

5

Foundation Skills for Spa Treatment Delivery

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SPA FUSION

INTEGRATION OF SKILLS

STUDY TIP: Internet Work!

CHAPTER WRAP-UP

Key Terms

Dry room: A treatment room in which there is no shower or hydrotherapy equipment. Instead, hot towels are used to remove the product from the client's body, or the client takes a shower in a different area.

Exfoliation: A process by which dead skin cells are removed to improve the skin texture and appearance. Other benefits include increased circulation and lymph flow, increased immunity, and relaxation.

Flip-over method: A method of positioning the client for product application in which the client flips over after a treatment product has been applied to the posterior of the body.

Side-lying position: A client positioning method where the client is positioned on a treatment table on his or her side so that product can be applied to both the anterior and posterior areas of the body without changing positions.

Sit-up method: A client positioning method where the client sits up on the treatment table so that product can be applied to his or her back.

Wet room: A treatment room in which there is specialized hydrotherapy equipment such as showers that remove spa products from the client's body, hydrotherapy tubs, and Scotch hoses.

This chapter focuses on the basic skills needed to deliver spa body treatments. It begins with a discussion on how to drape a client elegantly and efficiently, preserving the client's modesty, while being able to apply spa products without inconvenience. You may want to explore the many different ways therapists position the client on the treatment table to apply a variety of spa products effectively. Dry room and wet room removal techniques are also discussed. After mastering these foundation skills, different treatment steps can be chosen and matched to develop more creative spa services.

Spa Draping

In a massage session, range of motion techniques require a tight drape that is tucked in, wrapped around the limb, and, sometimes, held taut by the client. Clients receiving spa treatments are draped slightly differently than they would be in a normal massage. Although the client is always draped, the aim is to preserve modesty and warmth without being too fussy. Spa draping should be quick, elegant, and efficient. Disposable undergarments are useful for treatments in which the client is more exposed because of extensive spa product application. The draping methods shown in Figure 5-1 work well. For a demonstration of spa draping, visit thePoint.

Posterior Leg

To undrape the posterior leg, gather the drape at the greater trochanter and at the ankle. Fold the bottom end of the drape at an angle across the opposite leg while holding the drape at the greater trochanter as a pivot point. With the lower hand, grab the fold of the drape and tuck it under the opposite thigh. Fold the top section of the drape across the back, leaving the gluteals exposed. With practice, this draping can be accomplished in three moves and provides a clean line for the application of spa products from the toes to the top of the posterior superior iliac spine (PSIS).

Anterior Leg

To undrape the anterior leg, gather the drape at the anterior superior iliac spine (ASIS) and at the ankle. Fold the bottom section of the drape at an angle across the opposite leg using the upper hand to hold the drape at the ASIS as a pivot point. With the lower hand, grab the fold of the drape and tuck it under the opposite thigh. Fold the top section of the drape across the belly, leaving the ASIS exposed.

Breast Drape

Align the top edge of the main drape with the bottom edge of a hand towel or pillowcase. As the main drape is pulled down, the hand towel or pillowcase becomes a breast drape and takes its place.

Anterior Pelvic Drape

After the breast drape is in place, continue to pull the main drape down until the abdominal muscles are uncovered. Align the fold of the main drape with the bottom edge of a hand towel or pillow case. As the main drape is pulled down, the hand towel or pillow case will become a pelvic drape. Tuck the bottom section of the pelvic drape between the legs leaving a safe distance between the tucking hand and the genitals.

Turban Drape

This type of drape protects the client's hair from spa products and prevents heat loss during a treatment. Put a bath towel on the table before the treatment. Bring the bath towel up over the client's head to cover the forehead or the eyes. Using the hand as a wedge on each side of the drape, bring the side portions around the neck and tuck them into the top of the body drape.

Gluteal Drape

Uncover the back and fold the drape down to the gluteal cleft. Grasp the folded edge of the main drape and the bottom edge of the hand towel or pillow case. As the main drape is pulled down to expose the gluteals, the hand towel or pillow case replaces it. Tuck the bottom of the gluteal drape between the legs, leaving a safe distance between the tucking hand and the genitals. Fold the edges of the gluteal drape to create clean lines for product application.

Simple Hair Drape

Hold diagonally opposite ends of a hand towel at the corner and allow the rest of the towel to drop into a triangle. Place this on the treatment table before the client gets on it and then bring the edges around the hair and secure the towel with a bobby pin or by tucking the end into the fold of the towel.

Side-Lying Drape

Because spa products are applied to the clients while they are in a **side-lying position**, this drape is different than it would be for a massage. It is important to ask clients to wear disposable undergarments to preserve their modesty. The sheet is kept over the client until he or she is moved into the side-lying position. Undrape the client's upper body (females should either wear a disposable bra or hold a towel over their breasts) and place a bath towel across the client's hip. Grasp the folded edge of the main drape and the bottom edge of the bath towel. As the main drape is pulled down to expose the gluteals, the bath towel will replace it, and the sheet is removed completely.

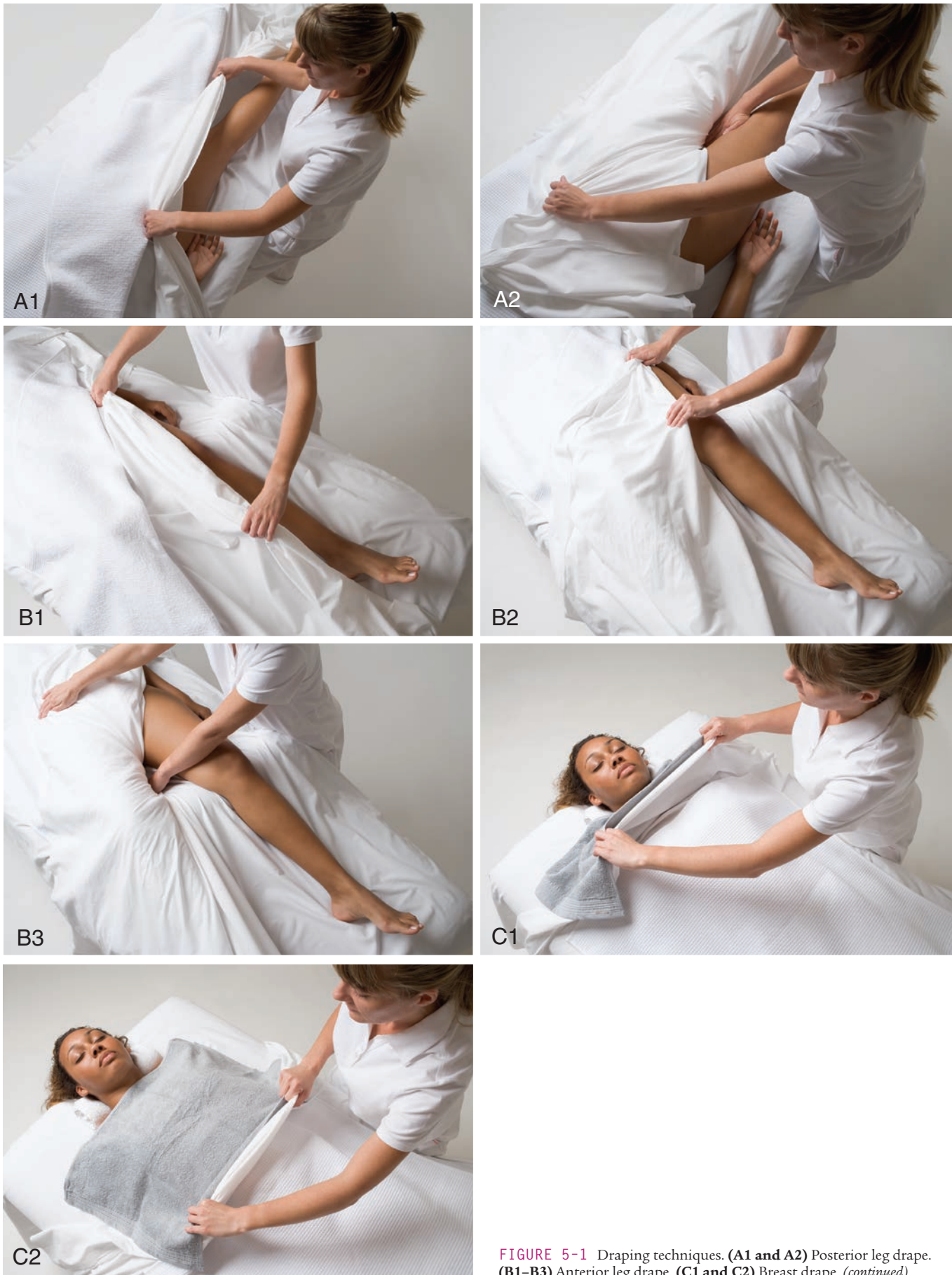


FIGURE 5-1 Draping techniques. (A1 and A2) Posterior leg drape. (B1–B3) Anterior leg drape. (C1 and C2) Breast drape. (continued)

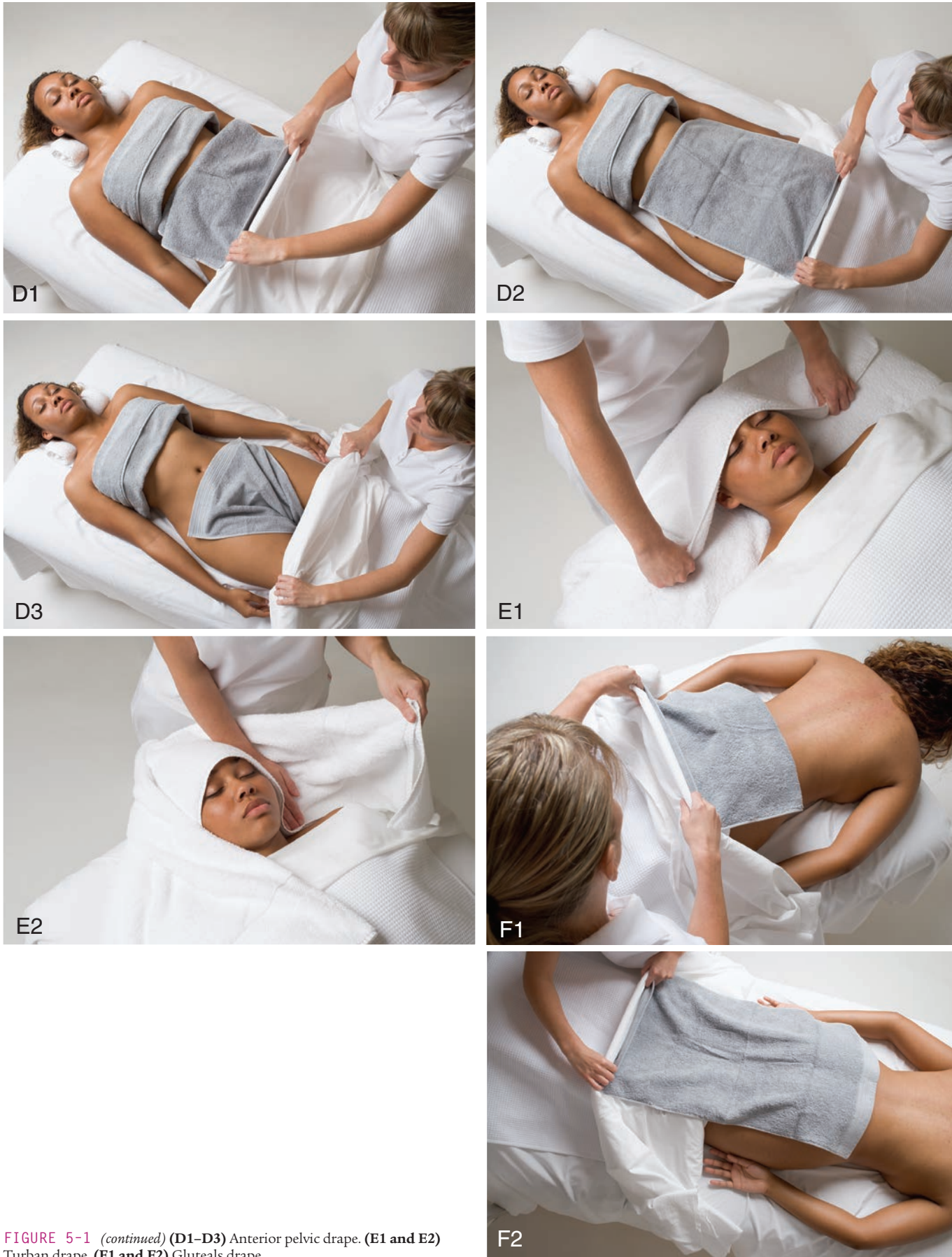


FIGURE 5-1 (continued) (D1–D3) Anterior pelvic drape. (E1 and E2) Turban drape. (F1 and F2) Gluteals drape.

The client needs to be in disposable briefs because the bath towel is used as a cover but is not pulled between the legs.

Positioning the Client When Applying Spa Products

Rumi (1207–1273 CE), the well-known Sufi poet, said, “There are a thousand ways to kneel and kiss the earth.” The same could be said for spa treatments. There are a thousand ways to deliver the same treatment. A good therapist will explore a treatment thoroughly and arrange the treatment steps in different ways until they can be delivered perfectly with maximum fluidity. Each therapist brings something different to a treatment, and in a private practice, therapist can adapt the basic steps and enhance the treatment in unique and creative ways. By contrast, most spas want their therapists to deliver the same treatment in the same way each time. It is important to maintain this sort of consistency for returning clientele. The techniques described below work well, but each can be done in many different ways. Again, exploration is the best way for therapists to find out what works for them. For a demonstration of product application, visit thePoint site for this text. [🌐](#)

The choices made when delivering a treatment in a dry room setting may well be different to those made for a wet

room setting. In a wet room, spa products are removed with a specialized or handheld shower. Shower removal is quicker and easier for the therapist than removal using hot towels. Still, hot towel removal feels wonderful if the towels are hot (rather than lukewarm), and the therapist works with purpose, flow, and attention to detail.

Many body treatments, regardless of their therapeutic objectives, have the same basic steps:

- Exfoliation step to cleanse, remove dead skin cells, and invigorate the body
- Application of the treatment product
- Time for the treatment product to absorb and work
- Removal of the treatment product
- Application of a finishing product (usually a moisture lotion, gel, or cream)

Sometimes, it is better to treat the body in segments because this helps the treatment to flow more smoothly through the product transitions. More often, you have to plan how to apply several different products without turning the client over too many times. The treatment procedures section in each chapter discusses positioning for each treatment. It is helpful if you are familiar with three different application positions before continuing. These are the side-lying position, the sit-up method, and the flip-over method (Fig. 5-2).



FIGURE 5-2 Positioning the client for product application. (A) The side-lying position. (B1 and B2) The sit-up method. (C) The flip-over method.

The Side-Lying Position

The client begins the treatment in the supine position for the exfoliation step. After exfoliation on the anterior body, turn the client into a side-lying position for the posterior exfoliation. The client remains in the side-lying position while the treatment product is applied. Once the product is applied, roll the client onto his or her back again before wrapping them in warm blankets. The client needs to stay alert throughout the treatment and roll from side to side. As the spa product is being removed, the client again rolls from side to side to be toweled off (in a dry room).

The Sit-Up Method

The client begins the treatment in a prone position, and the posterior body is exfoliated. He or she turns into a supine position for exfoliation of the anterior side of the body. The knees are bent, and the treatment product is applied to both the anterior and posterior sides of the legs. Flatten the legs against the plastic body wrap and then wrap the legs in the body wrap. Ask the client to sit up (remove the bolster first). Apply the treatment product to the back and gluteals and ask the client to lie back down again. Finally, the belly, upper chest, and arms are treated, and then the client's upper body is wrapped. The product is removed using the same method, and the client is only turned over once during the entire treatment. For some clients, sitting up is impossible because of lower back problems or weak abdominal muscles. In this case, choose the safest and easiest application method for the individual client.

The Flip-Over Method

In the **flip-over method**, the client starts the treatment in the prone position for the exfoliation step. Apply the treatment product before turning the client. Ask the client to “flip” over (the goal is to make sure that the client makes a clean flip and does not get spa product all over the place). You hold up a drape and look away to protect the client's modesty. Exfoliate the anterior body and apply the treatment product before you wrap the client.

This application method can be messy if the client doesn't make a clean flip. Sheets or bath towel drapes are difficult to use because they will become covered in product. For this reason, the client will probably want to use disposable undergarments. The treatment product will be on the client's back and posterior legs for an extra 10 minutes while the anterior body is being treated. This may be problematic with some products (e.g., very strong seaweed).

Basic Application Techniques

When choosing an application technique, the thickness of the product, the speed at which it needs to be applied, and the way the product should feel as it goes onto the body

need to be considered. The following methods work well and are shown in Figure 5-3.

Application by Hand

Smooth the product onto the skin using effleurage strokes. Some products are oily enough to massage into the skin with a full range of strokes. The use of massage enhances the treatment and is more enjoyable for the client. If applying the spa product by hand, you need to decide if you will use gloves or wash it off your hands after the application. Gloves are quickest.

Application with One Hand Gloved

You may want to apply product with one gloved hand. The ungloved hand is used to undrape body areas as needed or hold the container of product. This technique works well with the “flip-over” position described previously.

Application by Brush

If the client is sunburned or has delicate skin, using a brush works well so long as the product is thin enough to be applied with a brush. A large brush (purchase natural bristle paint brushes) is quicker and more efficient than the smaller brushes used for facials. If massage is included as part of a different treatment step, applying the product with a brush will provide a different sort of texture and give the overall treatment greater tactile variety. Using a brush also keeps your hands clean if you need to drape and undrape body areas during the application process.

Application with Gauze or Fabric

For some spa products, a piece of gauze or light fabric is dipped into the product and then applied to the body area. This method is used with paraffin, Parafango, herbal infusions, and mud, although it can be used with many different products. It allows you to cover body areas rapidly and precisely. Paraffin and Parafango drip easily. The use of the gauze prevents the product from getting onto the floor or dripping onto the client. If the product is too warm, it may burn the client or be very uncomfortable because the heat feels intense because a large area is being covered at once. This is the main drawback of this method of application.

Application by Mist

Very thin or watery products can be sprayed onto the body with an atomizer or mister. Products that are misted onto the body feel cool even when the product has been heated.

Application of Product with a Sugar Shaker

Dry products such as ground herbs, salt, sugar, medicated powder, or flour can be applied to the body through a sugar shaker. This is a unique sensory experience for the



FIGURE 5-3 Application methods. (A) By hand. (B) Using a brush. (C) With one hand gloved. (D1 and D2) Using gauze or fabric. (E) Using a mist. (F) Using a shaker.

client because the product, even when it is dry, feels like raindrops.

Dry Room Removal Techniques

Use hot, moist towels to remove treatment product from the client's body in a dry room setting (Fig. 5-4). This is a warm and satisfying experience when the towels are steamy hot and you use long, elegant strokes. To prepare the towels, pull

off all the tags, then fold the towels in half (the long way), and roll them up like a sausage. It is important that all the tags are removed because they could scratch the client. Place the towels in a hydrocollator, hot towel cabinet, or hot stone heating unit for 20 minutes at 165°F. With thermal gloves, remove a towel from the water, wring it out, and place it in the soda cooler. Close the lid of the cooler and remove the next towel. Keep the lid of the cooler shut as much as possible so that the towels stay hot throughout the treatment. You can enhance your towels by soaking them in herbal infusions or adding essential oils just before use. Some therapists



FIGURE 5-4 Hot towel removal. (A1 and A2) Legs. (B) Feet. (C1–C3) Back. (continued)



FIGURE 5-4 (continued) (D) Arm. (E) Abdominal area. (F) Upper chest. (G) Product removal with sponges and hot water.

color coordinate their towels for the treatment (e.g., green towels for seaweed treatments, brown towels for mud treatments, beige towels for herbal infusions) to camouflage any product stains. For a demonstration of hot towel removal of treatment product, visit thePoint site for this text. [▶](#)

Steamy Rosemary Towels

Add 3 to 5 drops of rosemary essential oil to the soda cooler full of towels. As each towel is removed, it will fill the treatment room with a refreshing scent. Most single essential oils such as eucalyptus, common sage (*Salvia officinalis*), Spanish sage (*Salvia lavandulifolia*), thyme, and lemon oil smell good, but floral scents such as ylang ylang and jasmine are not as pleasant in steam. The essential oil on the towel is not likely to cause any skin irritation because essential oils are volatile substances and begin to evaporate rapidly the minute that they are placed on the hot towels in the cooler. They will mostly burn off before the first towel is used, leaving only some of the scent behind. Skin irritation is therefore minimized.

Herbal-Infused Towels

Muslin bags filled with fragrant herbs can also be used to scent towels. Add a muslin bag of herbs to the water that the

towels are heated in. A nice combination is eucalyptus leaf, rosemary, clove buds, and juniper berry. A half a cup of herbs to around 16 quarts of water provides a nice concentration, although more or less herbs can be used according to taste. Towels heated in herbal solutions will be lightly stained.

Hot Towel Removal—Legs

Remove a towel from the soda cooler and hold it by the edges (because it is hot). Let it cool slightly and place it on the proximal portion of the leg (anterior or posterior). Allow it to sit on the leg and do not touch it again until it cools down (about 30 seconds). Place both hands on the towel and pull it toward the distal portion of the leg and off the foot. Turn the towel over and use the clean side to make another sweep.

Hot Towel Removal—Feet

Place a hot towel around each foot to steam the feet and provide a nice sensation and then remove the product from one foot at a time.

Hot Towel Removal—Back

Place the hot towel horizontally on the lower back and allow it to cool slightly without touching it. Place both hands on

the towel and pull it toward the client's head. As the towel gets to the neck, pull it off to one side, removing the product from the shoulder without getting it into the client's hair. Turn the towel over and use the clean side to make a second sweep removing the product from the second shoulder.

Hot Towel Removal—Arms

Place the hot towel vertically on the proximal portion of the arm and pull the towel toward the hand in one sweep. Lift the arm by holding onto the client's hand and use the clean side of the towel to wipe down the other side of the arm.

Hot Towel Removal—Abdominal Area and Upper Chest

Place the hot towel horizontally on the belly and pull it from the left side to the right side. Turn the towel over and use the clean side to remove product from right to left. Place a hot towel across the upper chest and remove the product by pulling the towel from one side to the other.

Other Dry Room Removal Techniques

Sponges and warm water can be used to remove the product in a dry room setting. In this case, place a bucket of warm water close to the treatment table on a rolling cart. Dip a sea sponge, large cosmetic sponge, or a washcloth into the water and use it to wipe the product off. Dry the client with a hand towel after the product has been removed. The only problem with sponge removal is that it is difficult to keep the linens under the client dry. Some therapists put a thick bath towel on top of the linens before the treatment and get the client to lift his or her body so that this can be removed after the sponge bath. At one spa, the floor was tiled with a drain in the middle of the room. The massage table was covered by a plastic wrap and large bath towel. A bucket of warm water was doused over the client to remove product. This was a quick and efficient method of product removal that was also invigorating, surprising, and fun. The client was handed a thick terry robe and moved to a fresh treatment room for massage after the removal of spa product.

Moving a Client from Plastic to a Preset Massage Sheet

In many different types of body wraps, the client is covered in a spa treatment product and then wrapped in plastic. After the treatment product is removed, a finishing product is applied to the client often in a full-body massage. In a dry room setting, you have to get the dirty plastic out from underneath the client without asking the client to get off the treatment table (a clean massage sheet has been preset under the plastic). To do this, review Figure 5-5 and unwrap the plastic leaving the client covered by the breast drape and anterior pelvic drape (or disposable undergarments).

Remove the product from the client's arms, upper chest, and abdominal area and ask him or her to hold onto the breast drape and sit up. Remove the product from the back and the posterior arms. Roll up the plastic sheet so that the dirty side is rolled in until it sits as close to the gluteals as possible and ask the client to lie back down (onto the clean massage sheet). Move down to the lower legs and wipe the feet with a hot towel. Ask the client to bend the knees and hold the feet up. Roll up the dirty side of the plastic (that is underneath the client's feet). Place the client's clean feet on the massage sheet, which is underneath the plastic (the knees are still bent). Remove the spa product from both legs with hot towels and roll the plastic up as high as possible under the gluteals. Place the clean legs flat on the massage sheet and cover the client with a sheet or towel for warmth. The client then lies back down on the massage sheet and slightly lifts his or her hips so that the plastic can be removed. You need to work quickly and efficiently during product removal because the client must stay alert during this entire process.

Wet Room Removal Techniques

In a **wet room**, a specialized shower is used to remove spa products from the client's body. Specialized showers include a handheld shower, a standard shower, the Swiss shower, and the Vichy shower. Always read the manufacturer's instructions for the particular piece of equipment beforehand. It is important to practice a treatment at least two to three times when using a specialized shower so that the temperature and pressure of the shower are safe and comfortable for the client. Wet room removal techniques are shown in Figure 5-6. Wet room equipment and considerations are also described in Chapter 6 (Water Therapies).

The Handheld Shower

A handheld shower is used in combination with a wet table for the easy removal of product. Some handheld showers can deliver a pulsating water massage and may also have an attachable body brush for exfoliation. A wet table has a special surface to channel water into a receptacle under the table or a drain in the wet room floor. The table is often constructed of heavy plastic or acrylic for easy cleanup and sanitation. A soft, waterproof insert makes the table comfortable for the client. Sometimes, a bucket of warm water is poured over the client to remove the spa product. This type of removal provides an invigorating experience for the client, but dry the client quickly so that he or she does not get cold.

The Standard Shower

A standard shower is less expensive than a Swiss or a Vichy shower but does not allow the same range of control. The pressure of the water, the degree of pulsation, and the



FIGURE 5-5 Moving a client from plastic to a preset massage sheet. (A) Unwrap the client. (B) Remove product from the arms, upper chest, and abdominal area. (C) Remove product from the back and roll up the plastic. (D) Remove product from the legs and roll up the plastic. (E) Remove the plastic from under the client.

temperature of the water cannot be controlled by the therapist. The client is moved between the massage table and the shower as needed during the treatment. For example, if seaweed is applied after exfoliating the client with a dry brush, the client is moved off the massage table after the seaweed has been allowed to process and taken to the shower so that it can be washed off. While being moved, the client stays loosely covered in the plastic wrap until he or she gets into the shower and passes it back to the therapist to throw away. The therapist then places clean linen sheets on the massage table while the client finishes his or her shower.

The client returns to the massage table for a massage or to have a finishing lotion or cream applied.

The Swiss Shower

A Swiss shower surrounds the client with jets of water directed at specific areas of the body. Usually, the shower stall has pipes in all four corners with 8 to 16 water heads coming off each pipe. Adjust the position of the water heads for the client's height. A control panel outside the shower stall allows you to control contrasting warm and cool jets



FIGURE 5-6 Wet room removal. (A) The handheld shower. (B) The Swiss shower. (C) The Vichy shower.

of water. A shower can be used for product removal, as an active treatment in itself, or to provide the heating phase of the treatment for products such as a cellulite cream.

The Vichy Shower

A Vichy shower is a horizontal rod with holes or water heads that rain water down onto the client from above the wet table. Vichy showers are used to rinse spa products off the client, but they can also be used as a treatment in themselves. A control panel allows you to alternate between hot and cool water, which increases the therapeutic benefits of some products and uses the mechanical effects of water on soft tissue. Vichy showers have an adjustable face guard that is meant to keep water off the client's face, although some water invariably gets through. A soft, lightweight washcloth can be used to cover the client's face and protect it from

water droplets. Care must be used when moving the client off the wet table because the area around the table may be slippery with water. Although a finishing lotion or cream can be applied while the client is on the wet table, it is nicer to move the client to a dry room massage table for this final step. Wet rooms may feel a little cold and can echo because of the tiled floor.



SANITATION

The shower stall or wet table, the floor outside the shower, the shower curtain (if there is one), and any other surface that touches the client or water must be cleaned, disinfected, and dried between clients. Towels and floor mats will also need to be changed between clients.

SPA FUSION

INTEGRATION OF SKILLS



STUDY TIP: Internet Work!

The Internet provides people with fast access to information, which can be very helpful when you want to learn more about anything that is unfamiliar. Some of the information on the Internet is from questionable sources, so we spend a lot of time sorting through advertising, false claims, and other spam. One way to avoid this sorting process is to use a teaching- and research-oriented search engine such as Google Scholar available at <http://scholar.google.com> when you're looking for information. It can also be helpful to look for massage and spa technique videos supplied by massage and spa teachers on TeacherTube (<http://www.teachertube.com>) if you want to see visual examples of techniques being applied to clients. Finally, ask other massage professionals for information on <http://www.massagetherapists.com>. This social networking site created for the massage profession by Associated Bodywork and Massage Professionals lets you connect with massage people across the country.

CHAPTER WRAP-UP

As an aspiring spa professional, you should practice basic spa skills in preparation for the delivery of core spa treatments rigorously. These skills include elegant spa draping, appropriate positioning of the client for product application, the use of a variety of application methods, and the smooth and efficient removal of product with hot, moist towels. Enhancers such as steamy aromatic towels, firming face massage, and simple foot treatments provide moments of particular radiance in a spa massage as described in Chapter 4 (Your Spa Massage). New spa therapists should perfect their Swedish relaxation massage and offer several enhancers while maintaining the flow of the massage. If a wet room is used to remove product, practice with the specialized equipment to ensure that the water temperature and pressure are safe and comfortable for the client. Once these skills are mastered, you will be able to work more creatively with treatment steps to develop unique services. Remember, you are responsible for checking the laws and regulations in your particular state to ensure that you are delivering services within your scope of practice.

REVIEW QUESTIONS

Multiple Choice

- A method of positioning the client for product application in which the client turns over after a treatment product has been applied to the posterior of the body is called:
 - The sit-up method
 - The flip-over method
 - The side-lying method
 - The pronator method
- This type of drape protects the client's hair from spa products and prevents heat loss during a treatment.
 - Facial drape
 - Gluteal drape
 - Breast drape
 - Turban drape
- When choosing an application technique, you want to consider:
 - The thickness of the product
 - The color of the product
 - How the product will be removed
 - Face massage techniques
- Oily products lubricate the skin enough so that:
 - They can be applied with steamy hot towels
 - They can be applied with a full range of massage strokes
 - They can be sprayed directly onto the body with a mist bottle
 - They can be applied with powders
- Paraffin, Parafango, herbal infusions, and mud can be applied with:
 - Gauze or fabric that has been coated with the product
 - A full range of massage strokes
 - Gloved hands and a full range of massage strokes
 - A mist bottle

SPA FUSION

INTEGRATION OF SKILLS (continued)



True or False

6. _____ Clients receiving spa treatments are draped slightly differently than they would be in a normal massage.
7. _____ Shower removal is slower and harder for the therapist than removal of products using hot towels.
8. _____ If the client is sunburned or has delicate skin, or if the product is thin, the use of a large paint brush for product application works well.
9. _____ Products that are misted onto the body feel cool even when the product has been heated.
10. _____ A Vichy or Swiss shower are used in a dry room setting to remove products from the client's body.

6

Water Therapies

Chapter Outline

General Uses for Hydrotherapy
Introduction to Hydrotherapy
Therapeutic Characteristics of Water
Hydrotherapy Benefits and Effects
Benefits of Using Hydrotherapy in a Massage and
Spa Practice
Effects of Hydrotherapy Applications
Hydrotherapy Applications
General Treatment Considerations
Hydrotherapy Applications



SPA FUSION INTEGRATION OF SKILLS

STUDY TIP: Fact Sheets
SPA INSPIRATION: Self-care with Hydrotherapy
IT'S TRUE! Hydrotherapy Improves Physical
Performance for People with Osteoarthritis
CHAPTER WRAP-UP

Key Terms

Buoyancy: Buoyancy refers to floating in water because of the water is displaced by bodyweight.

Compress: A wet cloth soaked in warm, hot, cool, or cold water (sometimes with additives dissolved in the water) that is wrung out and applied to the skin.

Cryotherapy: The therapeutic application of cold temperatures.

Father Sebastian Kneipp: A Bavarian priest who combined herbal treatments with water cures.

Friction treatments: Friction treatments include salt, sugar, dry brushing, wet brushing or mitt treatments where the mechanical action of the rough-textured product, brush, or mitts against the skin causes local circulation to increase as the friction generates heat in the tissue.

Full immersion bath: A hydrotherapy treatment where the client's body is fully immersed in cold, cool, warm, or hot water for a period of time to stimulate or sedate the body.

Homeostasis: The body's ability to maintain a relatively constant internal environment despite changing external conditions.

Hunting reaction: Alternating cycles of vasoconstriction and vasodilatation in response to cold.

Hydrostatic pressure: The amount of pressure exerted by a liquid, in this case water, when the liquid is at rest. In other words, water has weight.

Hydrotherapy: The use of water for health and wellness.

Mechanical effects: The effects on the body caused by water that is pressurized in sprays, whirlpools or through jets to manipulate soft tissue.

Paraffin: A waxy substance obtained from the distillates of wood, coal, petroleum, or shale oil. It is used to coat the skin and trap heat and moisture at the skin's surface.

Sauna: A room where hot air (60° to 210°F) is combined with low humidity to stimulate metabolism, increase core body temperature, and facilitate detoxification.

Scotch hose: A hydrotherapy application in which a strong stream of water is directed at the client to increase circulation, stimulate function, tone muscles, decrease pain, and decrease congestion in a particular body area.

Steam bath: A hot air bath used to facilitate perspiration that helps the body naturally detoxify.

Thermotherapy: The therapeutic application of heat.

Vasoconstriction: When the lumen of a blood vessel is contracted, reducing the diameter of vessel and decreasing blood flow to a region of the body.

Vasodilatation: When the lumen of a blood vessel is relaxed, increasing the diameter of the vessel and increasing the blood flow to a region of the body.

Vincent Priessnitz: An Austrian farmer who became famous for the cold water cure, which consisted of drinking large amounts of cold water and applications of cold water by packing, immersions, and douches.

Hydrotherapy is the use of water for health and wellness and is a historical cornerstone of the spa experience. As we discussed in Chapter 1 (Spa from Past to Present), the revitalizing effects of water were well known in ancient cultures around the world. **Vincent Priessnitz** and **Father Sebastian Kneipp** developed methods and procedures that advanced the understanding of hydrotherapy. Although spa treatments can be offered without wet room equipment such as Vichy showers and hydrotherapy tubs, it is helpful to be well versed in hydrotherapy principles. For the therapist working in a spa offering hydrotherapy treatments, this understanding is essential to providing safe and effective client care.

General Uses for Hydrotherapy

The effects of hydrotherapy applications are the same even when the focus of sessions is different. In a wellness setting such as a spa or massage practice focused on reducing stress and promoting enjoyment of sessions, hydrotherapy is most often used to relax the body with hydrotherapy baths, showers, steams, and saunas.

In spas, hydrotherapy is also used as part of the beautification process by estheticians. A particular product might be applied to the legs to improve the appearance of cellulite. Specialized water applications such as a Swiss shower or Scotch hose might then be used to activate the product or stimulate the skin and circulation as part of the session.

In health care settings, such as those at some integrated or resort spas, hydrotherapy is applied to support changes needed in the body for the management of a particular pathology or condition and to rehabilitate musculoskeletal tissue after injury. In a health care setting, a sauna or steam room might be used as part of the client's treatment plan. If a client suffers a sports injury, ice packs are likely to be applied to the area to reduce inflammation. As the client's injury heals, heat applications might be used to soften scar tissue and improve range of motion as the client returns to full function.

In the first section of this chapter, we discuss the therapeutic characteristics of water that make it useful and beneficial for clients. The physiological, psychological, and reflexive effects of hydrotherapy are explained in the next section of the chapter, before hydrotherapy applications are demonstrated at the end of the chapter. Whether you choose to work on providing wellness massage and relaxation spa work or work in a health care-oriented spa providing condition management or injury rehabilitation, you are likely to

use hydrotherapy regularly to promote healthy changes in soft tissue structures.

Introduction to Hydrotherapy

The term *hydrotherapy* originates in two Greek words: *hydro*, meaning water, and *therapeia*, meaning therapy. *Stedman's Medical Dictionary for Health Professions and Nursing* defines hydrotherapy as the "external application of water as a liquid, solid, or vapor for therapeutic purposes."¹

The use of water for healing dates back before recorded history, and many cultures around the globe have traditions that include hydrotherapy. North American Indian tribes, for example, used a special hut or a covered sweat lodge built partly into the ground. Large stones were heated in a fire and taken inside the hut where they were sprinkled with water to warm the air, causing the body to perspire as a means of purification. There is evidence that every major U.S. hot spring was used at some point by an Indian tribe.² Native Americans considered hot springs to be sacred, neutral ground. Warriors could rest by hot springs to heal battle wounds without worry of attack from another tribe.

Early civilizations often had a version of the spa bath, which combined some form of social interaction with cleanliness. The *hamam* (bath) became popular in Islamic countries around 600 AD after Muhammad recommended sweat baths for spiritual cleanliness. Later, hamams became central to the community both as a place of spiritual retreat and for socializing with friends. Bathers would stop first at the *camekan*, a small court of changing cubicles surrounding a fountain, before entering the *hararat* (hot marble baths). Bathers would receive a vigorous massage or *kese* (exfoliation with a rough cloth) on a raised marble platform above the wood or coal furnaces used to heat the *hararat*.³

As mentioned in Chapter 1 (Spa from Past to Present), the baths of the Roman Empire are probably the most famous in history. The central role of public baths in Roman culture led to a well-developed understanding of hydrotherapy, and garrisons were often built around hot springs so that the soldiers could heal their battle wounds. By 43 AD, the Roman public viewed the baths as a way to relax and maintain health, and by the early fifth century AD, Rome alone had 900 baths.

The medical benefits of hydrotherapy were advanced in Europe by two natural healers who developed their methods in the early 1800s. Many of these methods are still used today as part of hydrotherapy. The first was the Austrian Vincent Priessnitz (1799–1852), who promoted "the cold water cure." This "cure" consisted of drinking large amounts of cold water, bathing in cold water, following a simple diet, and participating in physical activity in the open air. Priessnitz used the cold water cure to care for a personal injury that doctors of the time thought untreatable. In 1826, Priessnitz opened a water cure establishment at Gräfenberg in the mountains of Silesia, where his ideas were adopted by many prominent physicians.⁴

The second natural healer was Father Sebastian Kneipp (1824–1897), a Bavarian priest who cured himself of pulmonary tuberculosis by bathing in the icy Danube and “shocking” his body into health. In one of his many books, *My Water-Cure* (1894), Kneipp writes, “Being a priest, the salvation of immortal souls is the first object for which I wish to live and die. During the last 30 or 40 years, however, the care for mortal bodies has absorbed a considerable portion of my time and strength.” Instead of administering last rites to the gravely ill, he used water and herbs to cure them. Kneipp’s healing system, which combined physical exercise, simple food, hydrotherapy, and herbs, forms the basis of modern naturopathy. He is well known for the “wet nightshirt” treatment that involved wearing a shirt that had been dipped into water with salt or hay flower. He also introduced classic methods of friction such as salt glows and body wraps, which are widely used today in spas.⁵

Today, hydrotherapy applications are used successfully to treat a broad range of conditions and are particularly useful for musculoskeletal problems. Modern research proves what people throughout the ages have always known: Water has healing characteristics that change the way we feel mentally, emotionally, and spiritually.

Therapeutic Characteristics of Water

Water is a unique substance that covers more than 70% of the earth’s surface and provides the natural beauty of oceans, rivers, rain, waterfalls, and snow. The human body is 55% to 60% water, and tissues such as lean muscle (75%), blood (95%), and bone (22%) contain significant amounts of water. Water also has a number of characteristics that make it useful as a therapeutic application. Water is versatile and changes forms, dissolves other therapeutic substances, exerts hydrostatic pressure, causes buoyancy, and absorbs and transfers hot and cold temperatures (For Your Information 6–1).

Water Is Versatile and Changes Forms

Water is a liquid that can easily be changed into ice or vapor. It is therapeutically useful in all of these forms. As a liquid, water is applied in baths and showers or used to heat special packs, called hydrocollator packs, that bring moist heat directly to a specific body area. Ice packs and ice massage

FOR YOUR INFORMATION 6–1

Therapeutic Characteristics of Water

- Water is versatile and changes forms (water, ice, vapor).
- Water dissolves other therapeutic substances (minerals, plant materials).
- Water exerts hydrostatic pressure (weight of water).
- Water causes buoyancy (lift of displaced water).
- Water absorbs hot and cold temperatures.
- Water transfers hot and cold temperatures (conduction = direct contact, convection = via air).

cool heated tissue and reduce inflammation, whereas saunas and steam rooms use water in a vaporized form to promote perspiration and detoxification.

Water Dissolves Other Therapeutic Substances

Water is known as the “universal solvent” because it dissolves so many other substances. Many of the known elements found on earth are dissolved in seas and lakes. For example, people all over the world have noticed that they feel revitalized from a day at the beach and swimming in the ocean, where seaweeds and minerals dissolve in the water, making it a rich, therapeutic soup. Many different substances can be dissolved from a solid to a liquid form for absorption through the skin. Substances such as clay, minerals, powdered seaweed, ground oatmeal, and a variety of herbs are routinely dissolved in water and applied to the body in baths and body wraps as part of hydrotherapy at spas.

Water Exerts Hydrostatic Pressure

Hydrostatic pressure is a term that refers to the amount of pressure exerted by a liquid, in this case water, when the liquid is at rest. In other words, water has weight. If you have swum underwater, you have probably noticed that the deeper you go, the more pressure you feel in your ears from the accumulated weight of the water above you. If you stand neck deep in water, there is greater hydrostatic pressure on the lower part of your body (deeper) than on your upper body. Hydrostatic pressure pushes blood and fluid from the lower body into the thorax. This characteristic of water has been used effectively to treat edema in the extremities caused by many different conditions. Pregnant women who exercise in water find that hydrostatic pressure reduces lower leg edema, decreases the occurrence of varicose veins, improves general blood circulation, and stabilizes blood pressure.⁶

Water Causes Buoyancy

Buoyancy refers to floating in water. When you enter a swimming pool, you displace water and there is an upward thrust of water that lifts you. This is why you feel weightless when you swim. The water you displaced supports the weight of your body. Exercising in water reduces the stress on joints, tendons, and bone that would occur with the impact of the body moving on a hard surface. People who have arthritis, are elderly, or have recently undergone surgery for a musculoskeletal condition benefit from movement in a buoyant environment.

Water Absorbs Hot and Cold Temperatures

Water can be heated or cooled to specific temperatures for therapeutic application to the body as described later in the chapter when we talk about the effects of hot and cold temperatures on the structures and function of the body. As you can probably imagine, hot applications increase local blood circulation, warm soft tissue structures, relax tense muscles, and soften muscle tissue. Cold applications decrease local blood flow to an area and increase muscle tone.

Water Transfers Hot and Cold Temperatures

Water effectively transfers hot and cold temperatures to the body in two different ways. When heated or cooled water makes contact with your body, it transfers the warmth or coolness to your body through *conduction* (the transfer of hot or cold temperatures through direct contact). Water is more effective at transferring hot or cold temperatures than is air, which is why moist heat feels hotter than dry heat.

Convection is the process by which hot or cold temperatures are transferred via air or gas. For example, it feels colder when the wind is blowing (wind chill) than if the air is still. Saunas are an example of the transfer of temperatures via air; water poured over hot rocks turns quickly into a vapor, which evaporates into the air and warms it.

These general characteristics of water help lay the foundation for better understanding the mechanisms by which hydrotherapy is effective in the upcoming sections of this chapter.

and prolongs the pleasure the client experienced during the session. At the same time, dead skin cells desquamated during the massage or body wrap and impurities released from the skin are removed, leaving the client feeling clean and revitalized.

In both wellness and health care spas, therapists often suggest that clients use hydrotherapy applications at home for self-care. Use of hot packs on tight shoulder muscles at the end of a workday can help the client maintain the lengthening effects achieved through a massage session. Regular Epsom salt baths help reduce stress, decrease muscle soreness, and improve sleep. Cold packs are applied during the early stages of inflammation to reduce swelling and heat in the tissue and speed the healing process. The simple act of taking a warm bath at night can serve as part of a stress reduction regimen. These general benefits complement the significant physiological and psychological effects of hydrotherapy applications.

Hydrotherapy Benefits and Effects

Hydrotherapy applications support many of the benefits and effects of massage and can improve the results clients experience from the massage or spa session. The benefits of hydrotherapy include the pleasure and comfort clients receive through hydrotherapy applications.

The effects of hydrotherapy usually depend on the temperature of the application and the delivery method (bath, pack, shower, etc.). Let's consider the benefits of hydrotherapy applications in a massage and spa practice and their physiological, psychological, reflexive, and mechanical effects.

Benefits of Using Hydrotherapy in a Massage and Spa Practice

The use of hydrotherapy applications in both wellness and health care spas increases clients' enjoyment of sessions, offers soothing comfort, ensures that clients stay warm, and provides a useful means of empowering clients to manage many conditions through self-care practices.

A recent study suggests that feelings of warmth are associated with a sense of relaxation and well-being. Researchers have found that sensations of warmth alter neural circuits controlling cognitive function and mood, influencing serotonin levels. So, whether you are lying on a warm beach in the Caribbean, sitting in a sauna or hot bath, or even working up a sweat through exercise, your brain chemistry changes and your mood is enhanced.⁷

Many clients begin to feel cold as a spa session progresses. A warm hydrocollator pack on the feet or low back can warm the client and increase the client's enjoyment of the session. A hydrotherapy tub immersion (bath) with soothing additives such as essential oils or herbs after a massage or body wrap boosts the benefits of the treatment

Effects of Hydrotherapy Applications

Understanding hydrotherapy's effects on the body begins with the concept of homeostasis. **Homeostasis** is the relative constancy of the body's internal environment. The body's internal environment includes the extracellular fluid that bathes cells. From this fluid, cells receive oxygen and nutrients, and into this fluid, cells excrete wastes from their metabolic activities. The health of each cell and an organism's survival depends on the ability of the organism to sustain a relatively constant internal environment. If the internal environment is disturbed to the extent that it can't adjust, such as by prolonged exposure to cold and hypothermia, death of cells and potential death of the organism result.

Humans are able to maintain internal environmental stability because intricate regulatory mechanisms continually monitor and correct the body's internal environment by adjusting physiological functions.⁸ The body's core temperature is relatively constant, even in the face of widely varying external environmental temperatures, because of this ability. For example, the body produces heat when the core becomes too cool and increases heat loss when the core starts to overheat. Hydrotherapy applications are designed to change the internal environment of the body by applying temperatures above, close to, or below that of the body's normal temperature (97°F). The physiological effects of hydrotherapy occur as a result of the body's attempt to return to a constant internal state. For example, a common physiological effect of the application of heat is **vasodilation** of blood vessels and increased blood flow to the local area, which moves warm blood out toward the periphery, cooling the core of the body. A common physiological effect of cold is decreased local edema and decreased pain. The edema is reduced through **vasoconstriction** of blood vessels, which drives warm blood back to the core, ensuring the core maintains the proper temperature. As a result, pain is reduced by a decrease in nerve conduction velocity.

Three key factors influence the degree to which the body is affected by hydrotherapy applications:

- **The greater the temperature difference between the body and the hydrotherapy application, the greater the physiological effect on the body:** If a client is placed in a bath at 97°F (close to normal body temperature), neither the therapist nor the client will notice much of a physiological difference (although a mild tonic effects occurs with neutral applications). If the same client is placed in a bath at 110°F, the physiological changes in the body will be readily apparent to both. The pulse rate increases, the skin flushes, body temperature rises, metabolism picks up, the blood becomes more alkaline, and white blood cells increase in number. The client may feel nervous or even agitated by the application and will probably want to get out of the hot water.
- **The length of the hydrotherapy application influences the physiological effect on the body:** A client placed in very cold water (32° to 55°F) will have two very different reactions based on the length of the treatment. If the application is brief (less than 1 minute), blood vessels will constrict to prevent heat loss. A short time later, blood vessels will dilate as the body attempts to warm itself and prevent tissue loss at the periphery. Muscle tone is increased, and there is an initial spike in blood pressure and respiratory rate. The client is likely to report feeling refreshed and invigorated. If the application is longer than 1 minute, the client's blood vessels constrict as the body attempts to move blood to the core to keep the core temperature consistent. After about 20 to 30 minutes of continuous cold, vasodilatation occurs, which increases circulation (For Your Information 6–2), although not above the baseline when the cold was first applied. The physiological processes of the body are depressed, and if the client is not removed from the cold water, death could result.

FOR YOUR INFORMATION 6–2

The Hunting Reaction

The **hunting reaction** involves alternating cycles of vasoconstriction and vasodilatation. When an ice pack is applied to an area, the body undergoes a series of distinct physiological responses. In the first phase, the blood vessels constrict, and blood flow to the area is reduced. This decreases local edema and causes the skin to appear pale. In the second phase, the body attempts to warm the area through vasodilatation that increases circulation. If the cold persists, vasoconstriction resumes, and the cycle repeats itself with irregular sequences in an apparent “hunting” for equilibrium of skin temperature. The benefits of the hunting reaction are that vasodilatation phases flush the area with fresh blood, bringing nutrients and oxygen to the tissue. Vasoconstriction phases squeeze the blood out of the tissue, removing many metabolic wastes, before another vasodilatation phase again flushes the area with fresh blood.

- **The larger the body area treated, the greater the physiological effect on the body:** Hydrotherapy applications can be used over the entire body or locally. If the body is immersed in a bath, as in the previous examples, the effect is more profound than if a cold pack is applied to one local area, say the hamstring. If the cold application is a full-body immersion, the hunting reaction described in For Your Information 6–2 is potentially deadly because heat from the body's core is used to delay tissue loss at the periphery. If the cold is applied just to the hamstrings, the hunting reaction acts as a “pump” to flush out metabolic wastes in tissues and bring fresh oxygen- and nutrient-rich blood to the area.

The effects of hydrotherapy applications can be understood in terms of six primary categories, which overlap and interrelate (For Your Information 6–3):

- Physiological effects
- Psychological effects
- Reflexive effects
- Mechanical effects
- Effects from dissolved substances
- Effects from specific temperatures

A combination of different types of effects usually occurs simultaneously during a hydrotherapy application. For example, different temperatures cause physiological effects, and dissolved substances, such as herbs, can influence the psychological impact of an application.

Physiological Effects

As mentioned earlier, many of the effects of hydrotherapy occur because the body responds to temperatures above or below normal body temperature in an effort to maintain homeostasis. Hydrotherapy applications have a strong effect on blood circulation, causing vasodilatation of blood vessels in some instances and vasoconstriction of blood vessels in others. Certain applications can shift blood from one area of the body to another or cause cycles of vasoconstriction and vasodilatation that flush the local tissue of metabolic wastes by bringing fresh nutrient- and oxygen-rich blood into an area, pushing blood back out, and repeating the process. In this way, metabolic wastes are removed

FOR YOUR INFORMATION 6–3

Physiological Effects of Hydrotherapy

- Homeostasis is the relative constancy of the body's internal environment.
- Hydrotherapy seeks to change the internal environment of the body.
- Physiological effects occur as a result of the body's attempt to maintain homeostasis.
- When the body is hot, it attempts to cool itself.
- When the body is cold, it attempts to warm itself.

from the area, leaving the tissue healthier. Certain types of applications cause an increase in blood pressure and heart rate, whereas others cause it to decrease.

The skin is also directly impacted by hydrotherapy applications because sensory receptors are responding to all the textures and nuances of feeling created by the application and sending rapid signals to the brain. Overheating the body, as in a sauna treatment or hot immersion bath, stimulates sweat glands, which helps the skin excrete metabolic wastes from the body. Metabolic wastes that have accumulated in the adipose layers under the skin can be metabolized and released during this process, helping the body to naturally detoxify.

Psychological Effects

Although the psychological effects of water and hydrotherapy applications are not always as clearly defined as physiological effects, you have only to contemplate your feelings as you visualize a warm tub full of water, the delights of a swimming hole on a hot summer day, or the feel of warm sea mist on your face to understand water's psychological impact. People love water. In fact, maps of the world's population show that most of humanity lives near water. People gather along coastlines, along the course of rivers, and on islands. Popular vacation spots are often located on bodies of water.⁹ Water holds an important place in myth and legend and is often viewed as a transformative power. Artemis in Greek mythology ruled the tides as the goddess of the moon. She also personified the unconscious depths of the human mind, which are associated with water. Rituals of purification often involve water because it is a substance that washes away dirt from the body and, in some religions, cleanses the soul. Many cultures believe that life sprang from water and that special waters impart youth and renewed beauty. Water can represent an important passage through difficulties to renewal of the spirit. All of these conscious and subconscious factors can be at play during hydrotherapy sessions and benefit clients through the pleasure they receive through interaction with water.

Reflexive Effects

Hydrotherapy applications can produce reflexive effects (sometimes called a consensual response) that occur because of a nervous system reaction to the treatment. Reflexive effects happen in an area removed from the point of local application, usually between the skin and the viscera, although heat applied to one limb will increase circulation in the other limb. The reflex relationship between the skin and the internal organs is due to a segmental connection. Both receive sensory innervation from the same segment of the spinal cord. For example, heat applied to the abdomen causes the activity of the intestines to decrease. A hot or cold application to the sternum affects the function of the esophagus. A cold application to the head stimulates mental activity, whereas the application of a cold pack to the sacrum or feet causes dilation of the uterine blood vessels.¹⁰

Mechanical Effects

When water is pressurized in a spray, shower, hydrotherapy jet, or whirlpool, the force of the water on the skin's surface and on the muscle tissue below manipulates the tissue for a **mechanical effect**. The body may respond to the sensation of water striking the tissue defensively at first, causing muscle tone to increase. Gradually, the body relaxes into the sensation of the pressurized water, and muscular tension is reduced, circulation is improved, and overall body function and vital energy are increased.

The hydrostatic pressure of water can be considered to exert a mechanical effect on body tissue. Recall that water exerts more pressure on body areas that are deeper in the water. This effect can be used to squeeze fluid from the lower extremities to the thorax; for example, exercising in water reduces edema in the lower legs. In some types of hydrotherapy applications, fluids are pulled from the upper body to the lower body. A classic example is the use of a hot foot bath to decrease congestion in the sinuses due to a cold. The hot water pulls fluid down toward the feet and out of the head. In folk medicine, migraines are treated with a warm foot bath and an ice pack on the back of the neck. The dilation of blood vessels in one body area reduces the fluid congestion in another area.

Another type of mechanical effect of hydrotherapy applications occurs with classic friction rubs such as salt glows, wet skin brushing (like dry skin brushing as described in Chapter 8 except the skin is dampened with water or vinegar), or cold mitt friction. The mechanical action of the rough-textured product, brush, or mitts against the skin causes local circulation to increase as the friction generates heat in the tissue.

Effects from Dissolved Substances

Earlier, you learned that water is called the universal solvent because it dissolves many other substances such as minerals and plants, creating a therapeutic "soup." For example, the Dead Sea is an ancient landlocked sea whose water has been slowly evaporating over the centuries, producing a highly concentrated natural salt solution. After bathing in the Dead Sea, people often report a feeling of increased energy and well-being as well as soft skin. The main mineral elements in Dead Sea water are chlorine, magnesium, sodium, calcium, potassium, and bromine.¹¹ Research on the usefulness of bathing in the Dead Sea confirms that it benefits a variety of skin conditions because it improves the barrier function of the skin.¹² It is also used to reduce inflammation from musculoskeletal injuries including back injuries,¹³ improves the function of joints effected by both rheumatoid and osteoarthritis,^{14,15} and decreases the severity of symptoms associated with fibromyalgia.¹⁶ Additives dissolved in water may have physiological or psychological effects that enhance and support the benefits of the hydrotherapy application. For example,

- **Herbs:** When herbs are soaked in water, many of their chemical components are transferred to the water along with their therapeutic properties. Red clover, lavender

flowers, chamomile flowers, powdered oatmeal, comfrey, elderflower, and calendula petals soothe skin irritation and are used to improve many skin conditions. Juniper berries, ginger root, clove bud, allspice, rosemary, and sage warm the body and support perspiration for detoxification treatments. A wide range of herbs and herbal products are used in combination with hydrotherapy applications. Visit spa and massage supplier websites to research your options.

- **Milk:** Milk, powdered milk, buttermilk, and cream can be dissolved in water to soften and condition the skin.
- **Minerals:** Minerals in salts such as those from the Dead Sea, regular sea salt, or Bearn salt from the mineral springs of the Pyrenees Mountains of Southern France dissolve in water, allowing the minerals to be absorbed by the skin to improve both the texture of the skin and overall body function. Epsom salts are inorganic mineral salts that help the body detoxify and increase general circulation. They are well known for use with sprains, strains, and sore, fatigued muscles. They also relax the body and are useful for insomnia.
- **Seaweed:** Seaweed contains many bioactive compounds that can be absorbed through the skin and used by the body to support overall body function. Seaweeds have high concentrations of vitamins A, B₁, B₂, B₅, B₁₂, C, D, E, and K. They also contain polyphenols and carotenoids, which play a role in protecting the body from oxidative stress. Brown seaweeds such as *Laminaria*, *Sargassum*, *Fucus*, and *Ascophyllum* species stimulate metabolism, raise body temperature, and affect cell membrane transport, facilitating detoxification. All seaweeds contain some amount of iodine, which influences thyroid activity. For this reason, do not use seaweed with clients who have iodine, shellfish, or seaweed allergies or who take thyroid medications.
- **Essential oils:** Essential oils do not dissolve in water, as we will discuss in the next chapter (Introduction to Aromatherapy for Spa), but they are commonly added to baths, saunas, and steam rooms to increase the therapeutic benefits of these applications. Review Chapter 7 for specific information on essential oils to use in such treatments.

Effects from Specific Temperatures

Different reflexive and physiological effects depend on the temperature of the water applied to the body. Table 6-1 provides an overview of common water temperatures used in hydrotherapy, whereas Table 6-2 summarizes the effects of hot and cold temperatures. Hot, cold, neutral, and contrasting temperatures are used in hydrotherapy applications.

Effects of Heat

The physiological responses of the body to heat result from the body's attempt to prevent a rise in body temperature. Brief applications stimulate the body, whereas applications of longer duration sedate the body. The use of external applications of heat for therapeutic purposes is sometimes referred to as **thermotherapy**.

When heat is applied to a client with a full immersion bath, steam bath, sauna, hot pack, or partial bath such as a

TABLE 6-1 Degrees of Hot and Cold in Hydrotherapy

DEGREES OF HOT AND COLD			
Neutral to Very Cold		Warm to Very Hot	
Neutral	90°–98°F	Warm	98°–100°F
Cool	70°–90°F	Hot	100°–104°F
Cold	56°–70°F	Very Hot	104°–110°F
Very Cold	32°–56°F	Too Hot (don't use)	110°F and above ^a

^aSome products such as paraffin (122° to 126°F), Parafango (120° to 126°F), therapeutic mud, and peat (115°F) are applied at temperatures above 110°F. These products transfer the heat slowly to the body area and do not burn the client.

foot bath, the peripheral blood vessels dilate, and the client begins to perspire. The blood flow to the area where hydrotherapy is applied increases significantly and flushes the tissue. The heart rate, pulse rate, respiratory rate, and overall rate of metabolism rise, which increases the consumption of oxygen in the tissues. The rise in core body temperature creates an artificial fever, which, in turn, stimulates the immune system and causes the body's white blood cell count to increase, inhibiting the growth of some bacteria and viruses. The higher blood flow to the area relaxes muscles, reduces muscular spasm, increases the extensibility of collagen, "melts" the superficial fascia, increases the range of motion in joints, reduces pain, and is generally relaxing.

Effects of Cold

The physiological responses of the body in reaction to cold result from the body's attempt to prevent a decrease in body temperature. Like heat, brief applications stimulate the body, whereas applications of longer duration sedate the body. The use of external applications of cold for therapeutic purposes is sometimes referred to as **cryotherapy**.

TABLE 6-2 Effects of Heat and Cold

OVERVIEW OF THE EFFECTS OF HEAT AND COLD	
Hot	Cold
<input type="checkbox"/> Perspiration	<input type="checkbox"/> Decreased local blood flow
<input type="checkbox"/> Increased local blood flow	<input type="checkbox"/> Decreased tissue metabolism
<input type="checkbox"/> Tissue will flush	<input type="checkbox"/> Decreased edema
<input type="checkbox"/> Increased heart rate	<input type="checkbox"/> Increased numbing
<input type="checkbox"/> Increased pulse rate	<input type="checkbox"/> Decreased pain
<input type="checkbox"/> Increased metabolism	<input type="checkbox"/> Initial increase in respiratory rate
<input type="checkbox"/> Increased oxygen consumption in body tissues	<input type="checkbox"/> Initial increase in heart rate
<input type="checkbox"/> Increased white blood cell count	<input type="checkbox"/> Initial increase in blood pressure
<input type="checkbox"/> Stimulates immune system	<input type="checkbox"/> Respiratory rate, heart rate, and blood pressure gradually drop
<input type="checkbox"/> Relaxes muscles	<input type="checkbox"/> Increased muscle tone
<input type="checkbox"/> Decreased muscle spasm	<input type="checkbox"/> Short applications stimulate
<input type="checkbox"/> Increased range of motion	<input type="checkbox"/> Long applications sedate
<input type="checkbox"/> Decreased pain	
<input type="checkbox"/> Short applications stimulate	
<input type="checkbox"/> Long applications sedate	

Cold penetrates more deeply into the tissues than heat because vasoconstriction causes a decrease in local circulation and tissue metabolism. There is also a decrease in leukocytic migration through the capillary walls, which aids in the reduction of edema and pain. Initially, there is an increase in respiratory rate, heart rate, blood pressure, and muscle tone. These gradually drop if the application of cold is prolonged. The reduction of nerve conduction velocity leads to a numbing effect that significantly reduces pain. If the cold persists, vasodilatation and circulation are briefly stimulated.

Clients often have difficulty with cold applications and pass through distinct stages that might feel uncomfortable. The first stage is a sensation of cold that progresses to a feeling of itchiness or tingling. As the cold continues, the tissue feels as if it is aching and burning. Eventually, numbness replaces the uncomfortable feelings, and the client relaxes toward the later stages of the treatment.

Effects of Neutral Temperatures

Neutral applications are administered at or close to normal body temperature and produce a tonic and balancing effect in most clients. These types of applications are used to soothe the nervous system and can be an effective treatment for insomnia, nervous irritability, anxiety, or depression. Neutral applications are sometimes used at the beginning or end of a hot or cold application to help the body ease into or out of more extreme temperatures. The use of external applications for therapeutic purposes at temperatures close to the body's normal temperature is sometimes called neutrotherapy.

Effects of Contrasting Temperatures

Contrasting applications involve applying a heat application and then a cold application to the same body area in an alternating sequence. This creates a *vascular flush* in which the tissues are “pumped” free of metabolic waste buildup due to the alternating vasoconstriction and vasodilatation of the peripheral blood vessels. Often, the treatment uses a pattern of 3 minutes of heat to 1 minute of cold for three rounds. The treatment always ends with a cold application to prevent congestion in the local tissue. Sometimes, a longer rotation is used with a ratio of 10 to 15 minutes for the hot application followed by 10 to 15 minutes of a cold application. Again, the treatment ends with a cold application. When using packs to apply heat and cold, it works well to place a cold pack on the area of injury and a hot pack proximal to the injury site close to the cold pack. This relaxes the client and makes it easier to tolerate the cold pack. Contrasting applications are used with immersion baths, partial baths, showers, and packs.

Hydrotherapy Applications

Earlier in the chapter, you learned about the history of hydrotherapy and the characteristics of water that make it therapeutically beneficial. Next, the changes that occur on both a physiological and psychological level as a result of

hydrotherapy treatments were explained. This section of this chapter discusses how to clean and sanitize hydrotherapy equipment, how to recognize contraindications and adapt sessions to ensure client safety, and how to apply common hydrotherapy treatments.

General Treatment Considerations

Before you can offer hydrotherapy treatments, you will want to understand these general considerations that ensure your client's health and safety. Areas that require particular attention include the sanitation of hydrotherapy equipment and protocols that reduce the transmission of germs and disease, safety issues, and cautions and contraindications to hydrotherapy services.

Cleanliness and Sanitation Guidelines for Hydrotherapy Equipment

In Chapter 3 (Client and Therapist Safety), you learned how to prevent the transmission of disease by properly cleaning and sanitizing the treatment room and paying attention to your own hygiene and hand washing habits. Hydrotherapy equipment often requires rigorous cleaning and sanitation between treatments. Showers, tubs, steam rooms, wet tables, and soaking basins must be cleaned, sanitized, and dried between clients. Soaking basins without jets are simply washed with hot, soapy water; dried; sprayed with alcohol; and left to air dry. If the soaking basin has jets, it must be flushed with an approved disinfectant. Modern hydrotherapy tubs usually come with a self-cleaning function that makes sanitizing the tub jets easier. You put a concentrated disinfectant (formulated by the manufacturer of the tub) into a special holder and then push a button. At the end of the cleaning cycle, you simply dry the tub. Small, one-person steam cabinets should be completely wiped out with an antiseptic between clients. For larger steam rooms or steam showers, the floor and seats should be sanitized between clients, but the walls can be left until the end of the day. The floor and walls around hydrotherapy equipment must also be cleaned with an approved disinfectant and dried after each use. Pay particular attention to handrails and door handles (e.g., the handle of the steam cabinet). Bath mats, bath towels, robes, washable slippers, and hand towels are changed between clients.

Clients should shower before entering hydrotherapy treatment pools to decrease the spread of waterborne infections. The client's hair should be secured or covered with a cap before using hydrotherapy equipment including tubs, steam rooms, wet tables, or showers. In the event of body fluid “spills” (e.g., the client suddenly gets sick and vomits on the wet table), follow the procedures for “Universal Precautions” outlined in Chapter 3.

Safety Guidelines

Specific safety issues must be considered before you offer hydrotherapy treatments:

- **Equipment:** Check hydrotherapy equipment regularly to ensure it is working properly. Maintain the equipment

according to the manufacturer's recommendations. Don't allow bare electrical cords in wet rooms or any areas where they might be exposed to water. Identify hot equipment with a sign so that clients don't inadvertently touch it. For example, the outside of a hydrocollator can get very hot, and the heating units for saunas should be surrounded with a grate.

- **Health history intake:** Hydrotherapy applications cause profound physiological changes in clients' bodies. Do not provide any hydrotherapy applications until you have conducted a thorough health history intake process, identified cautions, and ruled out contraindications.
- **Preparation:** Install handrails around showers, wet tables, and hydrotherapy tubs to ensure clients have something solid to hold on to when they get into, out of, or onto and off hydrotherapy equipment. Invest in robes and disposable or washable slippers so that clients can move about in warmth and comfort. Don't allow clients to walk around the facility barefoot. Foot fungus can be spread in this manner, and the client is more likely to slip on a tile floor and sustain an injury.
- **Water spills:** Water is often sloshed about during a hydrotherapy treatment. For example, the area around a wet table usually gets wet and slippery. Before allowing clients to exit hydrotherapy equipment, take a moment and dry the floor with a hand towel.
- **Oils and lotions:** Clients who have had a massage or who arrive at the clinic or spa covered in body lotion, cream, or body oil should shower before using hydrotherapy tubs, saunas, pools, or steam rooms. The oil or heavy cream can block perspiration and make it more difficult for the body to detoxify. Clients are more likely to slip when getting into and out of hydrotherapy equipment when covered in lubricants. Lotions and oils might interact with a treatment product (such as mud, seaweed, essential oils) and decrease the effectiveness of the session, or the client might leave a sticky residue on seats and equipment making cleanup more difficult.
- **Prevent chills:** Clients who are wet and exit either cold or hot treatments may suddenly become chilled. As clients exit hydrotherapy tubs, wet tables, steam rooms, and saunas, wrap them in towels or a robe and get them entirely dried off as soon as possible. Pay attention to the temperature of treatment rooms and the facility so that clients stay warm.
- **Cold clients never respond well to cold treatments:** If a client is cold, don't put him or her into a cold treatment (e.g., cold plunge) or apply a cold application. Warm the client before applying cold.
- **Dizziness and low blood sugar:** Clients sometimes feel a slight dizziness at the conclusion of the session, or low blood sugar may cause shakiness. Make sure clients stay hydrated during sessions by offering them water at regular intervals. Have packaged food items such as fitness bars on hand in cases of shakiness. Educate clients not to eat a heavy meal before a hydrotherapy session.
- **Temperatures:** Use a thermometer to check the water temperature in hydrotherapy tubs and permanently

mounted temperature gauges to monitor the temperature in saunas and steam rooms. Never rely on how hot or cold an application "feels" to you. Use a thermometer to ensure you are working at the correct temperatures.

- **Timers:** In some situations, the client should receive a particular type of treatment only for a fixed amount of time. Use timers with alarms to monitor the client's session time. If you rely on a clock, you may forget to check the start time and leave a client in an application for too long, endangering his or her health.

Cautions and Contraindications

When used properly, hydrotherapy is safe for most clients. Like massage, hydrotherapy treatments can be contraindicated completely, contraindicated without a physician's release, contraindicated at a particular location on the client's body, or require adaptive measures and increased therapist vigilance. For example, in many full-body hydrotherapy treatments such as immersion in a hot bath, you can decrease the cardiovascular load on the client by using warm and cool applications rather than hot and cold ones. The closer the temperature of the application to the client's body temperature, the less intense the response will be.

In general, hydrotherapy is contraindicated for individuals who have serious heart, circulatory, nervous system, or systemic conditions. Open wounds and skin rashes are also contraindicated when using extremes of hot or cold. The length of time that the client is exposed to the treatment depends on the client's overall state of health and vitality. Children, those in a weakened condition, the elderly, and those with mental challenges may be contraindicated for full-body treatments such as saunas, steam rooms, and immersion baths. Children have thinner skin and become overheated or chilled more easily than adults. Elderly clients have less subcutaneous adipose tissue and may be burned by topical hot applications or chilled more easily as a result. Blood vessels may not function efficiently, such that repeated cycles of vasodilatation and vasoconstriction may place a heavy burden on the circulatory system.

If the client seems healthy enough to benefit from such treatments, or if treatments are conducted under the supervision or direction of a physician, start slowly. Begin with 10-minute sessions and progress up to 15-minute sessions. Healthy individuals can remain in saunas, steam rooms, and baths for 20 to 30 minutes. Very cold applications longer than 20 minutes are not recommended for any client because of the risk for tissue damage, frostbite, or even hypothermia. A client who is already cold will not benefit from a cold treatment.

If a client feels light-headed, nauseous, headachy, or dizzy, stop the treatment and monitor him or her while he or she is relaxing in a quiet environment at a normal temperature with a glass of water. If the client's symptoms increase or persist, consult a physician. If symptoms increase rapidly, contact emergency services because the client might be in danger. Specific cautions and contraindications for hydrotherapy applications are outlined in Table 6-3.

TABLE 6-3 Cautions and Contraindications for Hydrotherapy

Acute inflammation	Warm and hot applications can increase swelling in injured tissue and thus are contraindicated. Cold applications are indicated.
Allergies	Check for allergies to any substances you dissolve into the water for the session. Allergies to iodine and shellfish indicate an allergy to seaweed or products containing seaweed. Clients might also be allergic to herbs or essential oils, although this is rare.
Artificial devices	Hot or cold applications should not be applied over pacemakers, defibrillators, medication pumps, implants, or artificial devices. Hot and cold applications may be indicated for use with hip and knee replacements.
Asthma	Avoid the use of cold applications on clients who have asthma. Ensure that clients with asthma do not get chilled or walk from a hot environment such as a sauna to a very cool or cold environment such as an air-conditioned hallway. Movement from very warm to cool environments can trigger asthma attacks.
Athletes	Athletes tend to have very low body fat and may be easily burned by topical hot applications or chilled by cold applications. Use caution and monitor athletes carefully during sessions.
Autoimmune conditions	Autoimmune conditions can flare up, causing contraindications for hydrotherapy applications, or a hydrotherapy application might trigger a flare-up. Ask for a physician's release before providing hydrotherapy.
Cancer	Some types of cancer and cancer treatments cause the client to experience a condition that would not indicate hydrotherapy. In other cases, hydrotherapy may prove beneficial. Discuss the particular treatment with the client's physician and obtain a physician's release before providing hydrotherapy treatments.
Children	Children have thinner skin and become overheated or chilled more easily than adults. Avoid the use of extreme temperatures with children, shorten applications, and monitor children closely. Don't apply hydrotherapy applications to infants or very young children except under the guidance of a physician.
Decreased ability to sense hot and cold	Some pathologies and conditions including arteriosclerosis, nerve injuries, diabetes, spinal cord injuries, neuropathy, and multiple sclerosis decrease the client's ability to determine if something is too hot or too cold. In many situations, the extremities are site-contraindicated, or you can choose warm and cool as opposed to hot and cold temperatures.
Diabetes	Diabetes can lead to cardiovascular diseases and affect the blood vessels in the legs and feet, depending on the way in which the condition has been managed and its severity. Consult with the client's physician to determine if hydrotherapy applications are contraindicated, site-contraindicated, or require adaptations. Obtain a physician's release before providing hydrotherapy.
Heart disease	Clients with heart disease such as coronary artery disease or congestive heart failure are likely to be contraindicated for hot full-body treatments such as sauna and steam room use or baths. Medications may alter the way the heart functions, contraindicating cold applications. Consult with the client's physician and obtain a physician's release.
History of stroke	Clients with a history of stroke are contraindicated for full-body hydrotherapy such as saunas, baths, and steam rooms. Local, moderate applications such as a warm pack are likely to be safe. Consult with the client's physician and obtain a physician's release.
HIV/AIDS	The suitability of hydrotherapy applications for clients with HIV/AIDS depends on the condition of the individual. Consult with the client's physician and obtain a physician's release.
Hypersensitivity to hot or cold	Usually, treatments can be modified to temperatures that are warm and cool if the client has a hypersensitivity to hot or cold. Hydrotherapy treatments should not be unpleasant, and you can adjust temperatures to suit the client's preferences.
Hypertension	At the beginning of both hot and cold full-body hydrotherapy applications, there is an initial spike in blood pressure that may be dangerous for some clients. Additionally, clients are likely to be on medications that affect the way in which they respond to hydrotherapy. Modify temperatures to warm and cool, consult with the client's physician, and obtain a physician's release before providing hydrotherapy.
Hypotension	Hot or cold full-body hydrotherapy applications may cause fainting in clients with hypotension. Modify temperatures to warm and cool, consult with the client's physician, and obtain a physician's release before providing hydrotherapy.
Lymphedema	Hot applications are contraindicated. Neutral and cold applications may be indicated, depending on the condition of the individual client. For example, exercise in pools close to normal body temperature can be helpful. Consult with the client's physician and obtain a physician's release before providing hydrotherapy.
Medications	Clients on various prescription medications may respond adversely to hydrotherapy applications. Consult with the client's physician and obtain a physician's release before providing hot or cold full-body hydrotherapy (local applications are usually not contraindicated).
Mental conditions	Hot or cold full-body hydrotherapy applications should be provided to clients with mental conditions only under the direction of a physician.
Multiple sclerosis	Hot applications can increase symptoms in people living with multiple sclerosis and are therefore contraindicated. Neutral and cool applications are indicated.
Obesity	Because of the load on the cardiovascular system and because of the way in which adipose tissue holds heat and cold, extreme hot or cold applications are contraindicated. Warm and cool applications are more appropriate. If the client's condition is weakened, consult with a physician and obtain a physician's release before providing hydrotherapy.
Osteoarthritis	In some cases, cold applications have caused an increase in symptoms in clients with osteoarthritis. Use cool applications or use short applications of cold and monitor the client's responses carefully. Warm to hot applications are generally indicated.
Phlebitis	Hydrotherapy is contraindicated except under the direction and supervision of a physician.

(continued on page 120)

TABLE 6-3 Cautions and Contraindications for Hydrotherapy (continued)

Poor kidney function	Cold applications are contraindicated.
Pregnancy	Hot full-body applications including baths, showers, saunas, and steams are contraindicated. Hot local applications to the abdominal region are contraindicated. Cool or warm applications are usually not contraindicated, but it is best to consult with the client's physician and obtain a physician's release.
Raynaud's syndrome	Cold applications are contraindicated.
Rheumatoid arthritis	Hot and cold full-body applications are contraindicated. Warm local applications are contraindicated. Neutral and cool local applications are safe.
Seizure disorders	Hot or cold full-body applications are contraindicated.
Skin conditions	Burns including sunburn, open wounds, rashes, and skin infections are contraindications for both full-body and local hydrotherapy applications. Because some skin conditions benefit from hydrotherapy, you should consult with the client's physician and obtain a physician's release if the condition is pronounced or covers a large body area.
The elderly	Elderly clients are more likely to have less adipose tissue and prone to burns or chills from hydrotherapy applications. The heart and circulatory system may not be strong enough to cope with the cardiovascular load caused by full-body applications. If the client seems healthy enough to benefit from hydrotherapy, consult with the physician and obtain a physician's release.
Thyroid disorders	Regular hot or cold full-body applications are contraindicated for clients with thyroid disorders. Local applications are generally safe.
Varicose veins	Varicose veins are site contraindications for hot and cold packs. If the client has severe varicose veins, full-body applications such as hot or cold baths may be contraindicated. Consult with a physician if you are unsure about the correct way to proceed with the client.

Hydrotherapy Applications

Common methods of application include hot, warm, or cold packs, local applications such as ice massage and mustard plasters, therapeutic showers and immersion baths, hot air baths, **friction treatments**, and specialized body wraps. In a wellness setting, hydrotherapy is most often used to relax the client, revitalize the body, or remove a treatment product such as mud or seaweed. In medical spas, certain types of wellness centers, many European spas, massage clinics, and private massage practices, hydrotherapy applications might not only be used for relaxation but also for condition management or injury rehabilitation.

Hydrotherapy Packs and Compresses

Pack is a general term for any local hydrotherapy treatment (hot, warm, cool, or cold) that uses a gel pack, hydrocollator pack, fomentation pack (moist heat), or commercially made chemical pack. Some packs are electric, some are heated in the microwave, some are chilled in a freezer, and some require specialized equipment. Probably the most effective hot pack is the hydrocollator pack shown in Figure 6-1. This type of pack has a canvas casing filled with either silicon granules or clay particles that can hold moist heat for up to 30 minutes. These packs are submerged in water kept at 65°F in a specialized heating unit called a hydrocollator. Hot and warm packs are most often used to relax tense muscles, keep the client warm and comfortable, or soften tissue before massage is performed.

To apply a hot pack, remove the pack from the hydrocollator using tongs or thermal gloves and wrap it in a minimum of four to six layers of thick towels. Place the bundle on the area to be treated for up to 20 minutes. Monitor the



FIGURE 6-1 Hot pack. To apply a hot pack, remove the pack from the hydrocollator using tongs or thermal gloves and wrap it in a minimum of four to six layers of thick towels.



FIGURE 6-2 Cold packs. Gel-filled commercial packs or homemade ice packs can be used effectively as cold packs

pack constantly by lifting it every 5 minutes to check the skin for extreme redness so that it does not burn the client. Clients should never lie on top of hydrocollator packs.

Gel-filled commercial packs or homemade ice packs can be used effectively as cold packs (Fig. 6-2). In fact, large bags of frozen peas make an effective cold pack because the small size of the peas feels lighter on an injury site than ice in a plastic ziplock bag or large ice cubes. Gel-filled packs are also useful because they don't freeze in a solid block and can be shaped to fit a body area. Cold packs are an effective treatment for acute inflammation or after a massage treatment using friction techniques. Apply cold packs on top of a thin layer of insulation (rather than the thick layer used with a hot pack) for up to 20 minutes.

Compresses are wet cloths soaked in warm, hot, cool, or cold water (sometimes with additives dissolved in the water) and wrung out before they are applied to the skin. Compresses are used to provide comfort or enhance the enjoyment of a session. A cool compress might be placed over a client's forehead while he or she is wrapped in a detoxification wrap. Alternately, a warm compress might be applied to the back of the neck, whereas a cold pack is placed on a shoulder injury. The compress helps the client deal more easily with the cold of the cold pack.

Local Applications

You might use a variety of local hydrotherapy applications for condition management or injury treatments. Ice massage, mustard plasters, castor oil packs, and paraffin dips are popular.

Ice massage is massage provided with ice. A paper cup is filled with water and frozen. The edges of the cup are then

peeled away while the base of the cup is left intact. Hold on to the base of the cup while applying the ice to the affected area in a circular motion. Ice massage of an area can last up to 20 minutes and is used to reduce inflammation during the acute inflammatory stage or to cool tissue after using intensive heat-producing techniques such as friction.

The term *plaster* refers to herbal pastes (herbs mixed with either water or oil) that are spread on a particular body area or onto a piece of cloth that is then applied to a particular body region. Mustard plasters are warming and useful for the treatment of osteoarthritis, poor circulation, back stiffness, joint stiffness, and general muscular aches and pains. To make a mustard plaster, mix 1 tbsp of mustard seed powder and 4 tbsp of wheat flour with warm water until you have a paste of medium consistency. Spread the paste onto a muslin or cotton cloth and place it over the region being treated. Because a mustard plaster gets hot and can even blister the skin, monitor it constantly. Cover the plaster with a warm pack to increase the therapeutic benefits of the application. Mustard plasters can irritate sensitive skin.

Castor oil packs and castor oil applications have been used in both European folk medicine and ayurvedic medicine (the traditional medical system of India) for centuries to increase blood and lymph circulation, relax tight muscles, reduce pain, ease joint stiffness, and break down scar tissue. Castor oil is extracted from castor beans and is high in the fatty acid ricinoleic acid. It is believed to support natural detoxification in the body. Apply castor oil to the affected area in a thick layer and cover it with plastic wrap. Place a hand towel and an electric heating pack over the top of the plastic. The castor oil "pack" can be left in place for 30 to 45 minutes.

As you learned earlier, **paraffin** is a waxy substance obtained from the distillates of wood, coal, petroleum, or shale oil. It is used to coat the skin and trap heat and moisture at the skin's surface. This increases circulation and softens the local tissue, which improves joint mobility and decreases pain. A paraffin dip is an effective treatment for chronic arthritis, tight muscles, and painful joints. It also leaves the skin soft, and it feels warm and sumptuous. To apply paraffin to the hands or feet, first wash the area to be dipped or mist the area with alcohol so that it is properly sanitized. Dip the hand or foot into the paraffin and allow the paraffin to harden slightly before dipping the area again. Dipping up to five times should be sufficient. Wrap the paraffin-covered hand or foot in cellophane wrap or a plastic bag before placing it into a heated mitt or a warm towel. To remove the paraffin, simply peel off the cellophane wrap together with the wax all in one piece. The hands can be dipped while the client is on the table in the prone or semi-reclined position. The feet can be dipped while the client is on the table in the supine position.

Therapeutic Baths

Therapeutic baths (sometimes called balneotherapy) encompass a range of different hydrotherapy methods including foot baths, whirlpool baths, steam baths, saunas, full immersion baths, partial baths, and sitz baths (Table 6-4).

TABLE 6-4 Therapeutic Baths

BATH TYPE	LOCATION	TEMPERATURE	TIME	INDICATIONS
Partial	Feet	Warm to hot (98°–110°F)	10–20 minutes	Cold feet, menstrual cramps, arthritis, gout, migraine headache, insomnia, sinus congestion, relaxation, to warm a chilled client, to warm a client in preparation for a detoxification treatment
		Cool to cold (98°–55°F)	1–15 minutes	To revitalize and stimulate the body, to cool the body, to reduce inflammation from an injury to the feet or lower legs
		Contrasting hot (110°–115°F) with cold (50°F)	2 minutes hot/ 1 minute cold/ 3 rounds and end with cold	Poor circulation, repair stage in the inflammatory process for a lower leg injury such as an ankle sprain, to revitalize and stimulate the body
	Hand	Warm to hot (98°–110°F)	10–20 minutes	Cold hands, arthritis, hand fatigue, hand or arm injury in the maturation stage of inflammation
		Cool to cold (98°–55°F)	1–15 minutes	Inflammation from acute injury, hand fatigue
		Contrasting hot (110°–115°F) with cold (50°F)	2 minutes hot/ 1 minute cold/ 3 rounds and end with cold	Hand or wrist injury in the repair stage of the inflammatory process, hand fatigue, arthritis
Paraffin dip	Feet or hands	Hot (122°–126°F)	15–20 minutes	Hand, wrist, foot, or ankle soreness or stiffness; poor circulation; to warm tissue and aid scar tissue reduction in the repair or maturation stage of the inflammatory process for injury; hand or foot fatigue; cold hands or feet
Full-body immersions	Whole body	Warm to hot (98°–110°F)	5–20 minutes	To relax muscle tissue, soften fascia, and increase circulation; for relaxation (warm); to decrease pain
		Cool to cold (98°–55°F)	1–2 minutes	To stimulate and revitalize the body, to cool the body after a hot treatment
		Neutral (94°–98°F)	10–20 minutes	To reduce anxiety, insomnia, and depression; to provide gentle revitalization
Epsom salt bath	Whole body	Warm (98°–104°F)	15–20 minutes	Sore and stiff muscles or joints, general fatigue, insomnia, anxiety, general detoxification
Oatmeal bath	Whole body	Warm (98°–104°F)	15–20 minutes	Skin irritation, skin conditions, rashes, itchy skin, to soften the skin
Baking soda bath	Whole body	Warm (98°–104°F)	15–20 minutes	Skin irritation, skin conditions, rashes, itchy skin, to soften the skin
Sea salt bath	Whole body	Warm (98°–104°F)	15–20 minutes	General revitalization and detoxification, as part of the rehabilitation process for a soft tissue or bone injury
Mustard bath	Whole body	Warm (98°–104°F)	15–20 minutes	Sore and stiff muscles or joints, back pain, general detoxification
Herbal bath	Whole body	Warm (98°–104°F)	15–20 minutes	Effects depend on the herbs used in the bath; skin soothing, muscle soothing, revitalizing, and sedative herbs might be chosen
Aromatherapy bath	Whole body	Warm (98°–104°F)	15–20 minutes	Effects depend on the oils used in the bath; skin soothing, muscle soothing, revitalizing, and sedative oils might be chosen
Thalassotherapy bath (seaweed)	Whole body	Warm (98°–104°F)	15–20 minutes	To promote weight loss and detoxification, for general fatigue or mental burnout, to stimulate circulation and firm skin, and to revitalize the body
Fangotherapy bath	Whole body	Warm (98°–104°F)	15–20 minutes	Sore and stiff muscles, joint pain, back pain, to soften and condition skin
Steam bath	Whole body	104°F with 100% humidity	5–20 minutes	To warm the body, for detoxification, to increase circulation, for sore or stiff muscles, for joint stiffness or pain, for general relaxation, to unblock congested skin, for certain skin conditions
Sauna	Whole body	145°–200°F with 6% to 8% humidity	5–20 minutes	To warm the body, for detoxification, to increase circulation, for sore or stiff muscles, for joint stiffness or pain, for general relaxation, for certain skin conditions

Hydrotherapy tubs with multiple air and water jets are designed for professional use and are used to apply full immersion baths. Additives are often used with baths to increase their therapeutic benefits.

Foot Baths

Foot baths ease foot fatigue or pain, cleanse the feet, warm the body, and relax the client in preparation for a massage or spa service (Fig. 6-3). Sometimes, they are used therapeutically to draw fluids down toward the feet as in a foot bath delivered to reduce sinus congestion. Massage therapists often use foot baths as a complementary treat for the client while the client fills out paperwork before the session. Some clinics encourage clients to arrive early and relax with a foot bath in a quiet room where soothing music, a cup of warm herbal tea, and dim lights to facilitate the process of releasing tension. A therapist might start every massage with a 5-minute foot bath while the client's neck and shoulders are massaged in a seated position.

Prepare the foot bath by placing warm (not hot) water in a soaking basin. One or two additives such as ½ cup of Epsom salt (for foot pain), ½ cup of sea salt (energizing), bubble bath (cleansing), herbal infusions (detoxifying), 3 drops of essential oil (properties based on the oil), or powdered milk (relaxing) add to the experience. Place the basin in front of a comfortable chair on top of a bath towel. A cup of warm herbal tea on a side table is a nice touch. The client relaxes with the feet in the soak while you massage the shoulders, neck, and scalp. It works well to have the client



FIGURE 6-3 Foot baths ease foot fatigue or pain, cleanse the feet, warm the body, and relax the client in preparation for a massage or spa treatment.



FIGURE 6-4 Some therapists deliver the foot bath with the client seated on the massage table. This way the client can simply lean back, and the session can start.

change into a robe before the soak; otherwise, having to roll up pant legs can be inconvenient and defeat the purpose of the soak, which is to relax the client. At the conclusion of the soak, ask the client to lift his or her feet from the basin. Remove the basin and have the client place his or her wet feet on the preset bath towel. Dry the client's feet by bringing the bath towel up and around the feet. Then move the client to the massage table.

Some therapists deliver the soak with the client seated on the massage table (Fig. 6-4). This way the client can simply lean back, and the session can start. Notice that the client wears a robe and that the drape is placed over the client's lap. The client then removes the robe under the drape and hands it to you.

Full-Body Baths

Full-body baths include whirlpool, steam, sauna, and full immersion baths. Whirlpool baths contain turbines that mix air with water. The agitated water is directed at specific body areas so that soft tissues are manipulated by the force of the water hitting the body.

Steam baths, steam showers, steam cabinets, and saunas are considered hot air baths because the client is “bathing” in water vapor. Steam baths use steam to facilitate perspiration and help the body to detoxify. Steam baths are often applied before another treatment to warm and relax the muscles or before the application of a particular product. They are also used to clear the sinuses and respiratory congestion or to clear clogged and congested skin.

To prepare for a steam bath, the client should change into a swimsuit or disposable undergarments for the session and take a shower to remove any oils or lotions from the skin. Place a towel on the seat and floor of the steam cabinet and close the door when the client sits down. Place a towel around the client's neck to keep steam from escaping out the top of the cabinet. Set the timer for the session

based on the client's health and treatment goals. At the end of the session, offer the client water and wrap him or her quickly in a robe or towel to prevent chilling.

A steam canopy fits over the top of a wet table or massage table and can be used in place of a blanket or thermal space blanket for body wraps. Cover the massage table with a plastic table protector and a large bath towel. With the client relaxing on the towel, lower the canopy into place. Wrap a towel around the client's neck to prevent steam from escaping out the top of the canopy and set the timer for the session based on the client's health and treatment goals. At the end of the session, cover the client in a robe or towels to prevent chilling and offer a glass of water.

Saunas combine hot air (60° to 210°F) with low humidity to stimulate metabolism, increase core body temperature, and facilitate detoxification (Fig. 6-5). They are useful as a support treatment for a number of different conditions. For example, people living with chronic fatigue syndrome often experience debilitating feelings of fatigue, musculoskeletal pain, and low-grade fever. One study found that regular use of a sauna improved these symptoms significantly.¹⁷ The humidity in a sauna must not be allowed to drop below 10%, or else, the hot air will start to dry out the mucous membranes of the respiratory system. Like a steam bath, a sauna can be used to preheat the body in preparation for another treatment.

To prepare for a sauna, ask the client to change into a swimsuit or disposable undergarments for the session and to take a warm shower to remove any lotions or oils. Place a bath towel on the sauna seat and have the client sit or recline on the towel. Set the timer for the session based on the client's health and treatment goals. At the end of the session, the client can take a cool, warm, or graduated shower to cool down. Wrap the client in a robe or towels to prevent chilling and offer a glass of water.



FIGURE 6-5 Sauna. Saunas combine hot air (60° to 210°F) with low humidity to stimulate metabolism, increase core body temperature, and facilitate detoxification.



FIGURE 6-6 Full immersion baths use hot, warm, neutral, or cool temperatures and pressure from water jets for therapeutic purposes.

Full immersion baths use hot, warm, neutral, or cool temperatures and pressure from water jets for therapeutic purposes. Many treatments also use additives such as seaweed, essential oils, or herbs to increase the therapeutic value of the service or to achieve specific treatment goals (Fig. 6-6).

To prepare for a session using a hydrotherapy tub, ask the client to change into a swimming suit or disposable undergarments for the bath. As you fill the tub, monitor the temperature with a thermometer so that the bath is hot, warm, neutral, cool, or cold, depending on your treatment goals. Help the client into the tub. If the application is hot, it is useful to have the client get into the tub when it is half full of warm water and then fill the tub the rest of the way with hot water to the desired temperature. Place a towel behind the client's neck for support and set the timer.

Professional hydrotherapy tubs have an underwater massage hose that uses air pressure aimed at specific body areas to improve circulation and lymph flow. Begin the underwater massage by pointing the hose at the plantar surface of the foot and work your way up and over the top of the foot in small circles. Continue up the medial leg and then return to the foot and repeat the process, this time working up the lateral leg. Then direct the air flow from the hose from the distal area of the body toward the proximal area of the body. Work up the lateral leg and ask the client to shift slightly to the side so that the gluteals and back are treated. Treat both sides of the lower body before moving to the upper body. Ask the client to lie low enough in the water for the shoulders and neck to be treated; the hose will splash if it is not kept under the surface of the water.

Partial Baths

Partial baths involve the submersion of body areas such as the feet, legs, arms, or hands into baths of water heated to specific temperatures. A sitz bath is a type of partial bath in

which the patient sits in water that comes up to the navel but no higher. Naturopathic doctors use it to treat reproductive or urinary disorders.

Therapeutic Showers

Chapter 5 (Foundation Skills for Spa Treatment Delivery) introduces the use of therapeutic showers for product removal and demonstrates the use of a Swiss shower, Vichy shower, handheld shower, and standard shower (Fig. 6-7). Therapeutic showers use hot, warm, cool, or cold temperatures to facilitate desired physiological and reflex effects. Often, they are used to warm the body in preparation for another treatment or to cool the body at the end of a treatment. Swiss and Vichy showers have control panels with which you can manage the temperature of the water. In a standard home shower in which the client controls the water temperature, the temperature will not be exact or provide the same benefits.

Hot showers (100° to 104°F) are stimulating and pain relieving. They might also be used to raise the core body temperature of the client in preparation for another service such as an herbal detoxification wrap. A hot shower begins at 100°F. As the client acclimates to the temperature, it is gradually increased. A healthy client may tolerate very hot temperatures up to 110°F, but the temperature should not exceed 110°F. The hottest temperature that is safe and tolerable for the individual client is held for 2 minutes and then decreased rapidly to a neutral temperature to end the shower.



FIGURE 6-7 A Vichy shower is a therapeutic shower that rains water onto the client from above a wet table.

A graduated shower is used to cool the body after a prolonged heating treatment such as a steam bath or sauna. The water temperature begins at 102°F and is increased quickly to the tolerance of the client. The elevated temperature is held for 2 minutes and then lowered at intervals. Each interval is held for 1 to 3 minutes. The final ending temperature is in the range of 80° to 85°F. This temperature is held for 4 minutes to finish the shower.

Cold showers (56° to 70°F) are stimulating and toning for muscles and skin. They are often used to refresh the body after the application of a treatment that heats the body. They are short and used only on healthy individuals with no contraindications.

Hot and cold contrast showers stimulate metabolism, increase circulation, and revitalize the body. They are effective for fatigue, mental burnout, and low energy. Hot and cold temperatures are reversed for three sets of one interval each; the timing per interval ranges from 1 to 3 minutes. The treatment ends on the cold water setting.

A **Scotch hose** directs a strong stream of water at the client to increase circulation, stimulate function, tone muscles, decrease pain, and decrease congestion in a particular body area. It is an effective treatment to use on areas that are prone to poor circulation (Fig. 6-8).

Ask the client to change into a swimsuit and then stand at the end of the wet room holding onto the handles attached to the wall. Direct the pressurized stream of water over the client's body in the sequence as shown on this diagram (Fig. 6-9). Start with a warm water temperature, and graduate to hot for 1 minute. Then shift between contrasting hot and cold temperatures. The pressure of the hose can also be controlled based on the client's level of comfort with the pressure. Avoiding the breasts and



FIGURE 6-8 Scotch hose. This is an image of the type of Scotch hose used in a spa.

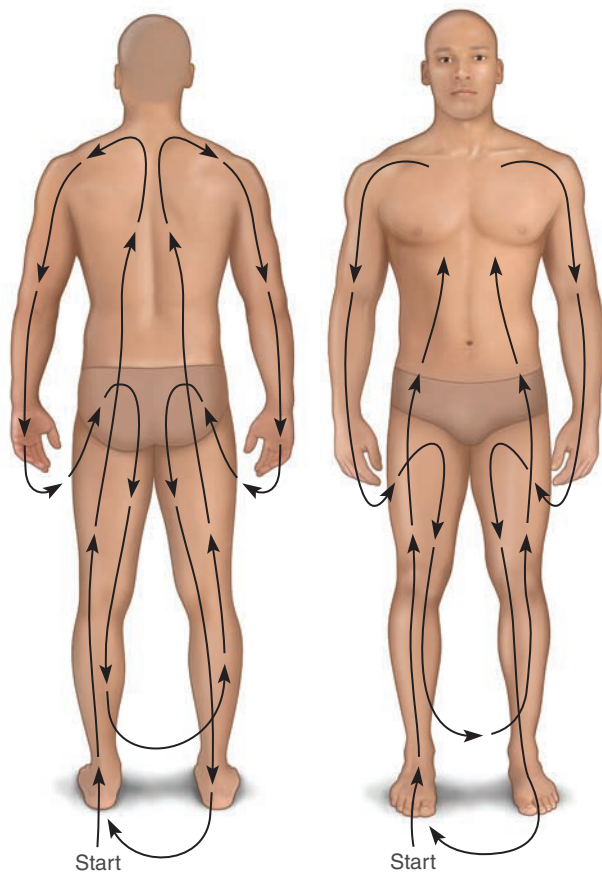


FIGURE 6-9 Scotch hose application. Direct the pressurized stream of water over the client's body in the sequence as shown on this diagram when delivering a Scotch hose application.

face, use long, smooth movements from the feet to the shoulders.

Friction Treatments

We will discuss salt glows, dry skin brushing, and loofah scrubs in depth in Chapter 8 (Exfoliation Treatments). Each of these treatments traces its origin back to the traditional methods of Sebastian Kneipp. Kneipp's classic frictions were carefully chosen for each patient. Frictions could be delivered soft and dry with the palms flat; covered in powder; buffed across the skin to warm and invigorate, or wet and brisk, with water, vinegar, or rubbing alcohol mixed with salt.

Cold mitt friction is still widely used to prevent colds, boost immunity, increase circulation, increase endurance, and invigorate the body (Fig. 6-10). To perform a cold mitt friction treatment, ask the client to recline on a massage



FIGURE 6-10 Cold mitt friction. Cold mitt friction is still widely used to prevent colds, boost immunity, increase circulation, increase endurance, and invigorate the body.

table under a drape beginning in either the prone or supine position. Place the terry mitts on your hands and dip them into ice water. Rub him or her vigorously over the selected body area with a back-and-forth motion. Then rub the area dry with hand towels and drape the area just treated. Move onto the next body area. Depending on the client's health and the treatment goals, you may treat one body area or many areas in a session. If the client is shivering and cold, end the treatment.

Body Wraps and Wet Sheets

Like frictions, body wraps, which we will discuss in depth in Chapter 9 (Body Wraps), originated in Kneipp hydrotherapy. One of his most famous body wraps was the cold wet sheet wrap. Kneipp believed that this treatment strengthened the patient's body so that it could overcome a disease or resist diseases. Kneipp's patients lay on a cold wet sheet or were covered with a cold wet sheet and then wrapped in blankets for up to an hour.⁵ The patient would experience a vascular flush effect in which body temperature was elevated so that the patient perspired. Kneipp used cold wet sheet wraps successfully for menstrual cramps, digestive complaints, fever, weakness, lower back pain, and for general revitalization.

SPA FUSION

INTEGRATION OF SKILLS



STUDY TIP: Fact Sheets

When you start to provide treatments with fixed protocols, like many of the treatments that make up hydrotherapy and spa work, it is helpful to develop one-page “fact sheets” that outline pertinent information about the treatment (see the samples at the back of this book). For example, write these headings equally spaced down one side of a blank page: Indications, Cautions, Contraindications, Temperature Range, Time Frame, and Procedural Steps. Now title the page with the name of the treatment, such as “Full Immersion Hot Bath,” and write the key information under each heading. Keep these fact sheets in a binder. They are useful when preparing for an exam and may prove even more valuable when you finish school and deliver the treatment at a clinic or spa.

SPA INSPIRATION: Self-care with Hydrotherapy

Many of the hydrotherapy treatments you provide clients at a spa or massage clinic you can try at home. For example, get in the shower and gradually increase the water temperature until it is as hot as you can tolerate it safely for 2 minutes; then rapidly turn the shower to cold for 1 minute. Repeat this cycle three times and end with 1 minute of cold. Get out of the shower and dry off briskly. How do you feel? You can learn a lot by playing with different temperatures at home and keeping track of your physiological and psychological reactions in a journal. Remember to check your own health history for contraindications and check with your physician before experimenting if you think any of the treatments might cause you to experience adverse reactions.

IT'S TRUE! Hydrotherapy Improves Physical Performance for People with Osteoarthritis

Researchers studied 152 older persons with chronic symptomatic hip or knee osteoarthritis to determine if hydrotherapy or Tai Chi classes were more helpful in managing their symptoms. Pain, physical function, general health, psychological well-being, and physical performance were assessed at 12 and 24 weeks in both the hydrotherapy group and Tai Chi group. Although both groups had improved scores, the hydrotherapy group showed significantly greater improvement at 12 weeks. Furthermore, the hydrotherapy group

continued to demonstrate improvements at 24 weeks, whereas the Tai Chi group remained relatively the same. Researchers noted that this difference probably occurred because the hydrotherapy group had regular session attendance, whereas 40% of the Tai Chi group missed multiple classes.¹⁸

CHAPTER WRAP-UP

One predominant theme has ran throughout this chapter: Most people like water. They like to swim in it; they like to soak in it; they like to stand in it; they like to have it sprayed on them; and they like the moist, comforting warmth of a hot pack on their shoulders, lower back, feet, and just about everywhere else. Water generally conveys a sense of wellness and health. It simply makes most people feel better. Think about this as you enter your massage and spa career. Whether you work in a clinic, a fancy spa, a chiropractor's office, or a private practice and whether you practice wellness massage and spa or health care massage and spa, many clients like water—and this gives you a powerful way to boost the benefits your clients receive from your sessions. Offer to apply a warm or hot pack to a client's low back, even if they don't have low back pain. Offer a foot soak to a client as he or she fills out health intake forms, even if he or she doesn't have sinus pressure or tired feet. Offer to place a cool compress on a client's forehead on warm days. Offer free paraffin dips to a client, even if he or she doesn't have arthritis. Most people like water, and water is good for people, and now you know how to use water therapeutically.

REVIEW QUESTIONS

Multiple Choice

- Hydrotherapy is best defined as:
 - The use of wet sheet wraps for healing
 - The use of hot temperatures for healing
 - The use of hydrocollator packs for healing
 - The use of water for healing
- Hydrotherapy is traditionally used in three forms. These are:
 - Solid, liquid, vapor
 - Vapor, syrup, herbal concoction
 - Ice, herbal rub, liquid
 - Steam bath, friction rub, ice

(continued on page 128)

SPA FUSION

INTEGRATION OF SKILLS (continued)



3. The polar bear plunge is a form of hydrotherapy. It is best described by the word:

- a. Thermotherapy
- b. Cryotherapy
- c. Neurotherapy
- d. Aromatherapy

4. The hunting reaction could best be described as:

- a. Never-ending vasoconstriction
- b. Never-ending vasodilatation
- c. Vasoconstriction of the heart with prolonged applications of cold
- d. Alternating cycles of vasoconstriction and vasodilatation with prolonged applications of cold

5. There are two types of effects that occur with hydrotherapy applications. These are:

- a. Cold and hot effects
- b. Tonic and nontonic effects
- c. Physiological and reflexive effects
- d. Reflexive and psychosomatic effects

Fill in the Blank

- 6. The greater the _____ differences between the body and the water, the greater the physiological effect on the body.
- 7. The _____ of the application will influence the physiological effect on the body.
- 8. The _____ the body area treated, the greater the physiological effect on the body.
- 9. A _____ effect occurs because of a nervous system response to the treatment.
- 10. Physiological effects occur with hydrotherapy applications because the body is trying to maintain _____.