique of applying pressure to the feet based on a system of zones and areas on the feet that directly correspond to the anatomy of the body (**Figure 19-20**). Reflexology is performed on the feet, hands, and ears as these are the areas that correspond to the body zones. It causes relaxation, increased circulation, and balance to the entire body. Estheticians are not usually trained in reflexology, so be aware of your scope of practice and licensing regulations. Reflexology is generally performed by licensed massage therapists. Massage can be dangerous if performed incorrectly.
- Ayurvedic (eye-ur-VAY-dic) concepts are based on three *doshas*, or mind and body types. Treatments include *Shirodhara* (**Figure 19-21**), massage, and facials using ancient Indian concepts and ingredients suited to the three body/mind types: *pitta*, *kapha*, and *vatta*. **Ayurveda** originated over 5,000 years ago in India. It is a philosophy of medicine and balancing life and the body through various methods ranging from massage to eating habits. *Ayur* means “life, vital power”; *Veda* means “knowledge.” *Ayurveda* translates from Sanskrit as “science of health or wellness.” *Shirodhara* is an ayurvedic treatment that consists of running warm oil on the third-eye area of the forehead for 30 minutes. This relaxing, meditative process releases stress and calms the mind.



Sandalwood is a wonderful scent and is a main component of the body polish used with Shirodhara treatments.



▲ Figure 19–22
A spray tan booth.



▲ Figure 19–23
Sunless spray tanning.



▲ Figure 19–24
Endermology.

CAUTION!

Instruct your clients to drink lots of water to flush the system and rehydrate the body after detoxifying body treatments. If they do not replenish the water in the body, clients may feel tired or sick.

Additionally, detoxifying treatments are not as effective when the body is not flushed or rehydrated with water.

- **Sunless tanning** product application is a service offered as an alternative to tanning (**Figure 19–22**). It is sprayed on (**Figure 19–23**) or applied manually.
- **Endermology** (en-dur-MAHL-uh-gee) is a treatment for cellulite. It helps stimulate the reduction of adipose tissue by a vacuum massage that combines a vigorous massage along with suction. Machines and other endermology methods are used in spas and in medical facilities (**Figure 19–24**).

Body Treatment Procedures

The following procedures briefly outline how the spa treatments are performed. Advanced training is needed to perform these treatments safely and efficiently. There are contraindications to be aware of and many variables in body treatments. Body services are wonderful treatments to offer clients.

FOCUS ON

Ayurveda

Pitta, kapha, and vatta are the three doshas or body/mind types of ayurveda. Doshas are combinations of energy from the five elements: Earth, Water, Fire, Air, and Ether.

- **Vatta** is a combination of air and ether. It is responsible for movements of the body, mind, and senses. The skin type is typically dry/mature.
- **Pitta** is a combination of fire and water. It is responsible for heat, metabolism, energy production, and digestive functions. The skin type is typically sensitive.
- **Kapha** is a combination of earth and water. It is responsible for physical stability, body structure, and fluid balance. The skin type is typically prone to congestion.

Mini Procedure

THE BODY SCRUB

This procedure outline describes a basic body scrub. Follow the instructor's and manufacturer's directions for preparing the scrub. Prepare the supplies per the instructions.

1. Use a prepackaged body exfoliating product, or mix either salt or sugar with lotion or oil. Mix until the desired consistency is reached. Add two drops of aromatherapy oil if desired. A high-quality unrefined salt or sugar is recommended.
 - Make sure the product is not too coarse or rough.
 - Make sure your product rinses off easily because this treatment generally does not require a shower after the service.
 - Prepare the bed with linens while the product and towels are warming in the hot cabbie. It is important to keep the room warm for the client's comfort.
2. Use a set pattern to apply the warmed product, starting with the lower legs and using circular motions upwards toward the heart (**Figure 19–25**).
 - Exfoliate the body using the hands, a brush, or a mitt (keep adding warm water if necessary).
 - Most body products are applied first to the legs, followed by the arms, then the torso and back. Work on the right side first, then the left. Move from the bottom to the top of each area.
 - To keep the client warm, cover each area with a sheet or body towel before proceeding to the next area.
3. Remove the scrub in the same order (legs, arms, torso) with warm, wet towels (**Figure 19–26**). Pat dry and cover each area before moving to the next to keep the client warm.
4. **Optional:** Finish by spraying the treated areas with a skin freshener and apply lotion if time permits.

Note: A body wrap treatment can also follow the scrub.



▲ **Figure 19–25**
Applying a body scrub to the legs.



▲ **Figure 19–26**
Removing the body scrub with towels.

ACTIVITY

To learn more about spa treatments, here is a research idea: Check out the spa menus and brochures in your area or on Internet sites. Professional trade journals and spa suppliers offer excellent information on a variety of treatment procedures. Many spa magazines are also good resources to gain insight into the industry. What body treatment services are you most interested in learning about? A nice way to learn is to experience the treatment yourself. Book an appointment to have a spa research day!

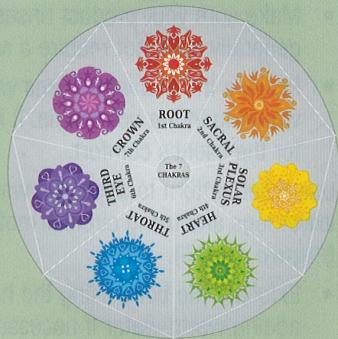
FOCUS ON

Energy

Reiki and Other Treatments

Reiki is a Japanese technique for stress reduction and relaxation that also promotes healing. It is administered by “laying on hands” and is based on the idea that an unseen “life force energy” flows through us and is what causes us to be alive.

Other energy practices include energy balancing and chakras. According to ancient Hindu philosophy, our bodies have seven major vortexes through which we process our life force energy (sometimes known as *ki*, or *chi*). A block in any of these power centers can create unbalance, disease, or an overwhelming sense of tiredness and feeling “stuck.” The focus of the chakra balancing is to identify any blocks in the chakras, open them up, and reconnect your energy body.



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Mini Procedure

THE BODY WRAP OR MASK

Use a body lotion, seaweed, or mud.

1. A dry brush or body scrub can be performed before the wrap or mask.
2. Apply the product (per manufacturer's instructions) with hands or a body “paint” brush. Follow the same pattern as the scrub application.
3. Wrap the client for 20 to 30 minutes. Check-in with the client regarding their comfort level. Are they warm enough or too warm? Do they feel claustrophobic?
4. Add a facial or foot treatment, if desired, during the wrap.
5. Remove the product with warm towels if applicable, or have the client shower.

Note: Never leave the client alone in the room as they may become uncomfortable or react to the product. An add-on service can be performed to the face or feet while the wrap is processing. This saves time and increases the value of the service.

Did You Know?

Physical therapists Emil and Estrid Vodder created manual lymph drainage (MLD) in 1932 in Europe.

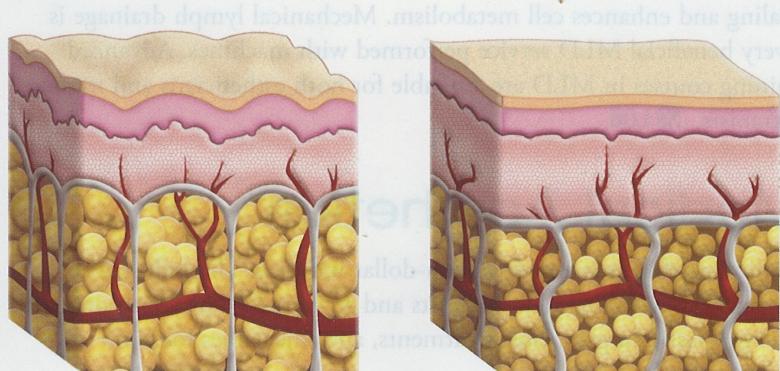
Cellulite

Cellulite (SEL-yoo-lyt) appears as dimpled or bumpy skin caused primarily by female hormones and genetics. Cellulite consists of fat cells. Dermal fat cells do swell, but that is not the only cause of cellulite. Cellulite is visible when dermal fat cells are closer to the surface of the skin (**Figure 19–27**). This occurs from damage to the dermis. If water is lost and the tissue is weakened, then dermal fat begins to push into the dermis. Additionally, if the epidermis is weakened or dehydrated, cellulite is more visible.

Keeping collagen and elastin healthy helps reduce cellulite. To repair cellulite, cells and connective tissue need to be strengthened and hydrated through nutrients and water intake. Drinking water is not enough—our cells have to be able to hold onto the water. Wasted water in the body builds up and leads to water retention and puffiness. Blood flow and the circulation of nutrients through blood vessels up to the skin also affect cellulite. Repairing cell damage, connective tissue damage, and stratum corneum damage is important in treating cellulite.

The following recommended nutrients and ingredients may be beneficial for cellulite reduction:

- Lecithin and lipids for cell walls
- Glycosaminoglycans (GAGs) for moisturizing and firming
- Glucosamine to build GAGs and connective tissue
- B vitamins to retain moisture and provide nutrients
- Amino acids for building collagen and elastin
- Essential fatty acids to attract water for the connective tissue
- Antioxidants
- Anti-inflammatories
- Aloe vera is anti-inflammatory, improves hydration, and contains enzymes and minerals
- AHAs
- Alpha lipoic acid



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◀ **Figure 19–27**
Cellulite skin versus smooth skin.



Thalassa is Greek for "sea."

The effectiveness of some endermology treatments is controversial. Detox diets, liposuction, and muscle-stimulating systems do not minimize cellulite. Some body wraps result in only a temporary water loss. Electronic devices with vacuums may reduce cellulite temporarily.

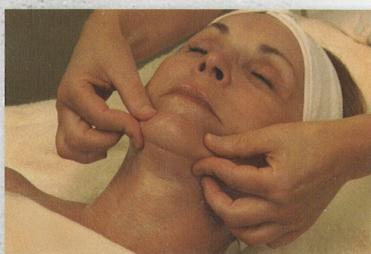
Manual lymph drainage, mesotherapy (microinjection to the dermis to melt fat), dermal fillers, lasers, chemical peels, and microdermabrasion have all been tried to help reduce cellulite. Most of these techniques are considered temporary, and their effectiveness varies. Increasing blood flow, stimulating collagen and elastin, attracting water to cells, and repairing cell membranes are recommended to reduce cellulite. Additionally, reducing wasted water, preventing free radical damage, and reducing inflammation is part of a healthy approach to treating cellulite and the skin. Exercise, along with a healthy low-fat diet with a reduced intake of processed foods, is thought to help reduce cellulite.

Professional cellulite treatments must be performed consistently in continuous sessions. A common spa treatment consists of exfoliation with a scrub or dry brushing followed by a detoxifying mask and wrap. These stimulate the metabolism and circulation. To finish the service, a cellulite treatment cream is applied.

Exfoliation and skin brushing is also good for vessels and circulation. Another popular treatment is *thalassotherapy* (thuh-LA-soh-THAIR-uh-pee). Thalassotherapy is the use of seawater as a form of therapy. Therapeutic benefits from sea and seawater products include many minerals and nutrients. Massage can also help soften hardened cellulite. Cellulite is a common condition for most women, and improving the health of the skin is a continual process.

Manual Lymph Drainage

Manual lymph drainage (MLD) (MAN-yoo-ul LIMF DRAY-nij) stimulates lymph fluid to flow through the lymphatic vessels. This technique helps to cleanse and detoxify the body. Congestion, water, and waste in the vessels create edema in the tissue. Moving this fluid out of the body with light massage movements will decrease the swelling from excess fluid (Figure 19–28). MLD is a great addition to a facial. It is also used both before and after surgery because it expedites healing and enhances cell metabolism. Mechanical lymph drainage is a very beneficial MLD service performed with machines. Advanced training courses in MLD are available for both estheticians and massage therapists. L06



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Photography by Rob Werling.

▲ Figure 19–28
Manual lymph drainage.

Medical Aesthetics

Medical aesthetics is a multibillion-dollar industry. The industry is constantly developing new products and services for our youth-oriented society. Plastic surgery, laser treatments, and injectables focus on

maintaining a youthful appearance. Medical aesthetics integrates surgical and nonsurgical procedures with esthetic treatments. Estheticians also perform services such as peels, microdermabrasion, and light therapy (**Figure 19–29**). Some assist in the medical procedures and monitor patient recovery.

Additionally, recommending home-care products help patients heal faster and maintain their skin's health. Because medical aesthetics is evolving, the esthetician's role can be shaped to fit the facility's needs. Each setting varies, so it is important to define the responsibilities included in the esthetician's job description.

Medical aestheticians are well trained, experienced, and in some cases certified; however, not all estheticians must be certified to work in medical aesthetics. Most clinical procedures must be done in a medical office under a physician's supervision. Medi-spas are medical clinics and spas combined in one location and offer both esthetic and medical services.

The most popular medical spa services are chemical peels, microdermabrasion, Botox®, fillers, laser hair removal, and light therapy/photorejuvenation. Estheticians are not qualified to perform certain procedures, but it is important to be familiar with all of them because many clients will be asking questions and utilizing these procedures. Society is now flooded with information on medical aesthetics. It is part of modern society's continued quest for instant gratification and maintaining physical beauty. Medical spas are a fast-growing segment in the beauty industry.

Pre- and Postoperative Care

Estheticians perform pre- and postoperative treatments and provide patient education before cosmetic surgery. These are important for faster patient recovery time. Estheticians also provide facials, light peels, extractions, and microdermabrasion prior to surgery. Camouflage makeup, retail sales, and patient home-care counseling are other responsibilities in medical aesthetics.

Preoperative care focuses on preparing the skin for the procedure. Getting the skin in its optimum state and as healthy as possible makes the surgery less traumatic on the tissue and shortens recovery time. Increasing the skin's metabolism and reducing cellular debris on the surface are part of conditioning the skin. Helping the patient stay calm is also a role the esthetician can fill. A plan and schedule for pre- and post-op care are outlined by the medical staff before a patient's surgery.

Post-op care includes providing skin care for rapid wound healing and the avoidance of infection. Decreasing inflammation, soothing and moisturizing, and providing for sun protection are the goals. Massage, hydration, protection, and camouflage makeup are all part of post-op care. Home-care instructions for long-term maintenance are also important. Permanent makeup, sometimes referred to as *micropigmentation*, is another technique utilized in clinical aesthetics.



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▲ Figure 19–29
There are many opportunities
for a medical aesthetician.



▲ Figure 19–30
Botox®.



▲ Figure 19–31
The glabella is the most common site for Botox® injections.

Microdermabrasion and Chemical Peels

Glycolic (gly-KAHL-ik) treatments can be performed to precondition the skin before laser resurfacing or surgery. These “lunchtime peels” can enhance the strength and barrier function of the epidermis. Microdermabrasion benefits to the epidermis are similar to those provided by AHA treatments, although the effects are more superficial.

Documentation

The patient charts are a record of what the patient conveys, what the esthetician observes, the assessment and analysis, and a plan of action for treatment. Protocols from clinical procedures are followed. Patient informed-consent forms and treatment records are required and are part of the standard charting procedure.

Other Clinical Procedures

Numerous opportunities for estheticians are found in specialized clinical settings. Laser and medical centers offer hair reduction, spider vein removal, nonablative wrinkle treatments, and other types of laser procedures. **Nonablative** (non-uh-BLAY-tiv) procedures do not remove tissue. Nonablative wrinkle treatments use intense pulsed light (IPL) to bypass the epidermis and stimulate collagen in the dermis to promote wrinkle reduction. Estheticians can assist physicians in these procedures if the technician is properly trained and certified.

Other common procedures performed by physicians include injectables of dermal fillers and Botox®.  L07

Injectables

Botox® and dermal fillers are injectables that are a large part of the industry. Injectables have become the fastest-growing product in the medical spa industry. **Injectable fillers** are substances used in nonsurgical procedures to fill in or plump up areas of the skin. FDA-approved fillers are nontoxic, durable, biocompatible, and easy to use—these are the necessary attributes of a safe filler.

BOTOX: Botox injection is a popular nonsurgical clinical service. **Botox®** is a neuromuscular-blocking serum (botulinum toxin) that paralyzes nerve cells on the muscle when this serum is injected into it. Botox is injected into the muscles to cause paralysis or diminished movement by blocking neurotransmitters (Figure 19–30). This relaxes tissues and diminishes lines. The glabella (gluh-BEL-uh) is the area between the eyebrows where muscles cause creasing from squinting or frowning. The glabella has strong muscles and is the most common site for Botox injections (Figure 19–31). Millions of Botox injections are performed annually in the United States.

DERMAL FILLERS: Dermal fillers are used to fill lines, wrinkles, and other facial imperfections. As we age, dermal collagen, hyaluronic acid, and fat (lipotrophy) are lost and skin loses its shape. The first fillers were from animal sources, specifically bovine collagen. Collagen treatments use a filler, usually a bovine (cow) derivative, to fill in wrinkles or to make lips larger. Dermal fillers will last longer when used in conjunction with Botox.

Today's fillers are obtained from a variety of sources. Many are combined substances and materials. Collagen may be derived from human or animal sources. Synthetic sources are silicone and hyaluronic acids (HAs). The newest trend is to use both non-animal (Restylane[®]) and animal-based (Hylaform[®]) hyaluronic acid fillers. Juvéderm[®] is one of the many cross-linked HA fillers. Hyaluronic acid is a polysaccharide found in the body and connective tissues. A component of the skin's natural moisturizing function, it holds up to 1,000 times its weight in water. Cross-linking is a process where ingredients are combined to increase the stability and durability of the products.

Another type of filler is aqueous calcium (Radiesse[®] FN), which is calcium-based. Another injectable is not a filler, but a dermal stimulator called poly-L-lactic acid (PLLA). This product (marketed as Sculptra[®]) increases fibroblast activity and collagen production. New products are coming on the market regularly. L08

Surgical Procedures

There are two types of surgery: reconstructive and cosmetic.

- **Reconstructive surgery** is defined as "restoring a bodily function." This type of surgery is necessary for accident survivors and those with congenital disfigurements or other diseases.
- **Cosmetic surgery**, also known as **esthetic surgery**, is elective surgery for improving and altering the appearance.

Cosmetic Surgical Procedures

Common plastic surgery procedures are face lifts, forehead lifts, eye lifts, nose reconstruction, laser resurfacing, and deep peels.

- A **rhytidectomy** (rit-ih-DEK-tuh-mee) is a face lift. This procedure removes excess fat at the jawline; tightens loose, atrophic muscles; and removes sagging skin (**Figures 19–32a and b**).
- A forehead lift, also called a *brow lift*, can be performed separately or in combination with an eye lift.



▲ Figure 19–32a
Before a face lift.



▲ Figure 19–32b
After a face lift.



▲ Figure 19–33
Blepharoplasty.



▲ Figure 19–34a
Before laser resurfacing.



▲ Figure 19–34b
After laser resurfacing.

- A **blepharoplasty** (BLEF-uh-roh-plas-tee) is an eye lift. It removes fat and skin from the upper and lower lids, making them less baggy and crinkled-looking (Figure 19–33). When sagging eyelids impede a patient’s ability to see, it is a medical condition that may be covered by insurance.

- A **transconjunctival blepharoplasty** (trans-kon-junk-TIE-vul BLEF-uh-roh-plas-tee) is performed inside the lower eyelid to remove bulging fat pads, which are often congenital.

- **Rhinoplasty** (RY-noh-plas-tee) is nose surgery that makes a nose smaller or changes the appearance in some way. Sometimes rhinoplasty is necessary for health reasons and to improve the patient’s breathing ability.

- **Laser resurfacing** (LAY-zur ree-SIR-fuh-sing) is used to smooth wrinkles or lighten acne scars. Collagen remodeling stimulates the growth of new collagen in the dermis (Figures 19–34a and b). This type of laser treatment removes the epidermal layer and requires a recovery period.

- **Dermabrasion** (dur-muh-BRAY-zhun) is a strong exfoliation method that uses a mechanical brush to physically remove tissue down to the dermis. It is a very deep exfoliation used primarily on scars. Lasers are replacing the use of this medical procedure.

Do not confuse dermabrasion with microdermabrasion.

Microdermabrasion is a mild, superficial mechanical exfoliation method.

- **Trichloroacetic acid (TCA) peels** (TRY-klor-oh-uh-SEE-tik AH-sid peels) are deep peels used for sun damage and wrinkles.

- **Phenol** (FEE-nohl) peels are the strongest peels and can be toxic. They are still used and are less expensive, but they require a longer recovery period than TCA peels or laser resurfacing.

Body Procedures

Many individuals are having elective surgeries. It is therefore important to be familiar with these procedures, especially if you are offering body treatments.

- **Sclerotherapy** (sklair-oh-THAIR-uh-pee) minimizes varicose veins (dilated blood vessels) and other varicosities by injecting chemical agents into the affected areas. Lasers are a secondary method of vein therapy. Over 50 percent of women have varicose veins and smaller spider veins (telangiectasia) on their legs. Potential causes are heredity, race, gender, posture, hormones, and pregnancy. Trauma and injury causes inflammation to vessels. Phlebitis (fluh-BY-tus) is the inflammation of a vein. To take pressure off of veins keep the legs elevated, wear compression stockings, avoid crossing the legs, exercise, and avoid being in stationary positions for long periods of time.

- **Mammoplasty** (MAM-oh-plas-tee) is breast surgery that enlarges the breasts or reconstructs them. This procedure is also referred to as breast augmentation, or implants. Breast reduction reduces or repositions the breasts. This is sometimes performed for health reasons, primarily to alleviate back pain.
- **Liposuction** (LY-puh-suck-shun) is the procedure that surgically removes pockets of fat.
- An **abdominoplasty** (ab-DOM-un-oh-plas-tee) removes excessive fat deposits and loose skin from the abdomen to tuck and tighten the area.  L09

The Clinical Aesthetician

Working as a clinical aesthetician in medical aesthetics can be enriching (**Figure 19–35**). This specialty requires compassion and patience because you will work with people who are in pain or who are experiencing physical trauma. Many patients feel more comfortable with the esthetician than they do with a physician, who may not have time for more personal and empathetic discussions. Remember to stay focused on the treatment goals and maintain a professional role at all times. The role of an esthetician can be invaluable in a medical setting in providing pre- and postoperative care and other patient services and education.

A career in esthetics is always exciting and fascinating. Advanced areas of study range from medical aesthetics to exotic body treatments. Utilizing AHAs and light therapy for skin care are two of the most effective tools available today to estheticians. The opportunity for advanced training is limitless.

There are many services one can specialize in. As the industry continues to grow, keep up with new technology and changes, even if they are not on your service menu. After basic esthetic techniques are mastered, it is a natural progression to add advanced treatments to the services currently offered. This is the beauty of esthetics: The increased ability to improve the health of the skin as the industry evolves. Educated and skilled technicians will always be in demand.

Web Resources

Here are some great Web sites for more information:

American Society of Plastic Surgeons: www.plasticsurgery.org

eMedicine: www.emedicine.com

Mayo Clinic: www.mayoclinic.com

The medical journal for skin care professionals: www.pcijournal.com



 **Figure 19–35**
Working in a medical clinic can be rewarding.

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Review Questions

1. How do alpha hydroxy acids exfoliate the skin?
2. What are the benefits of chemical exfoliation?
3. What are the contraindications for chemical exfoliation?
4. What benefits does microdermabrasion have on the skin?
5. What types of skin conditions do lasers treat?
6. What is light therapy?
7. What is light therapy used for?
8. What is LED used for?
9. What is microcurrent and what does it do for the skin?
10. What is ultrasound and what is it used for in esthetics?
11. What are body wraps used for?
12. What is endermology?
13. What services do medical aestheticians provide?
14. What are injectable fillers used for?
15. What are the medical terms for a face lift, eye lift, and nose surgery?

Glossary

abdominoplasty	Procedure that removes excessive fat deposits and loose skin from the abdomen to tuck and tighten the area.
ayurveda	One of the world's oldest holistic healing systems. It originated in India and is thought to be as much as 5,000 years old. Ayurveda translates from Sanskrit as "science of health or wellness."
balneotherapy	Body treatments that use mud or fango, Dead Sea salt, seaweed, enzymes, or peat baths.
blepharoplasty	A plastic surgery procedure that removes excess skin and/or fat in the upper or lower eyelids.
body masks	A body treatment involving the application of an exfoliating, hydrating, purification, or detoxification mask to the entire body. Masks may include clay, cream, gel, or seaweed bases.
body scrubs	Use of friction and products to exfoliate, hydrate, increase circulation, and nourish the skin.
body wraps	Wraps remineralize, hydrate, stimulate, or promote relaxation by using aloe, gels, lotions, oils, seaweed, herbs, clay, or mud.
Botox®	Neuromuscular-blocking serum (botulinum toxin) that paralyzes nerve cells on the muscle when this serum is injected into it.
cell renewal factor	Abbreviated CRF; cell turnover rate.

Glossary

cellulite	Dimpling of the skin caused by protrusion of subcutaneous fat; is due to an irregularity in distribution of fat in the area, usually found on the thighs, hips, buttocks, and abdomen.
cosmetic surgery	Also known as <i>esthetic surgery</i> ; elective surgery for improving and altering the appearance.
dermabrasion	Medical procedure; strong exfoliation method using a mechanical brush to physically remove tissue down to the dermis.
dermal fillers	Products used to fill lines, wrinkles, and other facial imperfections.
endermology	Treatment for cellulite.
foot reflexology	Technique of applying pressure to the feet based on a system of zones and areas on the feet that directly correspond to the anatomy of the body. Reflexology is also performed on the hands and ears.
hydrotherapy	Spa treatments that use water.
injectable fillers	Substances used in nonsurgical procedures to fill in or plump up areas of the skin. Botox® and dermal fillers are injectables.
Jessner's peel	Light to medium peel of lactic acid, salicylic acid, and resorcinol in an ethanol solvent.
laser resurfacing	A laser procedure utilizing the CO ₂ or erbium laser that involves vaporization of the epidermis and/or dermis for facial rejuvenation; used to smooth wrinkles or lighten acne scars and stimulate growth of new collagen.
liposuction	A surgical procedure used to remove stubborn areas of fat.
mammoplasty	Surgery to alter the shape or contours of the breast.
microcurrent (device)	A device that mimics the body's natural electrical energy to reeducate and tone facial muscles; improves circulation and increases collagen and elastin production.
microdermabrasion	Form of mechanical exfoliation
nonablative	Procedure that does not remove tissue; wrinkle treatments that bypass the epidermis to stimulate collagen in the dermis for wrinkle reduction are nonablative.
phenol	Carbolic acid; a caustic poison; used for peels and to disinfect metallic implements.
reconstructive surgery	Defined as: restoring a bodily function; necessary surgery for accident survivors and those with congenital disfigurements or other diseases.
Reiki	Universal life-force energy transmitted through the palms of the hands that helps lift the spirits and provide balance to the whole self: body, mind, and spirit.
rhinoplasty	Plastic or reconstructive surgery performed on the nose to change or correct its appearance.

Glossary

rhytidectomy	A face-lift procedure that removes excess fat at the jawline; tightens loose, atrophic muscles; and removes sagging skin.
stone massage	Use of hot stones and cold stones in massage or in other treatments.
transconjunctival blepharoplasty	Procedure performed inside the lower eyelid to remove bulging fat pads, which are often congenital.
trichloroacetic acid (TCA) peels	A strong peel used to diminish sun damage and wrinkles.
ultrasonic	Frequency above the range of sound audible to the human ear; vibrations, created through a water medium, help cleanse and exfoliate the skin by removing dead skin cells; contraindications include epilepsy, pregnancy, and cancerous lesions; synonymous with ultrasound.
ultrasound	Frequency above the range of sound audible to the human ear; vibrations, created through a water medium, help cleanse and exfoliate the skin by removing dead skin cells; also used for product penetration; cellulite reduction; stimulating tissue, increasing blood flow, and promoting oxygenation.