

## HIDROTHERAPY

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### Abstract

*Hydrotherapy is considered the oldest therapeutic method, being used as a remedy for various common ailments since ancient Greek culture, Japanese, induced, Romanian (Champion, 1998). Numerous research studies have highlighted the role it has hydrotherapy on muscle relaxation in treating musculoskeletal and neurological disorders, sore throat, backache, arthritis, head injury, spasticity, etc. vascular accidents. (Moor et al, 1964).*

**" You waters! You that reassuring us, bringing to us strength, health, joy and grandeur."**

**RIG VEDA**

Hydrotherapy is a therapeutic method that uses water at different temperatures and in different states of aggregation (liquid, solid or gaseous) to treat certain diseases. The water used may be fresh, mineral or marine, pure or mixed with other substances or herbs and medicinal: infusions or decoctions (chamomile, marshmallow, walnut leaf, etc.) And various mixtures of herbs, also salt, iodine, sulfur, mud, gas, etc.

Hydrotherapy as all forms of therapy are combined using warm or cold, to treat various diseases. Hydrotherapy is also considered a branch of natural medicine based on water use in therapy.

Interestingly, a search on the Internet hydrotherapy lead to over three million and a half results, which show the importance of this term.

Use of this method of treatment has gone through several stages over time, from empirical to scientifically ... Scientific foundations of hydrotherapy have been raised by W. Winternitz, of Vienna Faculty of Medicine, the work phisiologischer auf und *Die Hydrotherapie Klinischer Grundlage*, published in 1877. Also an important contribution to the development of scientific and hydrotherapy techniques have had

and the work of French doctors as: Fleury Dalmas, Robin, Beni-Bard, German: Liebermeister and Zimssen etc.

In our country, the first scientific hydrotherapeutical paper - Hydrotherapy medical, published in 1904, belongs to doctor Baiulescu Gh. The treaty describes the idriaticce procedures, their influence on the nervous system, blood circulation, blood morphological conditions, organic exchange, respiration, muscle Force, temperature, secretions and excretions. The doctor makes a presentation idriaticce procedures, those used by the Viennese School, from the French and American.

**Principle of this method of therapy** is based on fluid properties: mechanical (thermo conductivity of water is 30 times greater than air, heat capacity, 8 times greater than air), heat and chemicals. The pressure of gravity on the bones in water, can be reduced by 90%. Physiological fluid factor is exercised through the skin, the skin is the first organ to which the contact, the structure characteristic of the vast network of vascular and nerve receptors can be obtained many and varied responses, local and general reactions.

Local and general action occurs in the metabolism and systems: muscular, cardiovascular, nerous, respiratory etc.

**i. Effect on cardiovascular system:** peripheral circulation and heart. Rich vascular network skin reaction to cold or of warmer can be exciting vasoconstriction or vasodilation. Vasoconstriction is the initial phase, which is longer under the influence of "cold" and very short, sometimes almost macroscopically unnoticed, under the action of warmer exciting. By bristles erector muscle contraction is impeded heat loss by reducing surface radiation skin.

Active vasodilation is the phase in which there is a redness (flushing) of the skin (pink-red), under the action of hot or cold exciting. Is of longer duration and is the most important of stages. Passive or paralytic vasodilatation usually follows the previous one, if the action exciting factor is prolonged or if it is too brutal. Skin becomes red-violet or marble. The reaction you want and not have to avoid in hydrotherapy, being an indication that the procedure should be discontinued.

Action on the heart: "cold" soothes and eases the heart work (heart rate accelerates, etc.), hot and tired heart procedures.

The procedures action on blood: blood composition was deviated to acidosis through procedures cold and to alkalosis through hot procedures (due to hyperventilation that lowers CO<sub>2</sub>). Increases in blood clotting procedures warm and back again in the cold.

**ii. The action of breathing:** the cold, deep inspiration and after a short pause, respiratory rate increases. Hot procedures triggers from the beginning, a frequent and shallow breathing. The most affecting breathing is neck, probably close to the bulb.

**iii. Action on the nervous system:** application of cold decreases nerve sensitivity and has an anesthetic effect. Cold was one of the first means anesthetics used in surgery. Heat has a stimulating effect in analgesic processes is acute and chronic inflammatory processes.

**iv. Action on metabolism:** cold procedures cause an increase in metabolism, with higher consumption of oxygen. Increases metabolic procedures produce lighter warm by consuming carbohydrates and lipids. Indifferent procedures do not alter metabolism.

Depending on water temperature were varied ways to use this therapeutic factor. The procedures used in hydrotherapy are divided into general, most demanding, which is usually prescribed in the morning and local or partial. The most commonly used are:

1. **compresses-** hot and cold or alternating
2. **packing-** lower / upper / in 3 quarters / full trunk
3. **friction-**partial or complete
4. **băi terapeutice-** reci (sub 20 °C), racoaroase (20-30 °C), intermediare (34-37 °C), calde (38-39 °C), fierbinti (40 °C).

**1. The compresses** are the simplest procedures and are of several types depending on water temperature and area of application. Cold compress: analgesic effect, vasoconstriction, so antihemorrhagic and antifreeze-flammable. As guidance, is used in any acute inflammatory process. Sometimes replaced with ice pack. Change from 5 to 10 minutes, when it was dry. Is

indicated in abscesses, flegmoane, acute appendicitis, digestive, brain bleeding, etc.



Figure 1. The compresses

A *warm compress* is acting analgesic, relaxing, sedation, anti-ing, vasodilators, for which is indicated in all chronic inflammatory processes (hepatic, renal colic etc.).

*Prießnitz compress* is stimulating, toning and is liket to the Prießnitz name (which used it for the first time). It is a cold compress covered with one dry. As an action, the first contact with skin vasoconstriction is produced, then heated (ie vasodilation), heated to evaporate water from the compressor, leading to skin cooling and so on, until they dry. Is indicated in subacute and chronic inflammation.

**2. Package procedures** are wet and dry wet; sheets are used as blanket covering the patient directly or after a particular technique, there are packs with different substances (paraffin, mud). Their action is highly vasodilator, with good anti inflammatory effect, analgesic resorbitiv and relaxing. Used in all chronic inflammatory processes: arthritis, osteoarthritis, neuralgia, stiff etc.. The same is done with impahetarile mud and sand. After these procedures warm mandatory should follow washing.



Figura 2. The packages

**3. Frictions** are procedures which acts both by thermal factor, and by the mechanic. They are always cold, using wet cloth over that run friction, long strokes, sliding palms until they are heated (active vasodilation). After that, rubbed region wipe and covers. Friction can be partial (hands, legs, chest etc.) or total (complete). It can perform bedside immobilized (fractures, rheumatism).

**4. Baths** are the most requested procedures in hydrotherapy. They are of several types: simple (regular water), drug, with different substances (salt, iodine, sulfur, etc.), complete or partial (hands, legs, seat), indifference to temperature (35-37°), warm (38-40°) or cold (below 22°). Baths actions by three factors: thermal, chemical and mechanical (hydrostatic pressure upwards pressure, movement of water in the bathroom).



Figura 3. Bathrooms

*Indifferent baths* (35-37 ° C) have a sedative effect, relaxing, where the indications for musculoskeletal diseases, neurosis etc. Warm baths have action and indications for warmer procedures (chronic musculoskeletal, orthopedic - sequels, paresis, paralysis, chronic rheumatism.

*Kinetherapeutic bath* is to which is added passive water movements and active movements performed by the patient, for periods of 4 to 5 minutes (meaning 5 minutes sitting in the bathroom, 5 minutes passive movements, 5 minute break and 5 minutes active movements - her total of 20 minutes), the bathroom chiropractic is used especially in year chiloze, muscle stiffness, joint, for ease of movement in water.

*Cold baths (general)* are very drastic procedure, rarely used. Cool baths (32-34 ° C) are: halbbad-x (half bath) and bath brush (also half the water depth reaching the bathroom (25 to 30 mm). Are laborious procedures, with good stimulant effect. Of course that full baths will be indicated in cardiac, atherosclerotic etc.

*Partial baths* for hands or legs, are easy procedure that can be warm, cold and uphill. Baths upward (Hauffe), the temperature is increased gradually from 37 to 40 ° C, are used in bronchial asthma, angina attacks, for their reaction consensual. The other - warm or cold - are indications, in general, identical to the procedures at this temperature - in chronic or acute inflammation of the areas where applied (hands, legs or pelvic area).

*Alternating baths* of legs to knee, consisting of their introduction in the first bucket of warm (2-3 minutes), then in the cold water (20-30 seconds) several times in a row, ending cool boat. Indications: headache, leg paresis.

*Sitz baths* can be done in a special dish or a laver. The cold bats, lasting 1-2 minutes, is recommended for: acute genital disease, uterine bleeding, hemorrhoids (in painful crisis). The warmer bats, lasting 5-15 minutes, recommended in cases of cystitis, renal colic, chronic prostatitis, but are contraindicated coronary patients.

*Steam baths, partial or general*, can be made all at home using improvised equipment.

*Steam baths* to head are indicated in flu, colds, sinusitis and acute bronchitis. The patient sits with head bent over a pot of hot water, which were made a few drops of essence of the desired plant or decoction that, covered with a thick towel. The procedure consists of inhaling of warer vapors containing active excipients of that plant. For a partial bath, half body or general need a chair or a wooden rods provided with several openings. Under the seat on which the patient sits, is placed the bowl with hot water and essence or plant decoction. For partial bath the

patient will be wrapped up at the waist with a thick blanket, and for the general to the neck. Such baths are indicated in flu, obesity and cellulite. The duration can be 5-15 minutes.

*Medicinal baths:* are also very used to them, adding: a chemical substance (I, NaCl, S, etc.), medicinal plants (infusions or decoctions), gases (CO<sub>2</sub>, O<sub>2</sub>, air). They work by all known factors: thermal, chemical and mechanical.

*Drugs baths* (with iodine, salt, sulfur, starch etc..) Are used, especially in rheumatic disease, skin diseases etc.. and can do in house. Are known, the people baths with walnut leaves (containing iodine).

Baths with medicinal plants (fan flower, mallow, fir tree, chamomile, peppermint) have a good a sedative effect and relaxing. Are made at temperatures between 36-37 ° C, because contained essences are volatilize at a higher temperature.



Figura 4. Bai cu plante medicinale

Chronic rheumatic disease, neuroses, H.T.A. compensated, etc. ulcerative disease. Baths with gas bubbles (CO<sub>2</sub>, O<sub>2</sub>, air) are prescribed, almost all indifferent temperature (35 - 37 °C), other the gas evaporates(gas loses heat trap held).

Gas bubbles in the bathroom break of patient skin, exerting a fine massage, roller, which gives active hyperemia, decreasing peripheral dam. Thus T.A. decreases heart rate becomes bradycardia, diastole is larger and richer coronary flow (is results that are obtained with digital). They have a good calming effect. Hence, these baths indication: hypertension, peripheral circulatory disorders (arthritis etc.), sequelae of phlebitis, neuroses, etc. ulcer disease. Gas are obtained from normal bottles (CO<sub>2</sub>, O<sub>2</sub>).

Similar procedures are afuziunile, cataplasmele, showers.

**Afuziuni** consists in spreading a column of water without pressure on certain parts of the body, with a suitable rubber hose to a tap or a sprinkler rosette which was removed. Can be made with cold water or warm and cold water alternately. At home can be done cold fusion in the legs by the patient himself.

Water column will be projected starting from the fingers, then the front of leg, to knee, or above, to the root leg, from here you will go down on one side of the foot, to the fingers, where to climb and on the back, to the desired location (knee or foot root), then down the front side arrears.

Those maneuvers will be performed several times in a row for 3-4 minutes, until a pleasant feeling of warmth and redness. Cold afuziuni is indicated for people with early varicose veins, with paresis or paralysis of limbs, insomnia, sequels after phlebitis, chronic edema and those who blame heavy legs and tired.

**The cataplasms** consist of applying substances, usually wet, on the skin. Most common are mustard cataplasms, with horseradish, chamomile, mud etc.. They are used today (mustard), especially in children, acute inflammatory processes, for their effect revulsive, decongestant, analgesic and antispasmodic (pneumonia, congestion, periviscerite, myalgia, neuralgia, etc.). Their action is explained both by the thermal factor, and by the chemical (volatile essences).

**The showers** are procedures well known and used. They are cold, warmer bats, special and alternate, or after the water jet as "the wheel", "fed" or "in range" (shower gardener). Indications showers, after temperature, be confused with those of cold compresses warmer bats, and the alternate, as friction, have a stimulant, tonic.

Among these, Scottish shower is a shower "fed", alternating with a pressure of 1-2 atmospheres, the water jet at a distance of 5-6 m from the subject. To effect stimulant, tonic, is shown in chronic rheumatic diseases, sciatic chronic neurosis, obesity, hypothyroidism etc.



Figura 5. Showers

Between the special showers, shower-massage shower mention underwater shower. Shower massage, by name, is a warm shower, with 5-6 rosettes, to which is added massage. It has a massage absorbed, as indicated in a number of chronic rheumatic processes, enurologice (arthritis, arthrosis, spondylosis, sciatica, obesity etc.).

Underwater shower is a shower "fed" with pressure 2 to 3 atmospheres, designed under water 10 to 15 cm of skin. There are special facilities in this respect. Effect and indications are similar to those of shower-massage, only support is better.

The shower with warm air done with hairdryer, usually accompanied by massage. Has the same indications and actions as shower-massage, only it's a gentler procedure. Showers Contraindications: avoid pressure showers (Scottish) in: vascular fragility, in psychosis, agitation, pregnant women, in fever etc.

**Hydrotherapy** is contraindicated for persons who have:

- severe organic deficiency;
- severe brain impairment;
- senile deterioration;
- diabetes;
- people with multiple sclerosis;
- to persons suffering from cardiovascular diseases (hypertension, cardiac arrhythmia, cardiac ischemia, stroke, thrombosis, etc..) to avoid certain procedures, especially those using hot water
- pregnant women should avoid hot baths and saunas.

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