

## SHORT REVIEW

# THERAPEUTIC ASPECTS OF HYDROTHERAPY: A REVIEW

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### Abstract:

*Hydrotherapy is a procedure where water of different temperatures are used to relieve pain and treat illness. This review describes about different conditions of water treatments. Hydrotherapy can help treat a variety of conditions, including arthritis, stomach problems, sleep disorders, stress and depression. The theory behind hydrotherapy is that water has healing properties that can mitigate various ailments and conditions. Different states of water such as ice, liquid, and steam is used in the treatment of various conditions. Water cure therapies comprise enema therapy, gel therapy etc. and also includes colonic hydrotropic, sitz bath, hydro-massage, wraps and compress methods. Cryotherapy, cold water immersion or ice bath could be a new treatment method that is used by physical therapists, sports medicine facilities and rehab clinics.*

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### Introduction:

Christian 4500 BC bathhouses were an important part of ancient Roman culture. The use of steam, baths and aromatic massages to extend well-being has been documented since the primary century. Roman physicians Galen and Celsus wrote of treating patients with warm and cold baths to stop disease.<sup>1</sup>

Between the seventeenth and eighteenth centuries, bathrooms were extremely popular with the general public throughout Europe. Public bathhouses had their first American emergence in the mid-1700s. Within the early nineteenth century, Sebastien Kneipp, a Bavarian priest and proponent of water healing, commencement treating his people with cold water after he himself was cured of tuberculosis through an equivalent methods. Kneipp wrote extensively on the subject, and opened series of hydrotherapy clinics known as the Kneipp clinics, which is still ongoing. At the same time in Austria,

Vincenz Priessnitz treated patients with baths, packs, and winter spring showers. Priessnitz had opened a spa that treated over 1,500 patients in its first year of operation, and became a model for physicians and other specialists to explore hydrotherapy techniques.<sup>2, 3</sup>

### Pathophysiology of water therapy:

Hydrotherapy or water therapy is the application of water which initiates healing. Three states of water (liquid, steam, ice) can be used therapeutically. The goals of hydrotherapy are to increase the circulation and quality of blood. This is important because blood supplies nutrients to and dispels wastes from tissues and organs. If circulation is less or slow, healing nutrients cannot be delivered and toxins cannot be removed, which causes degeneration of the tissues and organs. By raising the quality of blood, more nutrients are available for cells to use and toxins are managed more efficiently. Treatment usually consists of applying

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a warm cloth for 3 minutes then a cold cloth for 30 seconds, alternating 3 times in a row. The treatment can be given several times day. The duration of application of hot and cold can vary as long as the application of cold is shorter than that of hot. It is also important to finish the treatment with the cold application. The hot application should be pleasantly hot.<sup>4</sup>

#### **Techniques of Hydrotherapy<sup>5</sup>:**

**Kneipp system:** This technique was made by Sebastian Kneipp and involves the use of cold and hot water on the skin. The technique is used in a Kneipp bath which helps to improve the immune system. Treatments of the Kneipp system was classified include positive physiological, consensual, segmental and immune system. Additionally, it helps in relieving muscle tension and trauma.

**Hydro-massage:** It uses warm water, which applies chemical, mechanical and thermal massage to the body. This improves circulation of blood, relieving pain and tension while relaxing the muscle. Hydro-massage alleviates pain in the soft tissues and muscles caused by injuries from sports and arthritis. It is also used to treat insomnia, multiple sclerosis and tendinitis. In addition, hydro-massage is used to relieve stress.

**Colon hydrotherapy:** It is a technique in which warm water is infused into the rectum. The technique is pain free and helps in washing out old and built-up waste in the colon. The goal of colon therapy is to improve the health of the digestive system. Note that, water used in colon hydrotherapy does not contain any drug, chemical or herb.<sup>6, 7</sup>

**Baths & Showers:** Baths and showers can be healthy and healing. A hot bath or shower can stimulate relaxation, reduce stress, and flush out toxins. By adding essential oils or herbs to the bath can enhance the therapeutic benefits.

**Cold foot bath:** Here the feet are dipped in cold water (up to the ankles) for around one minute. Cold foot baths give relief to tired feet. It has also been found to be effective against insomnia, headaches, sprains and varicose veins.

**Heating Compress:** Heating compress is a process of applying cold compression to an area that is first cooled by water and then warmed by blood flow to that area. It is an effective treatment for sore throat, cold, flu, and sinus congestion when it is administered to the throat or feet. Feet are treated with warming socks or wet socks.

**Hip or Sitz Bath:** With this treatment, only the hips are soaked in cold or warm plain water or saline

solution to treat vaginal discharge, uterus cramps, hemorrhoids, constipation, inflammation, prostate problems and other stomach problems. This is more labor-intensive than other hydrotherapy treatments but it powerfully affects the pelvic and abdominal organs.

**Steam bath:** Steam baths are used in the treatment of bronchitis, asthma, skin problems, pain and allergies.

**Steam inhalation:** Steam inhalation relieves sinus infections and nasal congestion. People with hypertension should avoid steam inhalation.

**Full immersion bath:** Here the people are immersed in water (up to shoulder level) for around 20 minutes. The water temperature is maintained at about 90 degrees Fahrenheit. May be plain water or it may contain herbs, salts or oils. This form of hydrotherapy produces relaxation.<sup>7, 8, 9</sup>

#### **Uses of hydrotherapy:**

The uses of hydrotherapy include:

**For Pain Relief:** Hydrotherapy has substantiated to be a highly effective type of natural therapy which works by stimulating the endorphins which in turn help to relieve tension and control pain.

**For Circulation:** Hydro-bath has a remarkable and almost weird ability to improve circulation by providing nourishment and oxygen to entire cells and tissues.

**For Immunity:** Conventional detoxing leads to a stronger immune system, which is able to control infections, bacteria and viruses. It also helps to overcome minor infections ranging from the common cold right up to deadly diseases.

**Stress:** Hydrotherapy is used to break stress cycle of everyday life and treat stress-related illnesses, which can cause a variety of psychological and physical problems like digestive complaints, high blood pressure, anxiety attacks, depression, headaches, and insomnia.

**Complexion:** Hydro baths help control body temperature by improving the efficiency of the sweat glands. This releases the toxins from the body leading to a healthier glowing complexion and also helps reduce fluid retention and even have a remarkable effect on other ailments such as cellulite.

**Arthritis:** Hydrotherapy helps to treat the arthritis by submerging into water either to soak or to exercise. This method is very helpful for stiffness and pain in the joints

**Back Pain:** Alternate hot and cold compresses are used to the painful area for acute back pain. The hot compress will increase blood circulation to the area

and relax the muscles while the cold compress helps reduce inflammation. Chronic backaches can benefit from hot and cold showers.

**Hydrotherapy for Acne:** Treatments like hot and cold wet compresses and colon hydrotherapy have been proposed to cure acne.

**Insomnia:** Hydrotherapy helps to bring the blood back to the external areas and takes it away from the head. Insomnia is caused by excessive blood flow to the brain. Applying alternate hot and cold showers is really effective.

**Joint Pain:** Whirlpools, Jacuzzis and hot tubs help to treat muscle and joint pain and to regain muscle strength.

**Headaches:** Hydrotherapy in the moist form compresses is very useful for headaches.

**Colonic Hydrotherapy for Stomach Problems:** Hydrotherapy is very useful in relieving stomach problems. Colonic hydrotherapy is very workable to treat patients with irritable bowel syndrome, digestive problems, indigestion and constipation.

**Sciatica:** Hot tub therapy has proved to counteract the bodily reactions caused by sciatica and reduce pain or ache. When immersed in a hot tub, the body becomes weightless stopping the constant pull of gravity.

**Hydrotherapy for Sleep Disorders:** Hydrotherapy is very helpful to cure sleep disorders as it effects more accurately if taken before going to bed. The warm water from hot water- bath raises body temperature and helps to sleep easily. Staying in a hot- bath for more time is not recommended as this could lead to the risk of overheating.<sup>10</sup>

**Labor:** Hydrotherapy is immersion in warm water during labor (Fig. 1). It may be used during any part of labor, including early labor and active labor, as well as the late (“pushing”) phase. Hydrotherapy is given as a comfort measure, providing relaxation and pain



**Fig.-1:** Hydrotherapy in labor

relief. Water birth is supported by the Birthplace at University of Minnesota Masonic Children’s Hospital. Women who are good candidates for this delivery method can combine hydrotherapy and water birth together to create a non-stop experience during their labor and delivery<sup>11</sup>.

#### **Temperature regulation:**

Severe heat stroke followed by temperature rose up to 40.5°C and patient developed severe multiorgan failure and critical polyneuropathy was reported after exposure to extreme heat in sauna for unknown period of time.<sup>12</sup> The most effective method of reducing body core temperature appears to be immersion in iced water, main predictor of outcome in exertional heatstroke is the duration and degree of hyperthermia where possible patients should be cooled using iced-WI, but if it is not possible, combination of other techniques may be used to facilitate rapid cooling<sup>13</sup> such as fan-therapy, CWI, iced-baths, and evaporative cooling<sup>14</sup>.

#### **Hydrotherapy Contraindications:**

Hydrotherapy should be avoided in the following conditions: Severe organic deficiency, severe brain impairment, senile deterioration people with multiple sclerosis, open wounds, active infection, altered sensation, hydrophobia, heat or cold intolerance& poor balance<sup>10</sup>.

#### **Conclusions:**

Hydrotherapy is a useful treatment for both allopathic and complementary medicine to treat a wide variety of discomforts and disorders. The low-impact nature of hydrotherapy makes it one of the most effective treatments for bones and muscles. Hydrotherapy speeds up the release of endorphins which act as a natural pain reliever that will reduce muscle soreness. Based on the available literature, this review suggests that hydrotherapy can be used to boost immunity and manage pain, anorectal disorders, hyperthermia, labor, etc. Although these effects are scientifically proven, there is a lack of evidence on how hydrotherapy improves these diseases, which is one of the limitations of hydrotherapy and requires further study to discover the mechanism of hydrotherapy on various diseases.

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