

Hydrotherapy therapeutic advancements have been proven (through clinical trials and research) to assist and provide pain and general relief for the following disabilities and impairments:

- Immobility & Paraplegia ^{K, R, S}
- Stroke & Paralysis ^{C, D, G, K, L, M, P, S, Q, V}
- Arthritis ^{A, R}
- Rheumatoid Arthritis ^{A, R}
- Inflammation ^{A, D, R}
- Circulatory Disease ^{A, D, Q, V}
- Diabetes ^{E, G, H, I, J, M, T, V}
- Fibromyalgia ^{A, R}
- Joint Compression & Pain ^{A, N, R}
- Sciatica Pain ^{F, N, O, R}
- Knee Pain, Hip Pain from injury and/or replacement ^{A, N, R}
- Back Pain from injury ^{F, N, R}
- Joint Stiffness ^{A, D, N, R}
- Muscle Pain ^{A, R}
- Insomnia ^{A, U}
- Anxiety & Stress ^{A, U}

HOW HYDROTHERAPY HELPS

Hydrotherapy uses water to deliver temperature and pressure changes to the body. These physical changes in blood vessels cause changes in the rate of blood flow and in the metabolic functions that are linked to the rate of blood flow.

Immobility & Paraplegia ^{K, R, S}

With most of the body submerged, the natural buoyancy and submersion in water decreases the body weight of an individual by up to 90%. As in mobile users, blood circulation must be maintained to avoid loss of limb. With ComfortSeries™ RevitaJet® HydroTherapy System, 44 water and air jets focus on increasing circulation to feet and ankles, legs, hips, back and arms.

Stroke Survivors ^{C, D, G, K, L, M, P, Q, S, V}

With most of the body submerged, the natural buoyancy and submersion in water decreases the body weight of an individual by up to 90%. This makes it easier for stroke patients to move without placing stress on their joints. Patients are able to work on simple range-of-motion exercises and stretching in the water. Due to muscle spasticity in stroke patients, hydrotherapy can help to relax these painful muscles by using the pressure provided by water & air jets to effectively massage the muscles, reducing pain during and after a session, and increase blood flow and circulation. Warm water helps reduce tension in the body while also stimulating the release of endorphins, the body's natural painkillers; possibly eliminating the need for many prescription painkillers. This also helps their emotional well-being by gaining a sense of progress and independence, and their recovery as a whole.

Arthritis Sufferers ^{A, R}

Hydrotherapy is one of the safest treatments for arthritis, back and joint pain. For those with any type of Arthritis (osteo, joint, rheumatoid, spondylitis, psoriatic), keeping active or exercising may be difficult, and the only alternative is taking medication or hydrotherapy. Stretching in warm/hot water increases blood flow/circulation, and decreases inflammation. With up to 90% buoyancy levels, the water assists in reducing pressure on joints in a patient's spine, hips, knees, and ankles; the massaging jets increasing blood flow through supportive muscles. Additionally, the pain that is relieved helps improve emotional/mental wellness.

References:

- A. North American Journal of Medical Sciences: Scientific Evidence-Based Effects of Hydrotherapy on Various Systems of the Body; May 2014
- B. BioMed Central Research Paper: Benefit of warm water immersion on biventricular function in patients with chronic heart failure; July 6, 2009
- C. Home Care Assistance of Omaha: 5 Benefits of Hydrotherapy for Stroke Survivors; October 26, 2017
- D. MedGen Clinical Trials: Report of Acute effects of sauna bathing on cardiovascular function; December 21, 2017
- E. Journal of Pharmacy and BioAllied Sciences: Alternative therapies useful in the management of diabetes; April 26, 2011
- F. Hydropool Blog: Can Hydrotherapy Help Sciatica?; July 2, 2019
- G. Am J Med Sci Author manuscript: Diabetes and Stroke-Epidemiology, Pathophysiology, Pharmaceuticals and Outcomes; April 2016
- H. Science Direct. Complementary Therapies in Clinical Practice: Effects of hydrotherapy with massage on serum nerve growth factor concentrations and balance in middle aged diabetic neuropathy patients; May 2020
- I. Diabetes.co.uk: Hot bath could boost type 2 diabetes management; August 23, 2016
- J. Centers for Disease Control and Prevention, National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States; 2020
- K. Physiotherapy-treatment.com: Hydrotherapy Exercises for Neuro Rehabilitation;

Back and Sciatica Pain F, N, O, R

Even though back pain is common, it can be debilitating for some. Hydrotherapy helps to massage strained muscles & ligaments, but also circulates blood flow to increase healing to those strained areas. This is most common in aging adults as joints, discs & ligaments age as well. The pain relief results of hydrotherapy can also give sufferers the confidence to continue with strengthening exercises and regaining a more active life after hydrotherapy sessions.

Diabetes E, G, H, I, J, M, T, V

Hydrotherapy helps reduce many of the effects of diabetes, including reducing blood sugar, blood pressure, and body weight due to buoyancy, while promoting blood circulation and decreasing inflammation. This results in less glucose in the blood, where patients are shown to have an easier time controlling their plasma sugar levels when continuing with a hydrotherapy regimen.

Hip and Knee Replacement Surgery Recovery A, N, R

The hydrostatic pressure of the water has positive effects on reducing the swelling in knees & hips after surgery, as well as the buoyancy relief. Warm water relaxes the muscles and allows the sympathetic nervous system to be suppressed, allowing pain relief. Hydrotherapy increases blood flow to inflamed surgical areas which promotes healing and reduced scar tissue.

Inflammation, Blood Circulation, Muscle & Joint Pain A, D, M, N, Q, R

With the flow of heated water, blood vessels expand increasing blood circulation. With increased blood flow, it assists in easing the pain in a bather's joints, allowing muscles to relax, and encouraging movement to improve muscle strength. Weightlessness in the heated water can alleviate and diminish joint pressure and swelling, and alleviate muscle pain, since they don't have to work as hard to keep the body in position. Heated water massage from water jets activates nerves in the skin and muscles that increase blood circulation to the massage area. This results in better tissue oxygenation, toxin evacuation, and muscle relaxation. Increased blood flow and circulation also helps injuries heal faster.

Anxiety and Emotional Well-Being A, U

Quality of life (QoL) encompasses the physical, psychological, social and spiritual dimensions of life lived by a person. Cancer pain is one of the physical components which has a tremendous impact on the QoL of the patient. While treating cancer by modern medicine focuses more on the quantity of life lived, factors like pain, stress, anxiety, fatigue, fear of death, and depression are often overlooked. Whether faced with severe pain in terminal cancer or ongoing nausea and vomiting caused by chemotherapy/radiation, and surgery related pain; cancer patients endure a long road of physical trials. The QoL lived also matters equally, and the psychological status is a main dimension of quality of life. Warm water relaxes the muscles and allows the sympathetic nervous system to be suppressed, allowing pain relief. ComfortSeries™ RevitaJet® Hydrotherapy System increases blood flow to inflamed surgical areas and areas treated by chemotherapy and radiation, which promotes healing, reduces scar tissue, and expels toxins, improving the immune response. The ozone system within ComfortSeries™ accessible tubs allows for chlorine-free hydrotherapy bathing.

L. Kesiktas N, Paker N, Erdogan N. The use of hydrotherapy for the management of spasticity. *Neurorehabil Neural Repair*. 2004 Dec;18(4):268-73

M. Hydro Massage: Hydrotherapy for Diabetes. *Heart Disease and Stroke*; June 18, 2021

N. Lifecare literature and research: The effects of Hydrotherapy in Hip and Knee Pain; 2009

O. Sciatic-relief.com: Hydrotherapy for sciatica; November 30, 2018

P. The Royal Dutch Society for Physical Therapy (KNGF). *Clinical Practice Guideline for Physical Therapy: Hydrotherapy for Stroke*; 2014

Q. *Clinics (Sao Paulo): Hydrotherapy in Heart Failure-A Case Report*; August 2009

R. Mangar Health: *Disability and Independence-Water Therapy*; October 5, 2015

S. Healthline: *Multiple Sclerosis Water Therapy and Hydrotherapy*; September 3, 2021

T. *Diabetologia Research Study: Hot Baths are associated with improving various risk factors for type 2 diabetes*; September 21, 2020

U. National Library of Medicine, *Clinical Trial: Hydrotherapy following breast cancer surgery Phase II trial*; December 18, 2019

V. *HydroMassage for Diabetes, Heart Disease & Stroke*;