

## PHYSIOTHERAPY DEPARTMENT—GILLETTE STATE HOSPITAL

M. Denny

The work in this department has grown very much in the last few years. Physiotherapy, as the word implies, is the use of the various physical forces in the treatment of disease and disability. This includes heat, sunlight, water, electricity, remedial exercise and manipulating with the hands (massage).

Physiotherapy is administered only under the direction of a physician, by specially trained workers. The necessary training includes graduation from a recognized school of nursing or physical education, plus one year at an approved school of physiotherapy. There are several schools in the country which have been approved by the American Medical Association.

The department consists of three equipped treatment rooms, one of which is for out-patients; two solaria; and a swimming or therapeutic pool.

The average number of treatments given per month is 2,400; of which about one-half are massage and exercise, and the rest heliotherapy. About 50 treatments are given to out-patients.

At present the greater number of cases are recent infantile paralysis, but others referred for treatment are congenital deformities, curvature of the spine, arthritis, stiff joints, spastic paralysis, and post-operative conditions.

### TREATMENT OF CONVALESCENT INFANTILE PARALYSIS

#### Principles of Muscle Testing

Before starting treatment, it is necessary to ascertain the amount of paralysis. The muscles are tested and graded according to the amount of power; using resistance and gravity to decide whether each is normal, good, fair, poor, trace, or gone. Then treatment is started, using heat, massage, and muscle training.

Heat is beneficial because a partly paralyzed limb is capable of better muscle function if it is warm. Heat stimulates the circulation, aids nutrition, and massage is more effective following some form of heating. Types of heat used in the department are: Bakers, Radiant Lamp, and Thermo-lite.

Massage must not be given until all soreness and tenderness have disappeared. Then a very light massage should be given once daily. Too heavy or too much massage tires the muscles and may even destroy what power is left. Massage improves circulation and tone of muscles, but it does not bring back power, except indirectly. It has no effect on the disease or on the transmission of nerve impulses from the brain to the muscle.

**Muscle Training.** This is definite exercise for localized groups of muscles getting individual action. The exercises are graded according to

the strength of the muscle and given five to ten times once daily. The aim is to train uninjured nerves to carry on the work of injured ones as far as possible.

**Hydrotherapy.** The same muscle training is carried out under water as is demonstrated on the table, alternately—one day in the pool, and the next on the table.

Exercise under warm water (92°) is beneficial, as movements can be more easily performed in water owing to its buoyancy and absence of friction. The weight of the limb in water is about one-half.

Treatments consist of periods of twenty minutes. The first part of the time is given to the regular localized muscle training, the last part in learning to float or swim.

Patients also start to walk in the water, and find it very helpful in learning to gain balance and control. Treatment in the pool appeals to most patients, and aids greatly in improving their mental attitude.

Demonstrations of treatment were given as follows:

1. Principles of Muscle Testing. Miss M. Denny.
2. The Use of Various Types of Heat and Massage. Miss M. Glasgow.
3. Muscle Training. Miss O. M. Smith.
4. Hydrotherapy. Miss A. Adams.