

NOVEMBER 1942

STRAITS TIMES

Digest of Industrial Hygiene - 12.

- 454 Electric Shock, Electric Burns and their Treatment. A.E. Gordin. *Ind. Med.*, **10**, 87-91 (March, 1941).

In the treatment of electric shock, immediate and continuous artificial respiration, without moving the victim, is the first requisite. After breathing is restored the patient must be kept quiet at least for an hour. As a rule no drugs should be administered. Burns should not be treated until recovery from shock appears certain. Amputation, where necessary should be delayed if possible until the shock has been overcome. Gas gangrene is a frequent complication, usually appearing 12 to 36 hours after the accident. The author has been unsuccessful with serum and drugs of the sulfanilamide type. Tetanus antitoxin should be administered. Deep and severe hemorrhage must be watched for. For this reason, very careful nursing is of major importance. Bone involvement does not show in x-rays and seldom appears before 6 to 12 weeks have elapsed. Skin grafting is usually successful if not attempted too soon. The patient's mental condition can be improved by giving him compensation early and by putting him back to work as quickly as possible.

- 455 Defects of the Cardiac Valves as a Consequence of Electric Shock. S. Koopman. *Klin. Wchnschr.* **19**, 1257-61 (1940). (German).

The author first discusses 13 cases of cardiac valve and muscular disturbances thought to have resulted from electric accidents, but finds the problem complicated by infection and other factors. From a number of animal experiments he concludes that the electric current causes disturbances of the nervous system, the heart and an increase of blood pressure, caused by the spasm of the peripheral muscles and central irritation of the brain. Also found are disturbances of the rhythm or a complete cessation of the heart with typical findings, or dilatation of the ventricle. It is impossible that a valvular defect could be caused by an electric accident.

- 456 Electric Arc Welding: the Effects of Welding Gases and Fumes. S.F. Meek, C. McCord and G.C. Harrold. *J. Am. Med. Assoc.*, **116**, 1618-21 (April 12, 1941).

The authors briefly describe spot and gas welding with their associated hazards and then electric welding in more detail. The potential hazards from electric arc welding are: (1) the arc itself (ultraviolet emanations, heat, ozone, nitrous gas); (2) electrodes (manganese, chromium, nickel, zinc, magnesium); (3) coating of electrodes (fluorides, silica, silicates, bitumens); and (4) oxygen deficiency. Finally they present an abridged version of their experimental work which was reviewed in our Abstract No. 783, November, 1940.

- 457 Infrared Spectrophotometric Studies on Hemoglobin as Affected by Cyanide, Methylene Blue and Carbon Monoxide. M.M. Brooks. *Am. J. Physiol.*, **132**, 311-3 (March 1, 1941).

By means of a spectrophotometer and infrared-sensitive photometric plates, absorption spectra of blood in the presence of methylene blue, nitrite, ferric cyanide and cyanide were studied. No changes were produced by potassium cyanide or by methylene blue, in the concentrations similar to those occurring in poisonings and their therapy. Sodium nitrite produces a shift in the transmission maximum. The author concludes that methylene blue does not produce methemoglobin; also that the mechanism of cyanide poisoning is an alteration of the oxidation-reduction potential of the ferrous-ferric system of the respiratory enzyme, such that the bivalent form is unable to revert to the trivalent. A non-toxic oxidant, such as methylene blue or sodium nitrite, may bring the potential back to a normal range, allowing recovery.