

Principles of Massage & Hydrotherapy

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Principles of Massage:

- General-Specific-General
- Superficial-Deep-Superficial
- Proximal-Distal-Proximal
- Peripheral-Central-Peripheral

The **sequence of techniques** is important to:

- Ensure proper assessment
- Apply techniques in logical order
- Avoid aggravating the condition
- Achieve maximum therapeutic benefit

Example :G-S-G

- **Step 1 – General**
- Broad effleurage over back and shoulders
- Light kneading
- **Step 2 – Specific**
- Deep friction on levator scapulae
- Trigger point compression on upper trapezius
- Stretching
- **Step 3 – General**
- Long relaxing effleurage
- Gentle shaking
- Final calming strokes

Example: Superficial-Deep-Superficial

- **Step 1 – Superficial**
 - Broad effleurage
 - Gentle kneading
- **Step 2 – Deep**
 - Deep friction on levator scapulae
 - Trigger point compression on upper trapezius
 - Deep stripping
- **Step 3 – Superficial**
 - Long calming effleurage
 - Gentle shaking
 - Final soothing strokes



Example: Proximal-Distal-Proximal

- **Step 1 – Proximal**
- Effleurage over thigh
- Kneading quadriceps and hamstrings
- **Step 2 – Distal**
- Effleurage to calf
- Deep kneading gastrocnemius
- Ankle mobilization
- **Step 3 – Proximal**
- Long strokes effleurage from ankle → knee → thigh
- Gentle stroking

Example: Peripheral - central - peripheral

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Treating the Antagonists

- Considered the fifth principle of massage.
- The principle relates to the reciprocal response between an agonist muscle and its antagonists.

Example: With an anterior compartment syndrome, if therapist work only on painful , symptomatic tibialis anterior & ignoring the shortened gastrocnemius muscle, the source of clients problem will not be addressed.

A short , inflexible gastrocnemius forces tibialis anterior to work harder to Dorsiflex the ankle

A stretch or fascial work to the gastrocnemius muscle will normalize the biomechanics of Ankle.

Hydrotherapy

Hydrotherapy uses water in its solid, liquid or gaseous form for therapeutic effects.

- Includes thermal applications such as:
 - Wax baths (paraffin)
 - Thermophores (moist electric heating pads)
 - Hydrocollators (gel-filled heat packs)
 - Freezable gel packs
- Used as an adjunct to massage and remedial exercise.
- It can prepare the tissue before a treatment for example : **Heat is used before applying fascial techniques**, to increase the flexibility of fascia.
- **Cold is used after frictions** to reduce the inflammatory response.

Hydrotherapy Principles

- Thermal effects occur when water temperature is above or below body temperature.
- Greater temperature difference → more pronounced effects.
- Effects depend on:
 - Temperature
 - Length of application

Brief Cold (less than 1 minute)

- Local vasoconstriction followed by vasodilation
- Perception of warmth (hyperemia)
- Increased muscle tone
- Feeling of well-being

Hydrotherapy Principles

Prolonged Cold

- Continued vasoconstriction
- Perception of cold

Brief Heat (less than 5 minutes)

- Stimulates circulation
- Local vasodilation followed by vasostasis (slowing the blood in the vessels)

Prolonged Heat (more than 5 minutes)

- Increased metabolic rate, this increases circulatory rate, which places an extra stress on the circulatory system .

General effects of Hydrotherapy

Physiological Effects:

- Occur as body attempts to return to **homeostasis** (Body's ability to keep its internal environment stable or balanced) example :Body temp, blood sugar level
- Heat:
 - Increased blood flow
 - Muscle relaxation
- Cold:
 - Initial vasoconstriction
 - Reduced pain

Reflexive Effect:

Occur elsewhere in body via nervous system.

Example:

- Heat to abdomen → decreased intestinal activity
- Heat to one limb → increased blood flow in contralateral limb

Specific Heat Applications:

Thermophore:

- Moist electric heating pad
- Towel placed between pad and skin
- Client should not lie on it
- Duration: up to 10 minutes

Hydrocollator:

Gel-filled packs in hot water tank

Removed with tongs

Wrapped in towel before application

Duration: up to 10 minutes

Returned to tank after use



Specific Heat Applications:

Wax (Paraffin) Bath:

- Melted paraffin with mineral oil added
- Protect massage sheets with plastic film from wax drops
- Application methods:
 - Hand/foot dipped 6–12 times, allowing the wax to cool between the dippings.
 - For other parts: strips of cheese cloths or commercial cloth wipes are dipped in to wax, then applied in several layers over the skin.
 - Paint brush method (less practical)
- Once the wax is applied, Covered with plastic film and towel, Left on up to 20 minutes, Removed before massage/fascial techniques.

Specific Heat Applications:

Arm and Foot Baths (Hot):

- Local Immersion in water past elbows or ankles
- Temperature over 39°C considered hot, 36-38 is warm and 22-30 luke warm.
- Duration: up to 30 minutes
- Thorough drying after

Compresses (Hot):

- Towels immersed in hot water
- Wring out and apply to client's skin
- Covered with insulating towel
- Replace before cooling
- Dry skin after

Specific Heat Applications:

Full-Body Baths: Self care

- Duration up to 15 minutes
- Above 38°C may be too stimulating
- Cool cloth for forehead
- Drinking water available
- Herbal extracts optional

Epsom Salts Bath

- Up to 500 mL epsom salts added
- Soak up to 15 minutes
- Cool shower to rinse



Specific Heat Applications:

Steam inhalation: self care

- A bowl is filled with water and boiled
- Client sits in front of the bowl with a large towel covering the bowl and his head and shoulders.
- Client instructed to close eyes
- Inhale the steam
- Essential oils can be added to water

Heat Applications:

Effects of Heat:

- Chronic Conditions
- After trigger point release
- Over all relaxation
- It increases vasodilation
- It increases local circulation
- It increases contralateral circulation
- It increases collagen extensibility (flexibility)
- It increases metabolism
- Decreases pain
- Decreases Spasm
- Decreases Hypertonicity
- Decreases intestinal activity



Heat Applications:

Contraindications:

- Acute injury (first 48 hours)
- Circulatory pathologies
- Sensory changes
- Acutely inflamed joints
- Acute infections
- Existing burns
- Hypersensitivity to heat
- risk of edema
- **Multiple sclerosis (large applications poorly tolerated)**
- **Whirlpool bath or full body immersion in case of HYpertension**

Cold:

Cryotherapy is another term of application of cold or ice

Effects of Cold:

- Reduces skin, muscle and joint temperature
- Muscle may remain cold up to 45 minutes
- Local vasoconstriction
- Decreased blood flow
- Increased blood viscosity (blood becomes thicker)
- Decreased inflammation, swelling, edema and bleeding
- Decreased cell metabolism and leukocyte migration
- Decreased pain (blocks transmission or counterirritant)
- Decreased muscle spasm
- Decreased collagen extensibility
- Brief cold is stimulating
- Immediate relief if applied quickly after burn



Specific Cold Applications:

At first, cold is often not as well tolerated as heat by client. However once accustomed to it, client often get significant relief from pain & spasm.

Duration :of gel pack is 25-30 min

Not applied directly to skin otherwise cause frostbite.

Temperature:

Cool: Between 13-18 degree Celsius

Cold: Between 0-12 Degree Celsius

Sensory Stages of Cold (CBAN)

- Cold sensation
- Tingling or itching/ burning
- Aching or burning
- Numbness (analgesia)



Specific Cold Applications:

Ice Packs

- Wrapped in towel
- Insulated with second towel
- Duration: 25–30 minutes

Ice Massage

- Ice frozen in paper/styrofoam cup
- Rub in circular motion
- Duration: 5–10 minutes or 15–30 minutes (varies)
- Used for trigger point distraction before stretch

Arm and Foot Baths (Cold)

- Immersion up to 1 minute
- Dry thoroughly



Specific Cold Applications:

Cold Compresses

- Cloth immersed in cold water
- Covered with insulating towel
- Replace before warming
- Dry skin after

Cool Wash

- Cloth folded into four
- Change square as it warms

Q: If anybody wants to go for marathon which hydrotherapy is applied?

Ans: Brisk cold



Contraindications to Cold:

- **Raynaud's** disease (condition in which the small blood vessels of the fingers and toes suddenly narrow (vasospasm)when exposed to cold or emotional stress
- Circulatory insufficiency
- Sensory changes
- Cold sensitivity
- Debility
- Client feeling chilled



CONTRAST HYDROTHERAPY

Effects of Contrast:

- Warm or hot application followed by cool or cold application.
- Causes vasodilation and vasoconstriction alternately
- Marked increase in local circulation and venous return
- Helps move metabolites
- Decreases edema
- Increases tissue healing

Contrast Hydrotherapy

Common Time Ratio of heat and cold:

- 3 minutes hot : 1 minute cold
- Cold may be as brief as 30 seconds
- Repeat several times
- Greater the temperature difference, greater the effect
- Contrast therapy Always end with cold application

Contrast Application:

Effects:

- To treat sub acute conditions.
- It increased local circulation.

Contraindications to Contrast:

- Acute conditions
- Decreased skin sensitivity to temperature
- Client feeling chilled
- Congestive heart failure



Thank You



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