ROLE OF HYDROTHERAPY IN PHYSICAL MEDICINE

A THESIS

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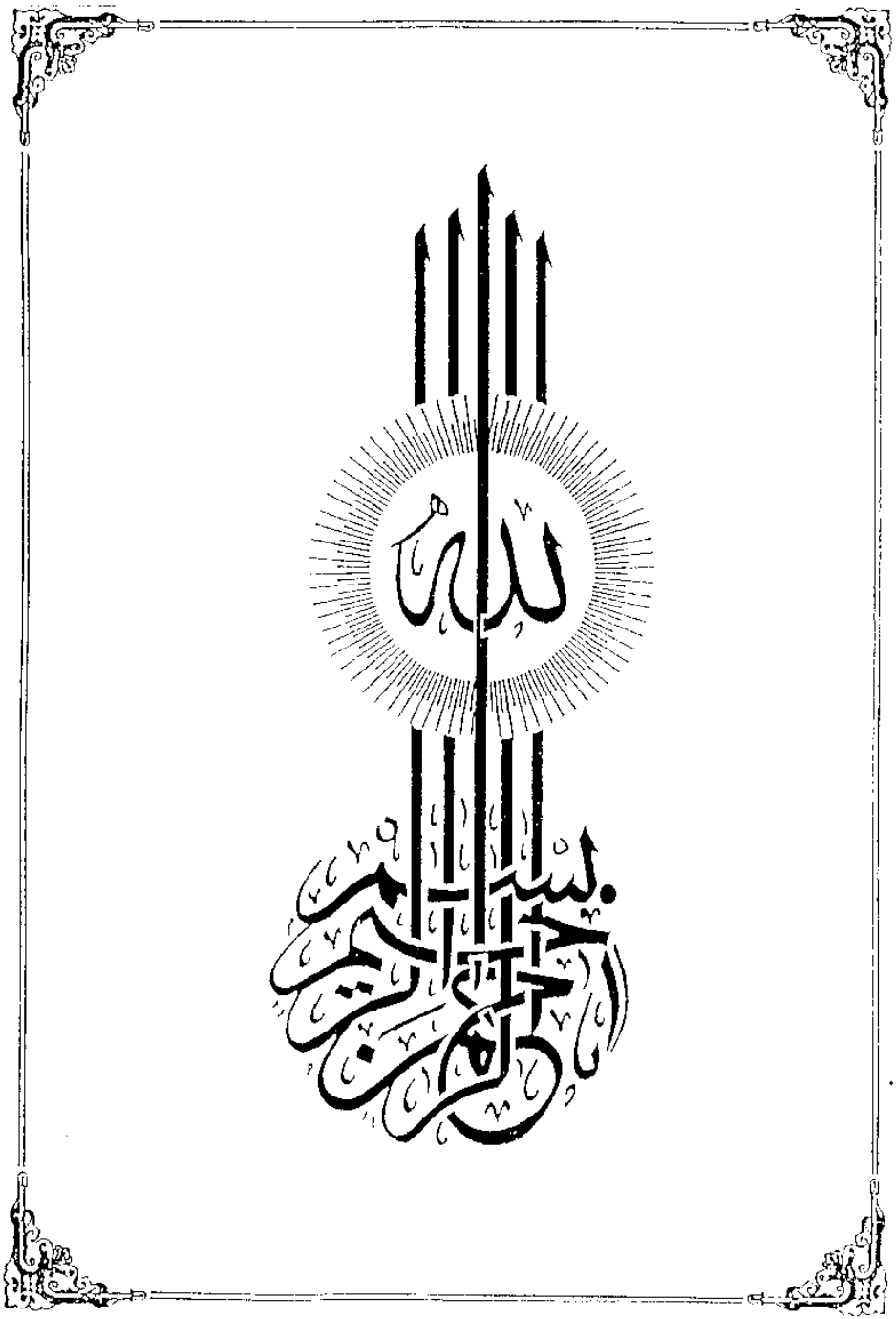
CONTENTS



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INTRODUTION

INTRODUCTION

The term hydrotherapy is derived from the Greek words hydro (water) and therapia (healing).

There is no very clear evidence as to when water was first used for healing purposes but it is known that Hyppocrates used hot and cold water (Contrast baths), in the treatment of diseases. Water for recreational and curative purposes was used widely by the Romans.

They had four types of bath varying temperature. The frigidarium was a cold bath and was used only for recreational purposes, the tepidarium consisted of a tepid bath sited in a room containing warm air, the caldarium contained a hot bath and the sudatorium was a room filled with moist hot air to promote sweating little more was heard of this method of treatment until 1697 when sir John Flayer, a physician living in lichfield, published a paper on an enquiry into the right use and abuse of hot,cold and temperate baths in England, (Skinner, 1984).

Hydrotherapy is the external application of water for therapeutic purposes. The body or any of its parts

may be immersed in the water, or the water may be applied to the surface with or without the intermediary of absorbent materials.

Water can be applied in any of its three physical states - steam - liquid or solid or in any combination of them. Because of its high specific heat and versatility it is an excellent medium for conductive heating or cooling since it absorbs and gives off heat slowly (Behrend, 1963).

Water is an ideal medium for the treatment of children with arthritis, the heat relieves the pain while the buoyancy assists the movement of the limbs. Both individual and group activities can be carried out in a hydrotherapy pool and a play session for the younger age group can be included as this is a medium in which physical handicap is at a minimum swimming as the sport of choice at any age, should be encouraged to allow the competitive spirit of the child to develop.

The use of the hydrotherapy pool for the treatment of the lower limbs is most important. Hip and knee movements can be encouraged without putting undue strain on the joints and walking re-education can be started in the pool in preparation for mobilisation on dry land.(Jarvis 1982).

AIM OF THE WORK

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The aim of this work is to review the different types and technique for hydrotherapy in order to select the proper type for each condition.

Types of Hydrotherapy (Rusk, 1977)

I . Liquids.

a- Water.

b- Mineral water (Spa).

II . Solids

a- Peloids

b- Paraffin wax.

III. Gases

a- Moist air.

b- Dry air.

TYPES OF HYDROTHERAPY

[a] Water

Hot Tub Bath:

This is one of the most widely recomended of all measures for general heating in arthritis.

The first bath lasts only five to six minutes subsequently. The duration of treatment is increased up to thirty to forty five minutes.

The temperature at the water is gradually raised from 97^{o} to 102^{o} by running hot water into the tub (Bowie, 1976).

The full wet pack:

This type of hydrotherapy is useful in those patients with subacute or chronic arthritis. The method of application is as follows:

The room must be warm ($72^{o}F$) . Rubber sheeting is placed over the entire bed and an old blanket on top of this. Dip the sheet into hot water ($110^{o}F$) and wring out, quickly spread this sheet under the nude patient. With his arms elevated, one half of the sheet is folded about him from the neck down. The remaining half of the sheet is wrapped around him with his arms

placed at the sides of the body. This procedure may be continued for thirty to sixty minutes several times wekly (Bowie, 1976).

Contrast Bath:

A contrast bath consists of two water containers into one container is poured enough cold water to cover the immersed leg, and the other container is filled with hot water. The cold water may be held at a level of about 10^{o} to 16^{o}C and the hot water at 38^{o} to 44^{o}C. The leg or legs are first placed in the hot water for four to six minutes and then at once in the cold water for one to two minutes the final immersion should be in the hot water. Contrast baths are used to stimulate local circulation in limbs without obstructive vascular pathology. (Behrend, 1963).

Wirl pool bath:

This hydrotherapeutic device is an efficient means of providing heat, at the same time, mechanical massage. The water may be agitated by means of an ejector, a turbineor compressed air. The initial temperature of 35.5^{o}C is gradually raised to the point of the patients tolerance for heat (35 to 40.5^{o}C), treatment last 20 to 30 minutes.

These baths are useful in circulatory traumatic,and chronic rheumatoid conditions of the upper and lower extremities (Bowie, 1976).

Immersion Bath:

The body or any part of it except the head, may be immersed in water of different temperature for different purposes.

In the United States, the Hubbard tank is popular. such tanks are often equipped with underwater aerators, which agitate the water and add the effect of massage. The Hubbard tank is especially valuable in arthritis with involvement of multiple joints, in many cases of spondylitis in treatment of tendon transplants and plastic operations on the joints and in also, used for patients with extensive burns. The temperature of the water is kept between 9° to 96°F.

When filled with cold water, it may be used to lessen the spasticity of patients with multiple sclerosis (Behrend, 1963).

Sitz Bath:

A sitz bath is a method of applying water to the mid portion of the body especially to the perineum and the area adjacent to it.

The temperature of the water may be as low as 8°C, and as high as 40°C. A sitz bath for perineal discomfort,

for the symptoms of hemorrhoids for anal fissure, tenesmus and pruritus. (Behrend, 1963).

Cold Bath:

Cold baths were popular in the nineteenth century in Eastern Germany. The cold body bath may vary in temperature from 10^{o} to 21^{o}C and last for from a few seconds to a few minutes, during which the patient should be briskly massaged by the attendant.

Local cold:

Cold may be applied locally by compresses or by ice chips applied through a layer of cloth or directly. Cold compresses are applied for vasoconstriction following trauma, or for their analgesic effect. When cold is applied after injury reduce subsurface bleeding. It should be done as soon after the trauma as possible and continued for 24 to 36 hours. Cold cannot be effective after that time. Ice packs are also used to reduce spasticity in multiple sclerosis and other upper motor neuron disorders. (Behrend, 1963).

A turkish towel is immersed in ice water, wroung out and applied to the part. The very acute stage of bursitis is indication for the use of cold.

In the acutely inflamed joints of other rheumatic conditions, especially those due to pyogenic infection cold packs may prove beneficial. Diminution of the local metabolism and some degree of analgesia may be expected from such applications, contusions, sprain and other types of uncomplicated trauma are benefited by several hours of cold compresses (Bowie, 1976).

Contrast baths:

This means soaking the part to be exercised in hot water for 2 minutes then in cold water for 2 minutes, 90 on doing this for 10 minutes. Start with hot and finish with hot, thus hot, cold, hot, cold, hot total 2 mins, 2 mins, 2 mins, 2 mins 2 mins (10 mins).

At the end of your hot bath, cool the water so that it is tepid for one minute before you get out. (Tucker, 1969).

Hot Fomentations:

These may be applied by dipping heavy turkish towels, blankets, or woolen cloths into very hot water (about 115 F^{0}) wringing dry, and placing over the part to be treated. The treatment period may last for fifteen to sixty minutes and three or more treatments administered daily. Hot fomentation are of great value in the treatment