Chapter 24
Hydrotherapy and Spa Applications
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Introduction

• Throughout history and in many cultures, water has been used to maintain health and treat illness
• Hydrotherapy is the internal and external therapeutic use of water and complementary agents
• Father Sebastian Kneipp (1821-1897): “father of hydrotherapy”; from Germany; published My Water Cure in 1886

Spa

• A spa is a place where water therapies are administered
• Spa therapies: body treatments (including massage) in which use of water is central
• Four types of spas:
  – Day spa: day use only
  – Resort or hotel spa: located in resort or hotel
  – Destination spa: overnight accommodations
  – Medical spa: includes medical services

Water as a Healing Agent

• Liquid water changes to solid ice after being cooled to 32° F or 0° C
• Changes to steam (gas) after being heated to 212° F or 100° C

Body’s maintenance of homeostasis in a changing environment is key to hydrotherapy
  – When heat is applied, blood vessels dilate and perspiration is produced to cool the body
  – When cold is applied, blood vessels first constrict to prevent body from losing heat
  – After a time, blood vessels dilate so that heat can be carried to the application site
Water as a Healing Agent

• Temperature:
  – The greater the difference between body and water temperature, the greater is the physiological effect
  – Gate theory (Chapter 5)—when multiple nerve impulses compete for same synaptic gate, stimulus affecting Type A (fast) fibers preempts that affecting Type C (slow) fibers
  – Tissue damage can result from temperatures below 32° F or above 124° F

• Moisture:
  – Steam baths (100% sauna)—heavier air more difficult to breathe, but moistens mucous membranes and skin
  – Saunas (10–20% sauna)—air easier to inhale, but may be too drying to skin and mucous membranes

• Mechanical Effect
  – Water may be pressurized as in whirlpool or shower
  – Mechanical effect of water intensifies with increased pressure

• Density
  – Principle of Relative Density: a body immersed in water experiences an upward force equal to the weight of water
  – Density of water = 1
  – Objects less dense than water float; those more dense sink
  – Density of human body is close to that of water, so water has a buoyant effect on body

• Hydrostatic Pressure
  – Law of Pascal: pressure exerted on a body immersed in fluid is equal at a constant depth and is exerted equally in a horizontal direction at any level experiences an upward force equal to the weight of water
  – Hydrostatic pressure increases with depth and fluid density
  – Water immersion of a limb with edema can move the fluid up and reduce swelling

• Mineral waters from natural springs:
  – Saline—purgative
  – Iron oxide—restorative
  – Sulfur—cleansing
  – Re-create natural mineral water—sea salt, magnesium sulfate (Epsom salts), and sodium bicarbonate soaks can enhance detoxification and reduce soreness
Thermotherapy
• Thermotherapy—external application of heat for therapeutic purposes
• Heat can be delivered in four ways:
  – Conduction: direct contact
  – Convection: air or liquid
  – Radiation: heat rays
  – Conversion: energy converts to heat
• Short-term heat applications = stimulating effect; prolonged = depressing effect

Conduction, Convection, and Radiation

Cryotherapy
• Cryotherapy—external, therapeutic application of cold
• Safer, simpler, and more effective than heat for reducing pain and swelling in injuries
• Has replaced the use of heat in many clinics

Cryotherapy
• Hunting response—15–30 min. cycle:
  – Vasoconstriction—reflex that causes a reduction in blood flow (first 9–16 minutes)
  – Vasodilation—an increase in the diameter of blood vessels to restore homeostasis (next 4–6 minutes); a thermoregulatory response to restore homeostasis and raise local temperature
  – Cycles lead to vascular pumping, which flushes out tissue debris and brings in oxygen

Cryotherapy
• Client experience during cold application:
  – Coldness or cooling
  – Burning
  – Stinging or aching
  – Numbness or reduced sensation
• Short application has a stimulating effect on the body
• Long application has a depressing effect on the body

Treatment Guidelines
• Maintain equipment in good working order; take care that water does not damage floors, walls, furniture, or equipment
• Follow safety and sanitation procedures
• Use standard precautions for clean-up if body fluids touch equipment or linens
• Client should not eat at least 1 hour before scheduled appointment
Application Methods

• Categories of hydrotherapy applications:
  – Packs—a bag, sack, or other item used to apply or retain cold or heat
  – Baths—partial or full immersion in water, wax, light, or heated air
  – Frictions (rubs)—shampoos, brushes, polishes, scrubs, and glows

Packs

• Compress—a wet cloth (washcloth or towel) wrung out and applied to skin
  – Hot compresses—most often used on forehead, spine, or over entire back
  – Cold compresses—used to keep client comfortable during heat treatments (bath, steam bath, sauna, body wrap) or to soothe an area after deep-pressure massage

Packs

• Hot packs (fomentation packs)—many different varieties, from hot water bottles to electrically heated
• Hydrocollator packs—heated in a special warmer that keeps them at 165°F
  – Cannot be handled directly; must be wrapped in several layers of insulation (towel or cloth) to avoid burning the skin
  – Never place underneath client

Packs

• Cold gel packs and cold pack—often used to decrease inflammation or reduce postmassage soreness

Packs

• Cryokinetics
  – Cold pack, ice immersion, or ice massage followed by full range of motion
  – Cold reduces pain barrier and allows restricted muscles to be freed
Packs

• Thermal mittens and booties:
  – Two types: (1) filled with buckwheat and heated in microwave; (2) electric
  – Often used to enhance a moisturizer, such as Shea or cocoa butter, jojoba oil, or paraffin wax, which is applied to the skin

Heated Mitts and Booties

Packs

• Hot or cold stones—basalt and marble stones applied to skin or used as a tool
• Product pack or mask—many different topical applications available

Packs

• Body wraps: sheets or bandages wrap the body
  – Compression wraps—use an soaked elastic bandage material to cover body tightly
  – Cover wrap—use wet or dry sheets
    • Dry cover wraps—often used to cover a mask
    • Wet cover wraps—soaked in herbal tea (herbal wrap) or other product

Body wraps—preparing table and client

Mud Packs
### Cover Wraps

- Shirodhara: Ayurvedic treatment using oil poured over client’s forehead
- Oil pours from copper vessel hung above client’s head

### Compression Wrap

- Contrast packs—application of heat and cold; two types
  - Alternating
  - Simultaneous

### Packs

- Hot immersion bath—full or partial immersion
  - Hot tub: no jets
  - Spa tub: chemically treated water
  - Whirlpool: water drained after use

### Baths

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Baths

- Underwater massage—client soaks in warm-water tub and is massaged by jets from a hand-held hose
- Ice immersion—short soak of a limb in icy water; usually to reduce inflammation
- Pool plunge—immersion in 50–60°F water to close pores and reduce vasodilation; usually follows a heat treatment such as sauna, steam bath, or hot tub

Baths

- Watsu (water shiatsu)—therapist holds client in pool of neutral-temperature water, massaging muscles and mobilizing joints
  - Releases and opens energy pathways
  - Warm water and buoyancy are ideal for reducing mental and physical tension
- Flotation—sensory deprivation technique; client floats in tank or capsule filled with neutral-temperature, sterile salt water
Baths

- Hot air baths
  - Sauna—10-20% humidity at 160–210° F in a wood-lined room
    - Indicated for tension and insomnia; increases metabolism and circulation; removes toxins
  - Steam baths—100% humidity at 105–120° F in a ceramic-tiled room
    - Steam canopies and cabinets are practical as they allow head to be exposed

- Paraffin baths—dipped baths that are particularly useful on angular, bony areas
  - Softens skin and relieves pain
  - Paraffin wax kept in heated container at 125–134° F
  - Wax may also be painted on
  - Lotion or cream may be applied to area before dipping, to assist in wax removal after treatment
**Baths**

- Shower—bath technique where water is sprayed in fine streams from a showerhead under low to medium pressure
- Can use regular water, or seawater, mineral water, or aromatic water

**Swiss shower**
- Water sprayed on standing client from overhead and side-positioned jets
- Water pressure and temperature varies to create stimulating or invigorating effects
- Popularized in Switzerland

**Vichy shower**
- Client reclines on a table while water is sprayed from overhead jets
- Originated in Vichy, France

**Jet Blitz**—therapist is located at a distance and uses a hose to spray strong jets of water on standing client
- Contrast baths—combining a hot bath with a cold one in same treatment
- Most potent hydrotherapy method
Frictions

- Frictions used for exfoliation, or removal of dead skin cells
- Shampoos—gentle scrub using brush dipped in warm, soapy water
  - Swedish shampoo ends with a hot water pail pour (105° F)
  - Turkish shampoo ends with a tepid water (90° F) pail pour

Frictions

- Dry brush massage—short, brisk strokes toward heart; often used before a body wrap or mask
- Body scrub—coarse, gritty material used to exfoliate skin

Body Scrub

- Body polish—fine, grainy substance; finer than for scrubs or glows
- Udvartana—treatment using herbal paste to stimulate lymphatic circulation
  - Consistency of paste adds an exfoliating element
  - Usually done before Swedhana (steam therapy) for optimal effects
Frictions

• Ice massage—circular friction using ice

Frictions

• Cold-towel friction—towels dipped into icy water are rubbed against the skin, causing blood vessels to contract and dilate

Aromatherapy

• Essential oils used in India for ayurvedic medicine for over 10,000 years and by Egyptians as early as 4500 BC
• Aromatherapy—use of plant-derived essential oils for therapeutic purposes
• Enhances treatment effectiveness and creates inviting atmosphere

Aromatherapy

• Olfaction—sense of smell
  – Olfactory bulb, part of limbic system, is located on superior surface of nasal cavity
  – Olfactory receptors, when stimulated, send impulses along olfactory nerves to brain
  – Limbic system regulates emotional behavior
  – Easiest way to stimulate limbic system is through smell

Aromatherapy

• Essential oils—concentrated essences of aromatic plants
  – Over 200 pure essential oils are available
  – 75 to 100 times stronger than dried versions
  – Must be diluted and used only in drops
  – Enter body by absorption through skin or inhalation
  – Most commonly extracted by steam distillation

Aromatherapy

• Plant parts and associated essential oils:
  – Flowers (lavender, jasmine)
  – Fruits (bergamot, lemon)
  – Grasses (citronella)
  – Leaves (eucalyptus, peppermint)
  – Roots (ginger, vetiver)
  – Seeds (black pepper, fennel)
  – Tree blossoms (ylang-ylang, clary sage)
  – Woods & resins (sandalwood, frankincense)
Aromatherapy

• Storage
  – Store in dark, airtight container in cool, dry place away from direct sunlight
  – No rubber caps or squeeze bulbs: oils will deteriorate them
  – Shelf life of up to 7 years, unless mixed with carrier oil
  – Volatile: will evaporate quickly in open air
  – Keep out of children’s reach

Aromatherapy

• Carrier oils—fatty substances used to dilute and suspend, or carry, essential oils
  – Examples: olive oil, almond oil, jojoba oil, Shea butter, whole milk, creams, lotions, shampoo, conditioner, liquid soap
  – Carriers with higher fat content are more stable (longer shelf life)
  – Vitamin E can be added to lengthen shelf life
  – Not water soluble, but can be added to water, if dispersed

Aromatherapy

• Essential oil safety
  – Use only oils familiar and tolerable to you
  – Avoid using on infants
  – Cut dose in half for children
  – Avoid using near eyes
  – Always use carrier oil
  – Be aware of client contraindications (pregnant and nursing women, seizure disorders, etc.)
  – Take special care when using photosensitive and highly toxic oils

Aromatherapy

• Essential oil uses in massage and spa
  – Inhalation
  – Diffusion
  – Room mister
  – Baths
  – Compress
  – Massage lubricant
  – Body treatment product

Summary

• Hydrotherapy and spa techniques take advantage of water’s healing properties
• Cryotherapies and thermotherapies include packs, baths, and frictions
• Aromatherapy enhances therapeutic effects of massage and spa techniques
• Offering spa treatments increase therapeutic effectiveness, client satisfaction, and marketability