

MEDICINE

Cortisone May Speed Brain

➤ **CORTISONE**, hormone chemical which has brought new hope to arthritis sufferers, may cause a "speeding up" of brain activity.

Brain waves, the records of the electrical activity accompanying brain activity, suggesting this are reported by Drs. Edward W. Boland and Nathan E. Headley of Los Angeles in the *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* (Oct. 1).

The Los Angeles physicians were supplied with a small quantity of the scarce chemical by the manufacturer, Merck and Co. Trial in eight patients showed the same dramatic relief of arthritis reported with cortisone from the Mayo Clinic where it was discovered.

The extreme feeling of well being, technically termed euphoria, which the drug caused in addition to relieving pain, stiffness and disability, prompted the physicians to have brain wave records made of two patients before and after cortisone treat-

ment. In both cases there was an increase in alpha waves, suggesting that the chemical had caused a speed-up of brain activity.

Besides the marked improvement in severe arthritis while patients take large doses of cortisone, the Los Angeles physicians report that smaller doses helped three patients with less severe rheumatoid arthritis. The symptoms were "adequately but not not completely controlled," they report.

The finding, though on a small number of patients, has a bearing on the practical side, the scientists point out, because the chemical "promises to be scarce and expensive in the immediate future." Besides suggesting that patients might be able to get along fairly well on smaller doses, with less expense, there would theoretically be less chance of dangerous side effects, if these develop when the chemical is given for a long time.

Science News Letter, October 15, 1949

process is not yet developed.

Copy tape may be any of the standard tapes now in use. The master record is made on a tape of extra high coercive force so that it will not be harmed by the transfer field. The copy tape is brought into contact with the master tape, and while the two are together they are passed through a high frequency magnetic field. The influx of the master record, combined with the high frequency field, impresses a faithful copy of the master record on the copy tape.

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ENGINEERING

Mass Record Duplication

➤ **SOUND** tracks for motion pictures recorded on magnetic wire, tape, film or disks, and all other magnetic recordings, can now be reproduced by a new duplicating process which operates at high speed. It makes mass production of recordings possible.

The new magnetic record duplicating process was revealed at the National Electronics Conference in Chicago, by Marvin Camras of the Armour Research Foundation of the Illinois Institute of Technology where it was developed. The Foundation has been one of the leaders in magnetic recordings. It is a recording system which utilizes, in-

stead of the "grooves" on the disks of familiar musical and other records, a magnetic metal the degrees of magnetism of which are made to vary along its length with the sound received. When played back, the magnetic variations produce vibrations in a diaphragm that result in an exact reproduction of the original sound recorded.

As explained by Mr. Camras, duplicate copies of any magnetic tape recording can be made at high speed by printing from a master tape, disk or endless belt which runs in contact with a copy tape. Duplicating a wire record has been done successfully in laboratory experiments, but an economical

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