HYDROTHERAPY AS AN AGENT IN THE TREATMENT OF CONVALESCENTS.

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THE hydrotherapeutic installation at the Command Dépôt, Heaton Park, Manchester, was the first of its kind to be established by the War Office, and although the department has only been in existence since the end of June, it may be of interest to those who are about to commence this form of treatment, and to those in charge of hospitals, if some mention is made of the results obtained up to the present time.

The experience gained while resident at the Devonshire Hospital, Buxton, made me familiar with ordinary spa treatment. Two types of bath, however, which are in existence at the present time, are quite new to this country, and physicians of hydrotherapeutic practice have to learn their actions and the results of treatment.

The department at Heaton Park consists of three huts which originally were officers' quarters. These have been connected by a covered way, and a boiler house has been built, in which heating apparatus and a water storage tank has been installed. These huts have been internally reconstructed, two are adjacent and are converted into a dressing-room and office, a douche, needle and shower bath room, a slipper bath room, a pool bath room, and *eau courante* and massage departments; lavatories and store room are placed in the subway, and the third hut is partly a massage department, and partly consists of rest rooms for the after-treatment of cases.

Out of an average of 4,000 troops, 170 men are treated daily.

The staff includes four blind masseurs who deal with cases requiring general massage, and two masseuses, who administer massage manipulation and exercises in the *eau courante* department.

It is not necessary to discuss all the forms of treatment as many of them are quite familiar, being the same as those used in the spa institutions of this country. The pool bath and *eau courante* bath in their present form originated in France, but modifications have recently been made in this country.

In treating large numbers of men it is essential from a point of view of economy in water, attendance, and supervision, to have apparatus which is capable of treating a number of men at one time. For this reason a pool bath, which is a large square bath, $3\frac{1}{2}$ to 4 ft. deep, is installed for treating at least twelve men at one time. The water is running, and is kept at a temperature of 92° F. by means of a thermostatic valve in the boiler house. The room in which the bath is situated is kept as quiet as possible, and it is not too well lighted, for it is essential that it should possess an atmosphere of quiescence. The time for which the men are immersed may be as long as one hour. They pass from the bath to the rest room, where they go to bed for an hour or more. Their daily life is kept as free from excitement as possible, but at the same time their surroundings are made cheerful.

Many men have been invalided from the various theatres of war suffering from shock and disordered actions of the heart. These men have been subjected to strain and stress of an exceptional nature. Their nervous systems have been tried to the full. The pool bath was designed for the treatment of these cases, the idea being that immersion in a large volume of water kept at a temperature below body heat would have, along with the after-treatment above mentioned, a marked sedative effect. Up to the present the results with regard to shock cases have not come up to expectation. The men say "their nerves are steadier." Invariably they sleep when lying in bed after the bath, and certainly for the time being the sedative effect is marked, but, so far, it is not continuous. Some of the men feel "better" for hours after. Others say they "feel weak and cannot eat." Others say they feel all right for so many hours and then get exhausted. However, whatever their complaint or otherwise may be, the tremors, which may be marked in these cases, persist, and other physical signs do not disappear excepting the associated tachycardia and shortness of breath on exertion.

But from the point of view of curing the men, or rendering them fit for military service they are not satisfactory.

The results in cases of "disordered action of the heart" have, up to the present, been very satisfactory. The pulse-rate is taken before, during, and after the bath, in the lying position. The slowing of the pulse is most marked after treatment. I have discharged several of these cases after an average of one month's treatment, and they are now able to undertake without discomfort "light physical training," which consists of slow movements without violent running or jumping, and light route marching, which consists of a march of two to three miles at their own pace. The shortness of breath, which is so common a symptom in these cases, is greatly relieved, and I hope that after one or two months' treatment by "light physical drill" they will be able to stand the full "physical training," which consists of quick movements with violent running and jumping.

While this type of bath is not a complete cure, it is a preparation for graduated physical training, which undoubtedly is the best form of treatment for such heart affections. The bath definitely quietsens the circulation and enables training to be undertaken in a way which is impossible without previous hydrotherapeutic treatment.

Still more satisfactory is the *eau courante* department. Definite results have been obtained in a large number of cases, and at least 90 per cent. of the discharges have been so satisfactory that physical training could be undertaken at once. The cases treated in this department include frost-bitten feet and trench feet, contracted and painful scars, painful amputation stumps, and localized neuritis following wounds.

The foot that has been frost-bitten presents signs of defective circulation, cyanosis, sometimes giving way to pallor, with a constant feeling of cold and aching. The running-water bath improves the circulation, and after a few immersions the symptoms entirely disappear. Old sprains which present a sodden appearance become, under this treatment, engorged with blood, and a reparative process is begun. The scar, which is painful to the touch and blue in appearance, becomes soft, red, and pliable. The painful amputation stump responds to treatment very rapidly. The course of treatment usually lasts from fourteen to twenty-eight days, and at the end of that time the combination of the running-water bath with massage has invariably rendered voluntary movements possible. This effect is not obtained by the ordinary bath, because the temperature is not kept constant, the congestion is not so deep, and the circulation is not hastened to the same degree.

There are two patterns of baths—one for the arm and one for the leg. The water, which is running, is kept at a temperature of 105° to 115° F., according as to whether the patient can or cannot stand the high temperature. The leg, or arm, or foot, is immersed in this bath for thirty-five minutes, the patient then passes to the massage department, where massage and exercises are given.

When this department opened several cases had been previously treated by dry massage for several weeks without definite relief. After fourteen days' treatment by the running water bath and massage the pain had entirely gone, and the feet in cases of frost-bite were ready for hardening. The men were able to undertake physical training and route marching, and up to the present no patients have returned for treatment. On the other hand, many have left the dépôt and returned to their units in Class "A" (active service).

It would greatly strengthen the equipment of the civil hospitals of this country if they installed a hydrotherapeutic establishment in connexion with their electrical departments as a means of the treatment of convalescents. Both the medical and surgical sides of the hospitals would find plenty of opportunities for using the shower and needle baths as tonic agents in the treatment of debility, the slipper and douche in the treatment of rheumatism, the pool bath for the treatment of heart cases, and the cases which could be found in the surgical department of any hospital would keep the running water bath fully occupied.

At present the baths are used mainly for the arm and leg cases, but there are in existence body baths and probably these will in time become as widely used as the former.