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A REVIEW ON THERAPEUTIC ASPECTS OF HYDROTHERAPY

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ABSTRACT: The term Hydrotherapy refers to a process which uses water at any temperature or forms to relieve pain and treat illness. This review describes about various conditions of water treatments. Hydrotherapy may help treat various conditions, including arthritis, stomach issues, sleep disorders, stress and depression. The theory behind hydrotherapy is that water has healing properties that can relieve various ailments and conditions. In its different forms—ice, liquid, and steam—water is a versatile treatment method. Water cure therapies includes enema therapy, gel therapy etc, which includes colonic hydrotherapy, sitz bath, hydro-massage, wraps and compress methods. Recently we have a number of hydrotherapy treatments available which includes personal infrared sauna rooms and peat bath rooms. These are useful in pregnancy, heart or lung conditions, diabetes, neuropathy, high fever, acute headache, surgical implants, seizure disorders etc. Cryotherapy, cold water immersion or ice bath is a new form of hydrotherapy used by physical therapists, sports medicine facilities and rehab clinics.

INTRODUCTION: In the mid-19th century and early 20th century there was a popular revival of the water cure in Europe, the United Kingdom, and the United States. During this time the term water cure was used synonymously with hydropathy. Its use has been recorded in ancient Egyptian, Greek and Roman civilizations ^{1, 2}. Two seminal publications preceded the populist revival of the 19th century. Firstly, Sir John Floyer, a physician of Lichfield, was struck by the remedial use of certain springs by the neighbouring peasantry, investigated the history of cold bathing and published a book on the subject in 1702. The book ran through six editions within a few years and the translation was largely drawn upon by Dr J. S. Hahn (1696–1773) of Silesia in a work published in 1738 ³.

Secondly, a 1797 publication by Dr James Currie of Liverpool on the use of hot and cold water in the treatment of fever and other illness.⁴ It was also translated into German by Michaelis (1801) and Hegewisch (1807). It was highly popular and first placed the subject on a scientific basis. Hahn's writings had meanwhile created much enthusiasm among his countrymen, societies having been everywhere formed to promote the medicinal and dietetic use of water; and in 1804 Professor E.F.C. Oertel of Anspach republished them and quickened the popular movement by unqualified commendation of water drinking as a remedy for all diseases.

In the 19th century, a popular revival followed the application of hydrotherapy around 1829, by Vincent Priessnitz, a peasant farmer in Gräfenberg, then part of the Austrian Empire. This revival was continued by others such as Captain R. T. Claridge, who introduced hydropathy into England in the early 1840s via writings and lectures, Sir William James Erasmus Wilson (1809–1884), James Manby

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Gully and Edward Johnson and Sebastian Kneipp^{5,6}. Other popular forms of water therapy included the sea-water treatment of Richard Russell, the contemporary version of which is thalassotherapy. In Europe, the application of water in the treatment of fevers and other maladies had, since the seventeenth century, been consistently promoted by a number of medical writers. In the eighteenth century, taking to the waters became a fashionable pastime for the wealthy classes who decamped to resorts around Britain and Europe to cure the ills of over-consumption.

In the main, treatment in the heyday of the British spa consisted of sense and sociability: promenading, bathing, and the repetitive quaffing of foul-tasting mineral waters.⁷ the spa movement itself became especially popular during the 19th century when health spas devoted to the "cure" were well-known medical institutions for the upper-class, especially those with lingering or chronic illness. Spas and other therapeutic baths are somewhat synonymous with the term balneotherapy⁸. Water cure practitioners ranged from qualified doctors to self-taught enthusiasts. For example, a famous water cure in Malvern, Worcestershire was begun in 1842 by Dr James Manby Gully using Malvern water⁹. Famous patients of Gully included Charles Darwin, Charles Dickens, Thomas Carlyle, Florence Nightingale, Lord Tennyson and Samuel Wilberforce¹⁰.

Conversely, Henry Wirz, the only Confederate soldier executed in the aftermath of the American Civil War for war crimes, was said to have been a self-taught water-cure specialist. After immigrating to America from Switzerland, he is reported to have worked as a water-cure practitioner throughout New England. The term water cure has also been used to refer to a form of torture. However, while the sense of water as a form of torture is documented back to at least the 15th century, the first use of the term water cure as a torture is indirectly dated to around 1898, by U.S. soldiers in the Spanish-American War.

The torture sense of the term water cure was by 1900–1902 established in the American army¹¹, with a conscious sense of irony; this sense was not in widespread use. Webster's 1913 dictionary cited

only the therapeutic sense, water cure being then synonymous with hydropathy, now known as hydrotherapy.

Water Cure Therapies:

Water cure in the therapeutic sense is a course of medical treatment by hydrotherapy. It can be classified as follows according to use of contents –

1. Enema therapy

- A) Ozone enema
- B) Bowel stimulating enema
- C) Disposable enema
- D) Barium enema
- E) Rectal corticosteroids
- F) Alcohol enema
- G) Pre-delivery enema
- H) Tobacco smoke enema
- I) Coffee enema

2. Gel therapy

- A) Hydro gel therapy
- B) Organo gel therapy
- C) Xerogel therapy
- D) Aero gel therapy

1. Enema therapy:

Enema comes from Greek, means "inject". An **enema** is the procedure of introducing liquids into the rectum and colon via the anus. The increasing volume of the liquid causes rapid expansion of the lower intestinal tract, often resulting in very uncomfortable bloating, cramping and powerful peristalsis, a feeling of extreme urgency and complete evacuation of the lower intestinal tract. An enema has the advantage over any laxative in its speed and certainty of action, and retaining an enema for 10 - 15 minutes causes a more thorough result. It can be carried out as treatment for medical conditions, such as constipation and encopresis, and as part of some alternative health therapies. They are also used to administer certain medical or recreational drugs.

Enemas have been used for rehydration therapy (proctoclysis) in patients for whom intravenous therapy is not applicable¹². Improper administration of an enema may cause electrolyte imbalance (with repeated enemas) or ruptures to the bowel or rectal tissues resulting in internal bleeding. The enema tube and solution may stimulate the vagus nerve,

which may trigger an arrhythmia such as bradycardia. Enemas should not be used if there is an undiagnosed abdominal pain since the peristalsis of the bowel can cause an inflamed appendix to rupture. There are arguments both for and against colonic irrigation in people with diverticulitis, ulcerative colitis, Crohn's disease, severe or internal hemorrhoids or tumors in the rectum or colon, and its usage is not recommended soon after bowel surgery (unless directed by one's health care provider). Regular treatments should be avoided by people with heart disease or renal failure. Colonics are inappropriate for people with bowel, rectal or anal pathologies where the pathology contributes to the risk of bowel perforation.

A normal clysters syringe and the nozzle for a syringe designed for self-administration. It is a syringe with a rectal nozzle and a plunger rather than a bulb. Clyster syringes were used from the 17th century (or before) to the 19th century, when they were largely replaced by enema bulb syringes, books, and bags. The patient was placed in an appropriate position (kneeling, with the buttocks raised, or lying on the side); a servant or apothecary would then insert the nozzle into the anus and depress the plunger, resulting in the liquid remedy. This therapy is sub-classified as follows-

A) Ozone water therapy- Recent research has shown that ozone water is sometimes used in enemas, can immediately cause microscopic colitis¹³.

B) Bowel stimulating enema: Usually consist of water, which works primarily as a mechanical stimulant, or they may be made up of water with baking soda (sodium bicarbonate) or water with a mild hand soap dissolved in it. Buffered sodium phosphate solution draws additional water from the bloodstream into the colon to increase the effectiveness of the enema, but can be rather irritating to the colon, causing intense cramping or "griping." Mineral oil functions as a lubricant and stool softener, but often has the side effect of sporadic seepage from the patient's anus which can soil undergarments for up to 24 hours. Glycerol is a specific bowel mucosa irritant and when introduced in very dilute solution serves to induce peristalsis.

Sometimes equal parts of milk and molasses heated together to slightly above normal body temperature are used as enema solution.

C) Disposable enema: Cleansing the lower bowel prior to a surgical procedure such as sigmoidoscopy or colonoscopy. Because of speed and supposed convenience, enemas used for this purpose are commonly the more costly, sodium phosphate variety – often called a disposable enema. A more pleasant experience preparing for testing procedures can usually be obtained with gently administered baking soda enemas; cleansing the lower bowel for colonoscopy and other bowel studies can be effectively achieved with water-based, or water with baking soda, enema administration.

In Asian countries, particularly in Japan, commercially available disposable enemas typically contain glycerin (at concentrations varying from 30-50%) or sodium chloride. They are not lubricated and the amount of liquid contained in them may vary, although most contain about 20-40ml of diluted glycerin. For home use, disposable enema bottles (reusable rubber/vinyl bags/bulbs) are common to be used. Marketed disposable products are "disposable bags" (connected to disposable tubing, can commonly be used for many months or years without significant deterioration), "closed top" syringes (to relieve aches and pains via gentle heat administrations to parts of the body), clysters syringes (for symptoms of constipation). Many self-given enemas used at home are the packaged, disposable, sodium phosphate solutions in single-use bottles sold under a variety of brand names, or in generic formats. In medical or hospital environments, reusable enema equipment is now rare because of the expense of disinfecting a water-based solution. For a single-patient stay of short duration, an inexpensive disposable enema bag can be used for several days or weeks, using a simple rinse out procedure after each enema administration. The difficulty comes from the longer time period (and expense) required of nursing aides to give a gentle, water-based enema to a patient, as compared to the very few minutes it takes

the same nursing aide to give the more irritating, cold, packaged sodium phosphate unit.

D) Barium enema: It is used as a contrast substance in the radiological imaging of the bowel. The enema may contain barium sulfate powder, or a water-soluble contrast agent. Barium enemas are sometimes the only practical way to "view" the colon in a relatively safe manner. Following barium enema administration, patients often find that flushing the remaining barium with additional water, baking soda, or saline enemas helps restore normal colon activity without complications of constipation from the administration of the barium sulfate.

E) Rectal corticosteroids: These are sometimes used to treat mild or moderate ulcerative colitis. They also may be used along with systemic (oral or injection) corticosteroids or other medicines to treat severe disease or mild to moderate disease that has spread too far to be treated effectively by medicine inserted into the rectum alone.

F) Alcohol enema: People who wish to become intoxicated faster use an alcohol enema as a method to instill alcohol into the bloodstream, absorbed through the membranes of the colon. Only a small amount is needed as the intestine absorbs the alcohol more quickly than the stomach. Deaths have resulted due to alcohol poisoning via enema.

G) Pre-delivery enema: In certain countries (the United States), it was thought a good idea to cleanse the bowel for pregnant women were given enemas prior to labor to reduce the risk of feces being passed during contractions. Under some controversial discussion, pre-delivery enemas were also given to women to speed delivery by inducing contractions. Now days it was abandoned, because obstetricians commonly gives pitocin to induce labor.

H) Tobacco smoke enema: Now obsolete, it was used for resuscitating victims of drowning during the 18th century.

I) Coffee enema: These are administered in Gerson therapy.

The main medical usages of enemas are:

A) As a bowel stimulant, similar to a laxative – the main difference being that laxatives are commonly thought of as orally administered while enemas are administered directly into the rectum, and thereafter, into the colon. When the enema injection into the rectum is complete, and after a set "holding time", the patient expels feces along with the enema in the bedpan or toilet.

B) Enemas may also be used to relieve constipation and fecal impaction, although in the U.S.A. and some other parts of the world, their use has been replaced in most professional health-care settings by oral laxatives and laxative suppositories. In-home use of enemas for constipation and alternative health purposes is somewhat harder to measure.

C) Bowel stimulating enemas usually consist of water, which works primarily as a mechanical stimulant, or they may be made up of water with baking soda (sodium bicarbonate) or water with a mild hand soap dissolved in it. Buffered sodium phosphate solution draws additional water from the bloodstream into the colon to increase the effectiveness of the enema, but can be rather irritating to the colon, causing intense cramping or "gripping." Mineral oil functions as a lubricant and stool softener, but often has the side effect of sporadic seepage from the patient's anus which can soil undergarments for up to 24 hours. Glycerol is a specific bowel mucosa irritant and when introduced in very dilute solution serves to induce peristalsis.

D) Other types of enema solutions are also used, including equal parts of milk and molasses heated together too slightly above normal body temperature. In the past, castile soap was a common additive in an enema, but it has largely fallen out of use because of its irritating action in the rectum and because of the risk of chemical colitis as well as the ready availability of other enema preparations that are perhaps

more effective than soap in stimulating a bowel movement. At the opposite end of the spectrum, an isotonic saline solution is least irritating to the rectum and colon, having a neutral concentration gradient. This neither draws electrolytes from the body – as can happen with plain water – nor draws water into the colon, as will occur with phosphates. Thus, a salt water solution can be used when a longer period of retention is desired, such as to soften an impaction.

E) Cleansing the lower bowel prior to a surgical procedure such as sigmoidoscopy or colonoscopy. Because of speed and supposed convenience, enemas used for this purpose are commonly the more costly, sodium phosphate variety – often called a disposable enema. A more pleasant experience preparing for testing procedures can usually be obtained with gently administered baking soda enemas; cleansing the lower bowel for colonoscopy and other bowel studies can be effectively achieved with water-based, or water with baking soda, enema administration.

F) The administration of substances into the bloodstream. This may be done in situations where it is undesirable or impossible to deliver a medication by mouth, such as antiemetics given to reduce nausea (though not many antiemetics are delivered by enema). Additionally, several anti-angiogenic agents, which work better without digestion, can be safely administered via a gentle enema. Medicines for cancer, for arthritis, and for age-related macular degeneration are often given via enema in order to avoid the normally-functioning digestive tract. Interestingly, some water-based enemas are also used as a relieving agent for irritable bowel syndrome, using cayenne pepper to squelch irritation in the colon and rectal area. Finally, an enema may also be used for hydration purposes. See also route of administration.

G) Emergency blood expansion. Emergency pre-hospital treatment of hemorrhage requires immediate fluid replacement therapy. In mass casualty, remote or rural settings, the lack of

sterile fluids, intravenous equipment or the knowledge to use them might limit the treatment options available. In such situations proctoclysis remains an easy, safe and effective way to provide fluid replacement. It does not require sterile fluids, special equipment or complex training, and it is useful when alternative routes are not readily available.

- H)** The topical administration of medications into the rectum, such as corticosteroids and mesalazine used in the treatment of inflammatory bowel disease. Administration by enema avoids having the medication pass through the entire gastrointestinal tract, therefore simplifying the delivery of the medication to the affected area and limiting the amount that is absorbed into the bloodstream.
- I)** General anesthetic agents for surgical purposes are sometimes administered by way of an enema. Occasionally, anesthetic agents are used rectally to reduce medically induced vomiting during and after surgical procedures, in an attempt to avoid aspiration of stomach contents.
- J)** A barium enema is used as a contrast substance in the radiological imaging of the bowel. The enema may contain barium sulfate powder, or a water-soluble contrast agent. Barium enemas are sometimes the only practical way to "view" the colon in a relatively safe manner. Following barium enema administration, patients often find that flushing the remaining barium with additional water, baking soda, or saline enemas helps restore normal colon activity without complications of constipation from the administration of the barium sulfate.
- K)** Rectal corticosteroid enemas are sometimes used to treat mild or moderate ulcerative colitis. They also may be used along with systemic (oral or injection) corticosteroids or other medicines to treat severe disease or mild to moderate disease that has spread too far to be treated effectively by medicine inserted into the rectum alone.
- L)** Enemas have also been used for ritual rectal drug administration such as balché, alcohol,

tobacco, peyote, and other hallucinogenic drugs and entheogens, mostly by the Maya and other American Indian tribes to clean the colon of feces to help increase the rate of absorption in rectal administration.

2. Gel therapy:

Gel coined by 19th-century Scottish chemist Thomas Graham, by clipping from gelatine¹⁴. It is a solid, jelly-like material that can have properties ranging from soft and weak to hard and tough. Gels are defined as a substantially dilute cross-linked system, which exhibits no flow when in the steady-state. By weight, gels are mostly liquid, yet they behave like solids due to a three-dimensional cross-linked network within the liquid. According to IUPAC definition "Gel is no fluid colloidal network or polymer network that is expanded throughout its whole volume by a fluid"¹⁵ or "A gel has a finite, usually rather small, yield stress." Or "A gel can contain: (i) a covalent polymer network, e.g., a network formed by cross linking polymer chains or by nonlinear polymerization; (ii) a polymer network formed through the physical aggregation of polymer chains, caused by hydrogen bonds, crystallization, helix formation, complexation, etc., that results in regions of local order acting as the network junction points.

The resulting swollen network may be termed a "thermo reversible gel" if the regions of local order are thermally reversible; (iii) a polymer network formed through glassy junction points, e.g., one based on block copolymers. If the junction points are thermally reversible glassy domains, the resulting swollen network may also be termed a thermo reversible gel; (iv) lamellar structures including meso-phases e.g., soap gels, phospholipids, and clays; (v) particulate disordered structures, e.g., a flocculent precipitate usually consisting of particles with large geometrical anisotropy, such as in V_2O_5 gels and globular or febrile protein gels." It is sub-classified as follows-

Hydro gel therapy:

The gel, where the swelling agent is water, the network component of a hydro-gel is usually a polymer network and a colloidal network may be referred to as an aquagel^{16, 17}. Hydro-gel is a network of polymer chains that are hydrophilic,

sometimes found as a colloidal gel in which water is the dispersion medium. These are highly absorbent (they can contain over 99.9% water natural or synthetic polymers). They also possess a degree of flexibility very similar to natural tissue, due to their significant water content. Hydro-gels existing naturally in the body include mucus, the vitreous humor of the eye, cartilage, tendons and blood clots. Their visco-elastic nature results in the soft tissue component of the body, disparate from the mineral-based hard tissue of the skeletal system. Common uses for hydro gels include:

1. Currently used as scaffolds in tissue engineering. When used as scaffolds, hydro gels may contain human cells to repair tissue.
2. Hydro gel-coated wells have been used for cell culture.
3. Environmentally sensitive hydrogels which are also known as 'Smart Gels' or 'Intelligent Gels'. These hydrogels have the ability to sense changes of pH, temperature, or the concentration of metabolite and release their load as result of such a change.
4. As sustained-release drug delivery systems.
5. Provide absorption, desloughing and debriding of necrotic and fibrotic tissue.
6. Hydro gels that are responsive to specific molecules, such as glucose or antigens, can be used as biosensors.
7. Used in disposable diapers where they absorb urine, or in sanitary napkins
8. Contact lenses (silicone hydro gels, polyacrylamides, polymacon)
9. EEG and ECG medical electrodes using hydrogels composed of cross-linked polymers (polyethylene oxide, polyAMPS and polyvinylpyrrolidone)
10. Water gel explosives
11. Rectal drug delivery and diagnosis
12. Encapsulation of quantumdots, breast implants and in glue.
13. Now used in granules for holding soil moisture in arid areas.

14. Dressings for healing of burn or other hard-to-heal wounds. Wound gels are excellent for helping to create or maintain a moist environment.
15. Reservoirs in topical drug delivery particularly for ionic drugs, delivered by iontophoresis.
16. For nucleus pulposus replacement, cartilage replacement, and synthetic tissue models.
17. In fiber optics communications, a soft gel resembling "hair gel" in viscosity is used to fill the plastic tubes containing the fibers.

These have common ingredients e.g. polyvinyl alcohol, sodium polyacrylate, acrylate polymers and copolymers with an abundance of hydrophilic groups and natural hydro gel materials are being investigated for tissue engineering; these materials include agarose, methylcellulose, hyaluronan, and other naturally derived polymers.

A) Organo gel therapy: An organo-gel is a non-crystalline, non-glassy thermo reversible (thermoplastic) solid material composed of a liquid organic phase entrapped in a three-dimensionally cross-linked network. The liquid can be, for example, an organic solvent, mineral oil, or vegetable oil. The solubility and particle dimensions of the structuring are important characteristics for the elastic properties and firmness of the organogel. Often, these systems are based on self-assembly of the structuring molecules¹⁸. These have potential for use in a number of applications, such as in pharmaceuticals¹⁹, cosmetics, art conservation and food. An example of formation of an undesired thermo reversible network is the occurrence of wax crystallization in petroleum²⁰.

B) Xero-gels: A xerogel is a solid formed from a gel by drying with unhindered shrinkage. Xerogels usually retain high porosity (15–50%) and enormous surface area (150–900 m²/g), along with very small pore size (1–10 nm). When solvent removal occurs under supercritical conditions, the network does not shrink and a highly porous, low-density material known as an *aero-gel* is produced. Heat treatment of a xero-gel at elevated

temperature produces viscous sintering (shrinkage of the xero-gel due to a small amount of viscous flow) and effectively transforms the porous gel into a dense glass. Many gels display thixotropy – they become fluid when agitated, but re-solidify when resting. In general, gels are apparently solid, jelly-like materials. Some species of animals secrete gels that are effective in parasite control. For example, the long-finned pilot whale secretes an enzymatic gel that rests on the outer surface of this animal and helps prevent other organisms from establishing colonies on the surface of these whales' bodies.

C) Aero gel- Virtually when air/gas is to be used as an extender fluid, the system is called aero gels with very low density, high specific surface areas, and excellent thermal insulation properties.

D) Application of gels includes:

Some species of animals like long-finned pilot whales bodies secretes gels that are effective in parasite control.

E) It is mostly useful in fiber optics communications.

Hydrotherapy:

The term Hydrotherapy ('hydro' meaning water) refers to a process which uses water at any temperature or forms to relieve pain and treat illness, and is a practice which has been in use since the 5th century B.C. It was Greek physician Hippocrates who first cited the use of water for therapeutic purposes, but its medicinal merits did not go unnoticed by ancient Egyptian or Roman civilizations either. Egyptians were said to have bathed in flower essences and aromatic oils and historical evidence proves that public baths were a central feature of Roman colonies. The middle Ages brought about a revival as physicians began using sulphur rich springs for the treatment of skin complaints and other ailments. Come the 18th century hydrotherapy was recognized as a scientific method and physicians were commonly utilizing the healing properties of water for the treatments of illness. . Hydrotherapy may help treat various conditions, including arthritis, stomach issues,

sleep disorders, stress and depression. The theory behind hydrotherapy is that water has healing properties that can relieve various ailments and conditions. In its different forms—ice, liquid, and steam—water is a versatile treatment method. Water can cool, cleanse, and heat. Hydrotherapy exists in many other variations, for instance the NHS often uses physical therapy performed in water for post operation rehabilitation. Treatment applied in these kinds of heated pools utilizes the warmth to relax the muscles, the buoyancy to resist movement and the weightlessness helps to decrease stress and pain on the joints. Some methods include:

Colonic hydrotherapy: A process which involves flushing water through the bowels to eliminate toxins and cleanse the colon.

Sitz bath: Individuals are immersed up to hip level in water which is either cold or alternating between hot and cold. This is particularly effective for issues which affect the abdomen, reproductive system, intestinal pains, kidney pains, menstrual disorder, hemorrhoids and abdominal cramps.

Hydro massage: Jets of water positioned at various heights which correspond to certain body areas, with a similar effect to that of massage.

Wraps: The individual receiving treatment will be wrapped in cold wet sheets before then being covered with dry blankets and towels which are removed within an hour. This treatment is good for muscle pain, skin disorders and colds.

Compress: In this treatment patient is wrapped in towels or sheets which are soaked in hot or cold water. The cold causes the blood vessels near the skin to constrict which diverts blood to inner areas. The hot dilates blood vessels which improves circulation from tissues, relieving any inflammations.

Pros of hydrotherapy:

1. It is useful in techniques such as massage and yoga performed in water.
2. It is useful internally which involves drinking water or receiving fluids through an intravenous (IV) infusion.

3. Water heat from steam works well to relieve muscle aches.
4. By cold-water therapy treats depression patients by immersing the body in water, applying a whole-body wrap, and administering a cold shower that lowers brain temperature to improve symptoms of depression.
5. Effective for rehabilitation after orthopedic and spinal surgery which have resulted in chronic pain to relax muscle tension and reduce swollen joints.
6. It stimulates endorphins which will help to control the pain and alleviate tension.
7. The use of hot whirlpool baths with massaging jets to reduce the duration and severity of back pain when used alongside conventional medicine.
8. Useful in stress relief related with high blood pressure, headaches, insomnia, depression etc.
9. Used as Colonic Hydrotherapy, particularly helpful in Irritable Bowel Syndrome (IBS).
10. Water temperature helps to normalize the bowel as well as flushing out any unwanted toxins.
11. The treatment can also be useful during dieting periods, fasting, detoxifying and liver flushes as well as treating specific issues such as asthma, bloating, indigestion, bowel complaints and skin problems.

Colonic hydrotherapy is a particularly complex treatment which should always be carried out by a practitioner with the correct training and experience. The professional associations which list colonic hydro therapists and colonic hydro therapist have strict guidelines to ensure the safety of patients. In order to become an accredited member the therapist must meet certain requirements.

These are set by the association and must agree to adhere to their code of ethics and complaints procedure. Aquatic physiotherapy is a form of hydrotherapy which is usually sought for rehabilitation purposes. In terms of training and qualifications, it will be carried out by a registered physiotherapist whose training will have consisted of a recognized three or four year university based course leading to B.sc. in physiotherapy.

The association of registered colon hydro therapists (ARCH) is an organization which promotes high standards of training and professionalism in all registered colleges and practitioners. Institutions that are registered with ARCH must have highly trained teaching staff, valid insurance, and are subject to inspection of premises and external auditing to ensure good standards are maintained in all areas. Before acceptance onto the course prospective students must provide proof of previous qualifications. ARCH also expects registered colleges and practitioners to undertake Continued Professional Development (CPD) on an annual basis.

The Institute of Professional Colon Hydrotherapy (IPCH) was originally founded as a professional body of individuals who had trained and graduated as qualified therapists from the School of Colonic Hydrotherapy. All IPCH registered therapists are fully trained to make recommendations on dietary changes, detox procedures and nutritional supplements which may help to address the root cause of symptoms. All members are fully insured with full professional and public liability insurance, a condition of the institute's code of ethics and code practice.

Benefits of common forms of Hydrotherapy:

There are several common forms of hydrotherapy which includes:

1. **Hot water or cold water treatment:** Where the whole body or a part of the body should be immersed in the water and body parts like the arm, hip or leg or even full body can be treated individually. Cold water treatments works well in the treatment of depression and improves the recovery time.
2. **Mechanical pumps:** Can be used to drive water in and out of the tank and it can be heated with the aid of heating coils. Hot tub bath or spa treatment shows immediate results on the body of an individual and it helps in providing relief from pain.
3. **Essential oils and aroma therapy:** Oils too can be used as a part of hydrotherapy and these oils can be utilized to provide the desired

massage to the body. Coconut Oil for Hair and Acne.

4. **Sitz bath, mineral bath and hot spring bath:** can be used in various kinds of treatments which provide better circulation of the blood to various organs of the body. It also helps in providing immunity to the body and heals the tissues affected due to wear and tear of various body parts. It is also recommended for providing energy to the body.
5. **Constitutional hydrotherapy:** Can be deployed as an effective treatment in the cases of respiratory tract infections, inflammation and arthritis and in cases where the muscles have gone stiff due to fibroids. It also helps patients suffering from diabetes and low blood pressure. It works wonders in the case of depression and intense headaches.
6. **Water Massage:** Is one of the techniques for relaxation. Several different types of massages use oil as a medium between the therapist and the person, but this massage uses water and its density as a medium. For example Hot Stone Massages (hot stones are used manually as tools to massage the body), Scalp Massage, Aqua massage /dry hydrotherapy (which includes an enclosed table which does not allow the water to touch the patient. It works by charging jets of water up in opposition to the bottom of the table surface, where a patient is lying. A bar is moved alongside the flat length of the table, taking the water's force from one end to the other end of the body).
7. **Miscellaneous:** Aromatherapy Herbal Treatment Benefits, Aromatherapy Fanning, Aromatherapy Herbal Cosmetic, Throat Infection Remedies, Orthopedic Massage Therapy, Thai Massage Therapy, Therapeutic Massage, Trigger Point Therapy, Sports Massage Therapy, Shiatsu Massage Therapy (foot, facial, back), Baby Massage Therapy, Deep Tissue Massage Therapy, Pregnancy Massage Therapy, Energy Healing Therapy, Myo therapy, Neuromuscular Massage Therapy, Abdominal Massage, Acupressure Massage, Ayurvedic Massage (Head, Face,

Back), Lymphatic Massage, Reiki Meditation, Frozen Shoulder Massage, Zero Balancing Massage Therapy, Breath Therapy, Push Therapy, Somatic Movement Therapy, Structural Energetic Therapy, Thalassotherapy, Vibration Healing Massage Therapy, Vortex Healing, Watsu Massage, Bamboo Massage, Panchakarma etc.

8. **Jala Neti (nasal saline irrigation)**- This technique is a regular part of the yoga cleansing activities and has safely been practiced for years now. It helps to cleanse your nostrils with water in morning. It is done using a small pot that looks like a little tea pot. It has a small spout from where the water is to be administered. You prepare warm water and add some salt to it. Next you fill the jala neti or water cleansing pot with the prepared solution. Then bend slightly and tilt your head to one side. Insert the spout of the neti pot in the other nostril and tilt the pot so the warm saline water flows into one nostril and then flows out from the other. Jala neti helps to remove the mucous that is filled with dirt and bacteria, drains the nasal passages, sinus cavities to help fight off infections leading to cold and cough and other allergy related problems of the nose and upper respiratory tract.

Recent techniques:

At the Robert Schad Naturopathic Clinic (RSNC), we have a number of hydrotherapy treatments available which includes personal infrared sauna rooms and peat bath rooms. these are useful in pregnancy or are planning for pregnancy, breastfeeding or are planning to breastfeed, allergies to materials used, heart or lung conditions, diabetes, fear of confined spaces, have just performed intense exercise, have just consumed alcohol and/or drugs, have just eaten or have not consumed a meal in the last 4-6 hours, neuropathy, high fever, acute headache, surgical implants, seizure disorders etc.

Constitutional hydrotherapy is using varied temperatures of water to stimulate the body. It most commonly involves cycles of an extended application of heat, followed by a brief application of cold to the chest and the back. Infrared saunas

use heaters to give off heat in the form of infrared rays. These are absorbed directly into the human body, unlike most traditional saunas which heat the body indirectly using air or steam. This method of heat delivery will heat the body up to a depth of 4.5 cm of underlying tissue. A moderate increase in temperature is immune stimulating and anti-inflammatory. The delivered heat will also stimulate metabolism and circulation, help to relax muscle and connective tissue as well as sedate nerve endings, therefore reducing pain. Infrared sauna may be beneficial for a number of conditions, including detoxification, common colds and/or flu, chronic pain, chronic skin conditions, chronic fatigue, mild depression, etc.

Treatment schedules vary depending on the condition and can last from 3 weeks to 3 months. Peat Bath is formed from organic materials and extracted from specific bogs around the world. It is high in vitamins, minerals and other substances, all of which have high biological activity. Micro pores inside the structure of peat allow high efficiency temperature retention. This means it has the ability to keep the water at a consistently warm temperature. The increased heat along with the peat content allows for anti-inflammatory, anti-microbial and antioxidant effects. It can also reduce pain, elevate protein synthesis and increase circulation. Peat may be beneficial for many conditions, including musculoskeletal conditions, skin conditions, gynecological conditions, benign prostate hypertrophy (BPH) / prostatitis, viral infections, immune stimulation, chronic headaches, insomnia, stress relief, etc. Treatment schedules vary but patients typically see long-lasting effects after 6 treatments.

Cryotherapy, cold water immersion or ice bath is a new form of hydrotherapy used by physical therapists, sports medicine facilities and rehab clinics. Proponents claim improved return of blood flow and byproducts of cellular breakdown to the lymphatic system and more efficient recycling ²¹. Alternating the temperatures, either in a shower or complementary tanks, combines the use of hot and cold in the same session. Proponents claim improvement in circulatory system and lymphatic drainage. Experimental evidence suggests that contrast hydrotherapy helps to reduce injury in the

acute stages by stimulating blood flow and reducing swelling²².

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