

ABSTRACTS—The Burdick Syllabus

Reasons for Poor Response to Ultrasonic Therapy.

IN a recent article "The Clinical Aspects of Ultrasound", Edward B. Rees, M.D., Chief of Department of Physical Therapy, St. Francis Hospital, Lynwood, California, cites these common reasons for failure with ultrasonic therapy:

1. Improper technic of application.
2. Duration of treatment too short.
3. Treatments spaced too far apart.
4. Not sufficient number of treatments to obtain satisfactory results.
5. Not treating the spinal nerve roots as well as the local area or joints.

Rees believes there has been too much emphasis placed on the short duration of time required for each treatment. His experience has been that treatments of longer duration are more satisfactory. He also recommends applying the sound head with pressure to obliterate any dead air spaces in the subcutaneous tissues and those between the muscles and tendons.

As to frequency of treatment, patients are treated daily during the initial period tapering off to three times a week when symptoms have somewhat subsided.

The sound head is moved very slowly over definitely planned areas and kept moving at all times. Dr. Rees has observed treatments given where the therapist merely stroked the sound head haphazardly in the region of the pain or disease process applying no pressure while moving the sound head very rapidly and feels this is a frequent cause of poor results.

Physical Medicine in Geriatrics.

From the "British Journal of Physical Medicine", Vol. 20, No. 4, April, 1957.

In the earlier days of the past decade it became recognised that the "chronicity" of the illness of many elderly patients who occupied the chronic wards of hospitals and institutions was the result of previous inactivity and neglect. The work of Cosin (1948), Warrin (1948), and others showed what could be done even for these seemingly hopeless cases; the application of physical methods resulted in important therapeutic achievements. Indeed, the realization of possibilities of geriatric rehabilitation has been one of the most striking recent advances in the care of the aged.

In efficiently organised geriatric departments, says A. N. Exton-Smith, physical methods of treatment now form the basis of rehabilitation of many patients.

Thus, irrespective of the bodily system which is affected by disease process, physiotherapy is an essential prophylactic measure in the maintenance of function.

In many instances the maximal degree of physical recovery which can be attained may in fact be incomplete. Nevertheless, at all stages of treatment, opportunities must be constantly provided to encourage the patient's independence and it is important to realize that rehabilitation is a process

in which the patient engages. Bed exercises, ward exercises, specific physiotherapy, prostheses, special aids and devices to help in domestic tasks may all be required for the attainment of physical self-sufficiency.

Patients suffering from diseases of the central nervous system or locomotor system constitute nearly one-half of the total admissions to a geriatric unit and for them there is often no specific medical treatment.

For the patient whose rehabilitation has been successful in that his physical disability has been overcome or reduced to a minimum, adequate supervision is necessary to see that the state of adjustment is maintained. This is often best achieved by the review of patients when they attend regularly in the Department of Occupational Therapy or a social club attached to the Department of Physical Medicine.

Peripheral Blood Flow Changes Produced by Short Wave Diathermy.

From: Changes in Peripheral Blood Flow Produced by Short Wave Diathermy, Abramson, David I., M.D., and Beaconsfield, Peter, M.D., Archives of Physical Medicine and Rehabilitation, 38; 369/378, June, 1957.

The authors have performed 26 experiments on 13 healthy normal subjects ranging in age from 23 to 50 years. The segment type of venous occlusion plethysmograph was used to obtain blood flow records from the forearm. Diathermy apparatus operating at a frequency of 27.12 megacycles with capacitance field was used.

One electrode was placed over the shoulder and the other over the dorsum of the hand. The output of the machine was always kept at an arbitrary setting. The subject was left in a temperature-controlled room for 40 minutes prior to the experiment. The Plethysmograph contains a bath of water. In one series of experiments it was filled with water at 32°C. In another series the water-bath was kept at 45°C. Blood flow readings were taken during the control period during application of diathermy and in the post-diathermy period. There was an immediate increase in blood flow at the beginning of the diathermy period. In some experiments the blood flow continued to rise slightly after cessation of diathermy reaching a peak in an average of about six minutes after treatment. The peak of blood flow response occurs near the end of the period of diathermy application. Also, with a 32°C. bath temperature, the level of circulation in the post-diathermy period never fell below the control level, while this did occur when the bath temperature was 45°C. At a bath temperature of 32°C. the excess blood flow during the period of application of diathermy was generally less than that of the post-diathermy period, while at 45°C. the reverse was true. The total excess blood flow, however, elicited by application of diathermy was much less at 45°C.

The authors conclude that when diathermy is applied to an extremity in clinical dosage, there is invariably a definite increase in blood flow. At a bath temperature of 45°C. the vascular bed which is primarily effected by diathermy is in muscular tissues of the limb. At this temperature the cutaneous and sub-cutaneous vessels are already fully dilated. The further increase in blood flow can, therefore, be attributed only to an augmentation of circulation in muscle tissues. This finding may have considerable clinical significance in the application of diathermy. The authors suggest that a combination of diathermy with other means of heat might increase the vasodilating effect of diathermy.