Psychotherapy Guidebook

Neurotone Therapy

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DEFINITION

Neurotone Therapy is a treatment modality whereby small amperage, uni-directional electrical current (usually one milliamper or less) is applied, through saline-soaked cotton electrodes attached in two pairs, to the head.

HISTORY

Neurotone (or electrosleep) Therapy was developed in the Soviet Union by Liventsev, and this treatment modality became known in Western Europe and the United States after a symposium was held in Graz, Austria, on the topic in 1966 (Wageneder and St. Schury). Neurotone Therapy devices are now commercially available in the United States.

TECHNIQUE

The person to receive the treatment is usually in a reclining position. The electrodes that are attached to the device are soaked in saline so that they will provide current transmission. They are then attached to the points over both mastoid processes and above both eyes. At this point, the machine

is turned on and the dial that controls the milliamperage of current to be delivered is adjusted upward until the recipient reports an uncomfortable stinging or tingling sensation under the electrodes. The dial is then turned back until the recipient reports no discomfort and the current is left at this setting for the remainder of the treatment, which is usually of thirty minutes' duration. A usual experience is that the tolerance for the amount of current delivered increases over time so that milliamperage levels that were initially reported as uncomfortable become tolerated by the patient after a week or two. The treatments are given in intervals of every other day or three times a week for varying periods of time until certain target symptoms are improved. In my (Aris W. Cox) experience, several patients have purchased neurotone devices for themselves and have become able to treat themselves on an as needed basis for certain target difficulties, which are discussed below.

APPLICATIONS

The usual results of neurotone treatments are reports of relaxation, lessened anxiety, and objective improvements in sleeping for most patients (Rosenthal, 1972). The negative side effects sometimes encountered are difficulty in concentration and easy fatigability. From these reported effects, therefore, it follows that this form of therapy is helpful in the treatment of chronic insomnia, acute and chronic anxiety states, and mild to moderate depressive reactions.

Sleep disturbances at this time probably form the primary indication for this form of treatment. Insomnia usually responds quite effectively to a series of nine to twelve neurotone treatments spread over a period of three to four weeks. In the treatment of acute and chronic anxiety states and depressive reactions, there are no hard and fast rules to follow as to duration of therapy. The patient may be treated until reported improvement occurs or until one month has passed with no improvement. At this time, it is appropriate to give up this form of therapy as of little benefit. Data about the effectiveness of Neurotone Therapy is difficult to come by. Usually three-fourths of the population of properly selected patients will report benefit.

Neurotone Therapy is also of help in the induction of a hypnotic trance. The use of the machine at current of comfortable levels produces a state of relaxation and heightened suggestibility more quickly than ordinary hypnotic suggestion alone. In addition, in mild to moderate withdrawal states, especially those associated with alcohol abuse, Neurotone Therapy is of use in tranquilizing patients and in diminishing the amount of psychotropic medication necessary to prevent delirium tremens.

Contraindications and Side Effects

No serious side effects to Neurotone Therapy have been described. As noted previously, uncomfortable symptoms of difficulty in concentration and

easy fatigability are noted by some patients after treatments. These symptoms clear rapidly with the cessation of therapy.

Obviously, Neurotone Therapy is a symptomatic form of treatment useful in ameliorating certain target symptoms. In its use, therefore, as in the use of any symptomatic treatment, careful diagnosis is important. To delay the institution of proper therapy for serious psychiatric conditions, such as endogenous depressions or emerging paranoid psychoses, and to use Neurotone Therapy instead is to court disaster. Therefore, a careful psychiatric examination is necessary to ascertain whether or not sleeplessness is due to a severe underlying depression or to a more benign situation disturbance. Likewise, it is important to ascertain whether the anxiety is occurring in the background of a well-organized personality or in one undergoing a psychotic dissolution.

Neurotone Therapy by itself will not suffice for the management of withdrawal states. It is meant to be, in these conditions, purely supportive and ancillary. It should not be relied upon as a treatment of choice or as a sole modality of therapy. As an aid to hypnosis it will enhance the hypnotic suggestibility of a proper candidate for hypnotherapy. It will not produce a suggestible state in a guarded and suspicious paranoid person or in other individuals who are not initially suitable candidates for hypnosis.

Conclusions

A criticism of electrosleep therapy present from its introduction has been its efficacy. These questions have not been resolved completely and the issue is still open as to whether or not Neurotone Therapy produces its beneficial effects because of suggestion or because of placebo effect or whether it exerts true therapeutic effects on the central nervous system of the subject. Reigel, et al. (1969), at the University of Wisconsin, were able to demonstrate lessened gastric acid secretion in individuals with peptic ulcer disease after a series of neurotone treatments. They theorize that this was due to some effect on the cerebral phase of gastric acid production. Rosenthal (1972) performed a series of controlled studies measuring the therapeutic effects of Neurotone Therapy on certain clinical syndromes and on certain physiologic parameters. He found Neurotone Therapy effective in the treatment of chronic anxiety and depressive states when compared with no treatment at all. In addition, they found alterations in plasma thyroid hormone levels, which they felt were the result of neurotone effects on the hypothalamus (1978).

Cox and Heath gave a series of neurotone treatments to a patient prepared with deep and surface electrodes for the treatment of temporal lobe dysrythmia. The neurotone device sedated and calmed the patient in a manner much more effective than psychotropic drugs and without producing

the contaminating effect on the EEG recordings that psychotropic medications create. The Neurotone Therapy also produced EEG changes that correlated with great improvement in the patient's clinical state. That is to say, the patient noted feelings of well-being, and tranquility following the Neurotone Therapy. It should be reiterated that Neurotone Therapy is a symptomatic form of treatment only. The benefit of this form of therapy is that it may obviate the necessity for the use of psychotropic medications that have potential addictive and toxic side effects. In summary, therefore, Neurotone Therapy is a safe and probably effective form of symptomatic treatment primarily for insomnia and chronic anxiety states. It has limited usefulness in the treatment of mild to moderate withdrawal conditions and as an adjunct to hypnotherapy. Much data, however, remains to be collected before its usefulness can be fully documented.