

The Role of Physiotherapy in Medicine

By

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Physiotherapy plays an important role in medical work, both in medical and surgical conditions.

The word physiotherapy means:

Physio : Physical and *therapy*: Treatment

Physiotherapy: Physical Treatment or we might say "physical medicine."

It consists of electrotherapy (electrical treatment) medical massage, remedial exercises and hydrotherapy.

Physiotherapy is usually given in Orthopaedic conditions, chest, surgical, certain medical and skin conditions, E.N.T. and gynaecological diseases.

In orthopaedic and thoracic cases, physiotherapy may be given as a pre or post operative care and in several cases it is given as both pre and post operative treatment.

Similarly physiotherapy may be given only as electrotherapy or exercises (these may be active, passive movements or by exercise apparatus), massage or hydrotherapy. In some cases physiotherapy may be a combination of treatments.

Physiotherapy is given with the following aims:

1. To prevent the stiffness of joints
2. To mobilize the stiff joints.
3. To prevent the wasting of affected muscles.
4. To restore the functions of affected muscles.
5. To prevent deformity.
6. To correct deformity.
7. To re-educate the affected muscles and so on.

I would like to give one example of physiotherapy.

Orthopaedic

A patient with a fracture of the femur, reduced by surgery, the limb encased in plaster from the pelvis to just above the ankle. While the limb is in plaster the job of Physiotherapist is to give active movements to those joints of limb available i.e. ankle and foot. Active movements are given to preserve these joints from stiffness. If there is swelling physiotherapy may include Infra red rays or radiant heat and massage to help reduce the swelling and to increase the circulation of blood and lymph. Static contraction (contraction of muscles without moving the joint) may be given to glutei and quadriceps muscles under the plaster to prevent them from wasting. After the removal of plaster wasting of muscles, stiffness of hip and knee joints may be found. Here our aim is to increase the muscle power and to mobilize the stiff joints. Here physiotherapy may be in the form of radiant heat, stimulating massage to increase the circulation of blood and to stimulate the muscles; free exercises to stiff joints to help restore function. For the same purpose exercises might be given in Guthrie Smith Apparatus (It is the name of an Exercise apparatus in which exercises are given with the support of slings, ropes and springs). After a few days of re-education exercises in walking, we teach the patient to walk in the correct way.

Chest Surgery

A patient with pulmonary tuberculosis admitted for a thoracoplasty may be given pre and post operative treatment. Two or three days before the operation, he is taught to do breathing exercises and postural exercises to keep the chest (Operated side) expanded and to prevent

likely deformity. The same treatment is given a few days after his operation for the same purpose. In the cases of lung abscess, bronchiectasis, postural drainage may be given to drain the mucous or pus from the lungs.

Medical

If a case of hemiplegia is referred to Physiotherapy Department, mild Infra red rays, soothing massage and relaxed passive movements to his affected limbs may be given; this would increase the circulation of blood, prevent the contractures of muscles and help to prevent wasting of muscles and stiffness of joints. As soon as the muscles have commenced to function, passive movements are changed into active movements. Patients who have been bed-ridden and not used their muscles for a long time, sometimes forget how to use muscles in the proper way. Therefore, to walk and to use muscles must be taught. Re-education exercises in walking, writing and other hand work are needed.

Skin

A course of ultra-violet rays may be given to such skin diseases as psoriasis, eczema, acne etc. It is given to kill the germs and to increase the resistance power to disease and to stimulate cell activity.

Ultra-violet rays is very beneficial for bedsores and certain ulcers.

E.N.T.

We often get the cases of chronic or acute maxillary sinusitis. In such cases Physiotherapy can be given only with shortwave diathermy to dilate the blood vessels and help the inflammation to subside. For allergic rhinitis a course of Zinc Ionization may be given.

Gynaecology

Some times cases of pelvic infections, salphangitis and other conditions, are referred for physiotherapy. A course of longwave diathermy may be given in a form of vaginal diathermy or pelvic diathermy to relieve the pain and reduce inflammation.

Constitutional Disease

A course of ultraviolet rays can be given for rickets to aid the formation of

Vitamin D., and to improve general health. Active exercises may also be given to prevent the genu-valgum (knock knee) common in rickets.

Now I would like to describe in brief the course of physiotherapy given to a patient with peripheral neuritis with the complication of paresis of lower and upper limbs, who was admitted in C.M.C. Hospital, Ludhiana.

A young girl named Sanjogta Rani aged 16 years, came to the Hospital with the weakness in both the lower limbs and slight weakness of the upper limbs for 1½ months. One month ago she felt a pricking sensation in her feet followed by numbness and weakness of the lower extremities with unsteadiness of gait. The same sensation was found in pelvic girdle. There was no fever and no urinary and bowel trouble. The doctor admitted the patient into medical ward for the investigation and necessary treatment. After four days the patient was referred to the Physiotherapy Department for necessary treatment. Physiotherapy, started with the following aims: To prevent the wasting of affected muscles, and to restore the functions of affected muscles. Physiotherapy was to consist of electrotherapy, medical massage, active and re-education exercises and hydrotherapy. We started with Infra red rays and massage to all limbs to increase the circulation of blood and to relieve the pain. Active movements were given to the joints of upper and lower extremities to prevent the stiffness.

After a week the treatment by Infra red rays massage was stopped and the treatment was changed to a Surging Faradism arm and leg bath [Faradism is the name of a current which acts on nerve fibres (end plates) to cause muscle contraction]. Also resisted exercises, and exercises in Guthrie Smith Apparatus. The treatment was given to stimulate and strengthen the muscles. It was carried out for three weeks. Improvement was well marked. Then the treatment was changed into hydrotherapy and occupational therapy. It was continued for a week. The patient was walking nearly normally but with a slight limp.

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