AS PRESENTED DURING THE

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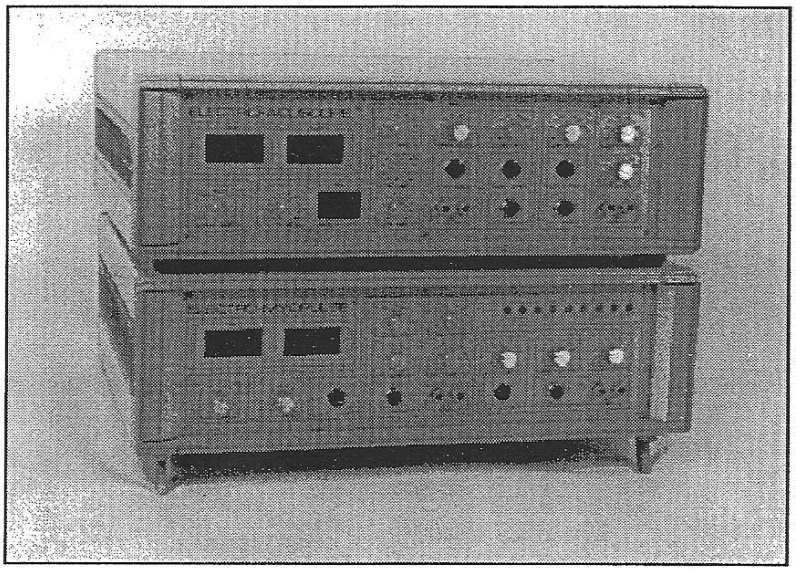
MCCORMICK PLACE • CHICAGO, ILLINOIS

ELECTRO-ACUSCOPE/ELECTRO-MYOPULSE



TOP
The Electro Acuscope 80L calibrated to balance energy throughout the nervous system.

BOTTOM
The Electro Myopulse 75F calibrated to balance energy throughout the muscle system.

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Pilot Study of Impedance-controlled Microcurrent Therapy for Managing Xerostomia in Head and Neck Cancer Patients

(FDA)

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PURPOSE: To explore the use of impedance-controlled microcurrent therapy in treating radiation sequelae we developed a treatment protocol for head and neck cancer patients. One aspect of this study involved measuring the effect of microcurrent therapy on xerostomia.

METHOD AND MATERIALS: Sixteen patients with xerostomia were treated using the Electro-Myopulse 75F and Electro-Acuscope 80L instruments. All patients had received a full course of either photon or neutron radiation as treatment of a malignancy of the head and neck. All were at least six months post radiation therapy and had no evidence of disease. External electrodes were used to administer microcurrent therapy twice per day for five consecutive days. Saliva production was quantified by weighing the saliva each patient was able to expectorate into a paper cup during a five-minute period. Both unstimulated saliva production (USP) and stimulated saliva production (SSP) rates were obtained, with concentrated lemon juice used as a stimulating agent. Data were collected before the first microcurrent treatment, after ten treatments, and monthly during the three-month follow-up period.

RESULTS: At the conclusion of five treatment days, 81% of the patients (13/16) experienced an increase in USP. Twelve of these patients also experienced an increase in SSP. The average increases in USP and SSP rates were 115% and 100%, respectively. During the three-month follow-up period patients received no additional microcurrent therapy. Of the fifteen who returned for follow-up after three months, 11/15 and 12/15 had higher USP and SSP rates, respectively than their pre-microcurrent baseline rates. The average improvement for USP was 100%, while the average SSP increase was 84% greater than baseline. For some of these patients, (10/15) and (7/15), the USP and SSP rates were higher than their end-of-treatment rates, indicating continued improvement during the follow-up period. No patients experienced any untoward effects.

CONCLUSIONS: Impedance-controlled microcurrent therapy was observed to have a positive effect on radiation-induced xerostomia. Some patients noted improvement despite having had dry mouth for years. For many of these patients the improvements lasted at least three months without additional treatment. Further study is needed to optimize the treatment schedule and to investigate whether radiation-induced xerostomia can be prevented by concurrent microcurrent and radiation therapy.