

MEDICINE

Carbon Dioxide for Polio

Inhalations of carbon dioxide in oxygen have given good results in first cases reported. Given continuously for 24 to 38 hours after patient is admitted.

► A NEW treatment for infantile paralysis is being tried at Charity Hospital, New Orleans, La. The treatment consists essentially in putting the small patients in an oxygen tent where they inhale 5% carbon dioxide in oxygen.

Good results in all but one of 13 cases are reported in a preliminary announcement made to Science Service by Dr. Branch J. Aymond, of the Louisiana State Board of Health, Dr. Ralph V. Platou, professor of pediatrics at Tulane University School of Medicine, and Dr. G. Pelton Kelly, also of Tulane.

The treatment was first tried as an emergency measure for a six-year-old girl with acute encephalitis, bulbar and spinal poliomyelitis. Dramatic improvement followed the inhalations of carbon dioxide in oxygen.

"The response was so impressive that this simple and apparently harmless procedure was employed in 12 other cases having varying manifestations," the doctors report.

In all but one case there was relaxation, prompt relief of pain, rapid return

of muscle strength, early functional improvement and the patients volunteered the information that they felt well.

Appreciating that the course of infantile paralysis varies greatly from one patient to another, almost regardless of the kind of treatment given, and that no claim can be made for a treatment tried in such a small number of cases, the doctors nevertheless feel it is worth calling to the attention of other workers for independent evaluation.

At present the carbon dioxide-oxygen inhalations are given continuously for 24 to 36 hours after the patient enters the hospital or intermittently for one to two hours several times daily. Other general measures for treating infantile paralysis are being continued.

The effects of rebreathing and of using varying mixtures of carbon dioxide in oxygen are now being studied. The scientists also plan experiments to test the relation of carbon dioxide to production of acetylcholine, a chemical liberated from nerves when they are stimulated.

Science News Letter, October 13, 1945



CAUSES "SUNTAN"—*An alkali substance present in all ultraviolet-transmitting materials except a new glass and quartz causes glass to pick up a "suntan" under the bombardment of invisible ultraviolet radiation. Here, Dr. Harvey C. Rentschler, research director for the Westinghouse Lamp Division, is shown studying spectral lines of the metallic elements in glass. This is the final step in his experiment which led to the discovery.*

BIOLOGY

Eyes Need More Protection

Damage to sight from ultraviolet light may occur without obvious signs of eye injury, studies with baby chicks show.

See Front Cover

► WELDERS and their helpers, skiers, flyers and sunbathers may need more eye protection from ultraviolet light than has previously been supposed, it appears from studies reported by Dr. Ernest Wolf, of the Harvard Biological Laboratories, to the National Academy of Sciences.

The danger of "snow-blindness" among skiers and Arctic explorers and of eye damage among persons exposed to invisible ultraviolet light on their jobs is well known, Dr. Wolf points out. He has found, however, that more of the ultraviolet is dangerous than had previously been supposed.

Ultraviolet light is invisible and consists of light waves shorter than those that give visible light. Visible light starts with waves 400 millimicrons long and goes on to waves 750 millimicrons long. Short might seem a better way of describing their length since one millimicron is only 1/25,400,000 of an inch.

The waves of ultraviolet light are all shorter than 400 millimicrons but scientists have heretofore thought that ultraviolet between about 300 and 400 millimicrons in length did not harm the eyes. Dr. Wolf's studies, sponsored by the American Optical Company, show that ultraviolet ranging in wavelength from 300 to 365 millimicrons can damage

visual function even though the eyes themselves show no injury.

His studies were made with baby chicks, as shown on the front cover of this SCIENCE NEWS LETTER, since their eyes are very similar to human eyes and since the chicks will keep their eyes wide open during exposure to ultraviolet light. Tests on human eyes could not be made because of the possibility of damaging the eyes.

The chicks were first exposed to ultraviolet light from a quartz mercury lamp for an hour. The lights were then switched off and the chicks left in complete darkness for an hour. This would have been more than enough time for their eyes, if unaffected, to have become adapted to the dark and their visual functions would have been normal.

The chicks were then placed in individual glass jars, each jar surrounded by a glass cylinder bearing alternate transparent and opaque vertical stripes. The stripe system moved at a given rate and produced flicker to which the chick responded by jerky head motions. The