

NATUROPATHIC HYDROTHERAPY

What is it?

Naturopathic Hydrotherapeutic treatment has been in practice through trained physicians since the early 1900s. The treatment uses a combination of applying specially timed hot and cold towels to the chest, abdomen and back with the use of a gentle electrical current⁽¹⁾.

Hydrotherapy is a special technique that greatly improves recovery from many illnesses, both acute (short term, such as a cold) and chronic (long term, such as hypothyroidism). It helps to improve circulation, relax and repair the nervous system, stimulate detoxifying and eliminative processes, strengthen and heal the digestive system and stimulate the immune system. This therapy is gentle yet very powerful with almost no potential for harm when overseen by a qualified physician who is specially trained in hydrotherapy and physiotherapy treatment.

How does it work?

Hydrotherapy works because it stimulates the body's own healing mechanisms by improving or restoring normal organ function and circulation. Hydrotherapy is thought to promote the process of detoxification through improved blood flow, increased sweating (to remove toxins through the skin), better absorption of nutrients from food, more regular bowel activity and increased urination. It also helps build the blood by increasing desirable elements, such as red and white blood cells, nutrients and oxygen which can then be delivered to the body's various tissues and organs which need it. In addition, water treatments improve immune functioning by nourishing the reticuloendothelial system, through which our illness-fighting white blood cells recognize invaders and are guided to the tissues where they are needed^(1, 2).

This is combined with particular physiotherapy devices which help to improve nervous system and organ function depending on what is being treated. Each treatment is specific to the individual and their current health.

Although these are proposed mechanisms, and as physicians we have seen excellent clinical results, this treatment is not a standard, recognized form of treatment and is it not FDA approved for any condition. Numerous studies have been done on each of the individual elements of the treatment (hot and cold applications, low voltage sinusoidal current, short wave diathermy, etc.), but few formal studies have been done assessing the treatment as a whole. *As this is not considered a standard, conventional medical treatment, insurance reimbursement for the procedure is not guaranteed.*

The best part is that it is completely drugless, safe for all ages and helpful for a wide variety of conditions!



What should I expect when I schedule a hydrotherapy?

Treatments take about an hour and begin by briefly meeting with the physician who checks in with you, listens to your heart and prescribes the treatment. Treatments are typically carried out by medical assistants who are specially trained in hydrotherapy application. In order to prepare for the treatment you will be given a robe and asked to undress from the waist up. Patient modesty is always exercised during the treatment. We recommend wearing comfortable, loose clothing. Patients often find the treatments very relaxing, and many even fall asleep! Feel free to bring a magazine, book or personal music with headphones to relax during your treatment.

The Use of Physiotherapy Devices

The physiotherapy devices used in hydrotherapy are specific to the individual patient and their condition. One or more of the following devices may be used during your treatment:

Low Voltage Alternating Current (also known as Sine Wave) delivers a non-painful mild electrical current to the muscles, which feels like a buzzing or tickling sensation. Depending on the location of the pads, sine wave is used to improve digestive movement and can even influence the stomach, pancreas, gallbladder, liver, kidneys and adrenal glands (stress glands) through a gentle sensory stimulation of the spinal nerves along the back. Sine wave can also be used over the arms and legs to improve lymphatic flow, reduce swelling and bring extra blood flow to areas requiring healing.

Diathermy creates radio frequency waves which help stimulate movement of white blood cells and red blood cells to a particular area. We commonly use it as our "physiotherapy antibiotic" to treat sinus, throat, lung or gastrointestinal infections, break up mucus and calm overactive bowels. The high frequency radio waves are very safe for most patients and produce a comfortable heat. This heat is also useful for pulled muscles, healing damaged tendons and ligaments.

High Frequency treatment uses ultra high frequency, low amplitude current which relaxes muscles and topically produces ozone which is antimicrobial and antifungal. Studies show use of high frequency current improves blood flow to the area for up to 24 hours after use. Not only do we find it useful in conditions such as acne, but also for deeper structures such as healing muscle injuries and promoting blood flow to particular organs.

Direct Current (Galvanic) treatment uses different polarities (positive or negative) to accomplish different therapeutic effects. It can be helpful to strengthen loose structures such as ligaments and tendons, shrink inflamed, ulcerated tissues, stop bleeding (such as from an ulcer) and can even be used to help push therapeutic medications into tissues (also known as iontophoresis).



Scheduling:

Your physician may recommend a therapeutic trial of treatments to assess whether Naturopathic Hydrotherapy will be helpful for your condition. A therapeutic trial will consist of 5 to 15 in-office treatments, depending on the severity of your condition. An appointment for re-evaluation will then be completed to assess both subjective and objective improvement in your condition. If the therapeutic trial is positive, your physician may recommend additional treatments if needed.

The order of therapeutics used and the specific electrical therapy used depends on the individual patient and their current condition.

Treatments build upon each subsequent treatment, but the best clinical result is generally seen when treatments are "stacked together". If you can schedule two treatments per week, it best to do so on consecutive days (such as Thursday and Friday) instead of spacing them out. Although this is not necessary, it does seem to provide better clinical outcomes.

Who Should NOT Receive Naturopathic Hydrotherapy

Naturopathic Hydrotherapy is **contraindicated** in the following conditions or circumstances, these contraindications are mostly related to the electrical therapy component:

- Acute emergencies requiring emergency medical treatment (MI, stroke, severe trauma, hemorrhaging, etc.)
- Lack of normal sensation over treatment area.
- Certain medical devices, such as pacemakers.
- Pregnancy (only if diathermy is to be used, sine wave therapy is safe when used by a trained individual)
- Metal Implants (only if diathermy is to be used)
- DVT or thrombophlebitis
- Breast implants (only if diathermy is to be used over the chest)

If you have any questions about this, please discuss it with your provider BEFORE the hydrotherapy is administered.



Hydrotherapy Research

Studies done have shown that hydrotherapy raises a low basal body temperature, moderates low or high blood sugar and blood pressure. Hydrotherapy researchers have shown that a reflex increase in blood flow occurs in internal organs when the circulation to the overlying skin is stimulated. This internal reaction is responsible for the long lasting and cumulative effects of a series of hydrotherapy treatments. Research has further shown that the beneficial effects on the immune system last for up to 24 hours making this a very effective therapy for any disorder involving immune function. Additionally, 2-8 hours after a single hydrotherapy treatment, one can expect an increase in white blood cells at an average of 10,000 more cells released into circulation. Thus, hydrotherapy is a rapid way to boost your immune function and fight any infection, including common colds and flus as well as antibiotic resistant bacteria. One study demonstrates that hydrotherapy will boost immune function, eliminate excess fluid, and reduce the incidence of colds and flu by 50%.

If you begin to feel the onset of a cold or flu, have a pulled muscle or sprained ankle, allergies are acting up or are looking for long term health and overall improvement in body and organ function - schedule yourself a hydrotherapy treatment!

Research has shown that either hydrotherapy or the use of various electrical currents **may be indicated** for the following conditions:

- Musculoskeletal disorders including strain, sprain, spasm, or weakness and joint aches/pains (2.3.4.5.6.7), osteoarthritis, pain, rheumatoid arthritis, hematomas, soft tissue injury, bursitis, tendonitis, fracture healing, low back pain and surgical healing (18)
- Digestive complaints such as chronic constipation, IBS, slow peristalsis, dyspepsia, Crohn's disease and Ulcerative Colitis. (1,8,9,10,11,12,13,14,15)
- Female reproductive disorders such as PMS, dysmenorrhea, infertility⁽¹⁾
- Kidney stones (16)
- Wound healing^(17,18)
- Chronic migraines⁽²⁰⁾
- HIV/AIDs⁽²²⁾
- Improve immunity, including acute and chronic infections, common colds(21,23,24,25,26,27,28)
- Pain management⁽¹⁹⁾
- Lung conditions such as COPD, bronchitis, asthma^(29,30)
- Hemorrhoids and varicose veins, Raynaud's disease (1.29)
- Cardiac conditions such as CHF, MI, high cholesterol and high BP(1,31,32,33,34)
- Chronic fatigue, depression and anxiety (35,36,37)
- Fibromyalgia^(38,39)
- Adrenal/HPA Axis dysfunction(40)
- Endocrine/Hormone dysfunction⁽⁴¹⁾
- Improved cognition⁽⁴²⁾



References:

- Boyle, Wade, ND and Saine, Andre, ND, Lectures in Naturopathic Hydrotherapy. Sandy: Eclectic Medical Publications, 1988: 135.
- Leon Chatiow et al, Naturopathic Physical Medicine: Theory and Practice for Manual Therapists, 2008 Elsevier Chap 12 pg.539-551
- Schencking M, Otto A, Deutsch T, Sandholzer H, A comparison of Kneipp hydrotherapy with conventional physiotherapy in the treatment of osteoarthritis of 3) the hip or knee: protocol of a prospective randomised controlled clinical trial; BMC Musculoskelet Disord. 2009 Aug 19,10:104. doi: 10.1186/1471-2474-10-104.
- Nussbaum et al, Neuromuscular Electrical Stimulation for Treatment of Muscle Impairment: Critical Review and Recommendations for Clinical Practice; 4) Physiother Can. 2017;69(5):1-76. doi: 10.3138/ptc.2015-88.
- Zhou M et all, Efficiency of Neuromuscular Electrical Stimulation and Transcutaneous Nerve Stimulation on Hemiplegic Shoulder Pain: A Randomized 5) Controlled Trial; Arch Phys Med Rehabil. 2018 Sep;99(9):1730-1739. doi: 10.1016/j.apmr.2018.04.020. Epub 2018 May 17.
- Son J et al, Effects of involuntary eccentric contraction training by neuromuscular electrical stimulation on the enhancement of muscle strength; Clin Biomech 6) (Bristol, Avon). 2014 Aug;29(7):767-72. doi: 10.1016/j.clinbiomech.2014.06.003. Epub 2014 Jun 10.
- Hammond A, Rehabilitation in rheumatoid arthritis: A critical review. Musculoskeletal Care. 2004;2(3):135–151
- 8) Hishinuma M, Hiramatsu N, Kasuga M, Ooyoshi M, Kaharu C, Misao H, et al. The effect on bowel sounds of very hot compresses applied to the lumbar region. Nihon Kango Kagakkaishi. 1997;17:32-9.
- Van Wunnik BP, Baeten CG, Southwell BR, Neuromodulation for constipation: sacral and transcutaneous stimulation; Best Pract Res Clin Gastroenterol. 2011 9) Feb;25(1):181-91. doi: 10.1016/j.bpg.2010.12.008.
- Hutson JM et al, Transabdominal electrical stimulation (TES) for the treatment of slow-transit constipation (STC); Pediatr Surg Int. 2015 May; 31(5):445-51. doi: 10) 10.1007/s00383-015-3681-4. Epub 2015 Feb 12.
- 11) Igbal F, et al. Transcutaneous Sacral Electrical Stimulation for Chronic Functional Constipation; Dis Colon Rectum. 2016 Feb;59(2):132-9. doi: 10.1097/DCR.0000000000000523.
- Leong LC et al, Long-term effects of transabdominal electrical stimulation in treating children with slow-transit constipation; J Pediatr Surg. 2011 12)
- Dec;46(12):2309-12: doi: 10.1016/jjpedsurg.2011.09.022.
 Singleton C, Bakheit AM, Peace C, The Efficacy of Functional Electrical Stimulation of the Abdominal Muscles in the Treatment of Chronic Constipation in 13)
- Patients with Multiple Sclerosis: A Pilot Study; Mult Scler Int. 2016;2016;4860315, doi: 10.1155/2016/4860315, Epub 2016 Apr 20.
 Shklyaev AE, Pantyukhina AS, Gorbunov YV, The multifunctional therapy of various forms of irritable bowel syndrome; Vopr Kurortol Fizioter Lech Fiz Kult. 14) 2016;93(6):37-40. doi: 10.17116/kurort2016637-40.
- Sobin Dlu, Korepanov AM, A method for non-medicamentous treatment of irritated bowel syndrome; Vopr Kurortol Fizioter Lech Fiz Kult. 2009 May-Jun;(3):19-15)
- 16) Tret'iakov AA, Kaisinova AS, Mishchenko MM, Uzdenov MA, Rehabilitation of the patients suffering from chronic calculous pyelonephritis; Vopr Kurortol Fizioter Lech Fiz Kult. 2012 May-Jun;(3):19-22.
- Nikolaev AV, Shekhter AB, Mamedov LA, Novikov AP, Manucharov NK, Use of a sinusoidal current of optimal frequency to stimulate the healing of skin 17) wounds; Biull Eksp Biol Med. 1984 Jun;97(6):731-4.
- Weiss DS1, Kirsner R, Eaglstein WH, Electrical stimulation and wound healing; Arch Dermatol. 1990 Feb;126(2):222-5. 18)
- Shields N, Gormley J, O'Hare N, Short Wave Diathermy: current clinical and safety practices, Physiotherapy Research International, 7(4) 191-202, 2002 19)
- Influence of hydrotherapy on clinical and cardiac autonomic function in migraine patients, J Neurosci Rural Pract. 2016 JanoMar; 7(1): 109-113 20)
- Otolaryngol Pol. 2011 Mar-Apr;65(2):132-8. doi: 10.1016/S0030-6657(11)70643-6.
- [The priest Sebastian Kneipp and his outlook on otorhinolaryngology diseases].
- Pilot clinical trial of constitutional hydrotherapy in HIV+ adults. Corroon et al, Advances in Integrative Medicine, 10/2017 22)
- Mooventhan, Scientific Evidence-Based Effects of Hydrotherapy on Various Systems of the Body, N AM J Med Sci 2014 May;6(5): 199-209 23)
- Kuehn G. Potentiating Health and the Crisis of the Immune System: Integrative Approaches to the Prevention and Treatment of Modern Diseases. Plenum; 24) New York: 1997. Sequential hydrotherapy improves the immune response of cancer patients. pp. 129–137.
- Brenner IK, Castellani JW, Gabaree C, Young AJ, Zamecnik J, Shephard RJ, et al. Immune changes in humans during cold exposure: Effects of prior heating 25) and exercise. J Appl Physiol. 1999;87:699-710.
- 26) Shevchuk NA, Radoja S. Possible stimulation of anti-tumor immunity using repeated cold stress: A hypothesis. Infect Agent Cancer. 2007;2:20.
- 27) Blazicková S, Rovenský J, Koska J, Vigas M. Effect of hyper thermic water bath on parameters on cellular immunity. Int J Clin Pharmacol Res. 2000;20:41-6.
- Muir M. The healing power of water. Alternative and Complementary Therapies. 1998;4(6):384-391 28)
- Goedsche K, Forster M, Kroegel C, et al. Repeated cold water stimulations (hydrotherapy according to Kneipp) in patients with COPD. Forsch 29) Komplementmed. 2007;14(3):158-166.
- larosh AM, Kurch TK. The effect of cold exposure on the respiratory function in children suffering from inflammatory lung diseases. Vopr Kurortol Fizioter Lech 30)
- MacKay D. Hemorrhoids and varicose veins: A review of treatment options. Altern Med Rev. 2001;6(2):126-140.
- Michalsen A, Lüdtke R, Bühring M, et al. Thermal hydrotherapy improves quality of life and hemodynamic function in patients with chronic heart failure. Am Heart J. 2003;146(4):728-733.
- Krankenpflege (Frankf), Possibilities of modern Kneipp therapy in diseases of the cardiac and circulatory systems; 1977 Nov;31(11):364-5.
- ZFA (Stuttgart), Kneipp-therapy in arterial peripheral circulation disorders; 1976 Nov 10;52(31):1604-12. Shevchuk NA, Hydrotherapy as a possible neuroleptic and sedative treatment. Med Hypotheses. 2008;70:230-8. 35)
- Shevchuk NA. Adapted cold shower as a potential treatment for depression. Med Hypotheses, 2008;70:995–1001 36)
- Shevchuk NA. Possible use of repeated cold stress for reducing fatigue in chronic fatigue syndrome: A hypothesis. Behav Brain Funct. 2007;3:55. 37)
- Langhorst J, Musial F, Klose P, et al. Efficacy of hydrotherapy in fibromyalgia syndrome--a meta-analysis of randomized controlled clinical trials. Rheumatology (Oxford) 2009
- 39) McVeigh JG, McGaughey H, Hall M, Kane P. The effectiveness of hydrotherapy in the management of fibromyalgia syndrome: A systematic review. Rheumatol Int. 2008;29:119-30.
- Gerra G, Volpi R, Delsignore R, Maninetti L, Caccavari R, Vourna S, et al. Sex-related responses of beta-endorphin, ACTH, GH and PRL to cold exposure in 40) humans. Acta Endocrinol (Copenh)
 Kauppinen K, Pajari-Backas M, Volin P, Vakkuri O. Some endocrine responses to sauna, shower and ice water immersion. Arctic Med Res. 1989;48:131-9.
- 41)
- Doering TJ, Thiel J, et al, Changes of cognitive brain functions in the elderly by Kneipp therapy; Forsch Komplementarmed Klass Naturheilkd 2001 Apr;8(2):80-42)