

THE SUCCESSFUL TREATMENT OF TWO RECENT CASES OF CYANIDE POISONING. A. L. POTTER, Brit. J. Indust. Med. 7:125-130 (July) 1950.

Hydrogen cyanide (hydrocyanic acid) and its sodium and potassium salts are potent, rapidly acting poisons. The salts enter the body by ingestion, principally, and by being absorbed through injured skin; the acid, by inhalation. The effects do not differ with route of entry. Hydrogen cyanide is a bulbar poison and death is usually due to paralysis of the respiratory center; it also prevents liberation of oxygen from the hemoglobin in the blood stream. The cyanide readily combines with methemoglobin to form cyanmethemoglobin and is eliminated in urine as thiocyanate.

The affinity of the cyanide for methemoglobin forms the basis of the various treatments used. Chen has shown that successive injections of sodium nitrite and sodium thiosulfate yield the best antidotal effect. The probable mode of action is that the nitrite leads to formation of methemoglobin, and then cyanmethemoglobin is formed. The thiosulfate aids conversion of the cyanide to thiocyanate, which is the normal mechanism of excretion of cyanides. Repetition of treatment may be necessary because the latter reaction is reversible; consequently a 48 hour observation is advisable. The therapy includes amyl nitrite by inhalation, followed by nitrite (6 to 10 mg./Kg.) intravenously, then by thiosulfate (0.5 Gm./Kg.) intravenously, with repetition if signs of poisoning persist or recur. Two cases in which the patients were successfully treated are reported.

ARNOLD A. LEAR, Boston.

INJURIES OF SEMILUNAR CARTILAGES IN MINERS: A REVIEW OF 200 CASES, WITH SPECIAL REFERENCE TO THE POST-OPERATIVE DISABILITY TIME. A. A. BONAR, Glasgow M. J. 31:197 (June) 1950.

Bonar assesses the results of 200 meniscectomies performed on miners. Five of the men were employed on surface work; the remaining 195 were miners in the true sense of working underground. It is striking that 72.3 per cent of all torn cartilages in underground men are sustained by the group of coal face workers, who are subject to the greatest strains and hazards of mining, although they represent only 42.6 per cent of the total underground manpower.

The medial meniscus was involved in 181 cases, the lateral in 18 and both cartilages in 1. A tabulation of the end results in terms of working capacity shows that 189 of the 200 were able to return to their preaccident work. Eight of the 11 unable to return to their preaccident work had severe osteoarthritis.

Reviewing the various factors that influence the period of disability, the author says that age is of greatest importance. A delay of up to six months between injury and operation has no obvious influence on the disability time. The period of disability is not significantly affected by the nature of the individual miner's work. In joints with severe osteoarthritis the results of meniscectomy are very discouraging, but minor degrees of arthritic change are not a contra-indication to operation.

Ventilating, Air Conditioning and Engineering Control

ECONOMIC UTILIZATION OF SULFUR DIOXIDE FROM METALLURGICAL GASES. R. A. KING, Indust. & Engin. Chem. 42:2241 (Nov.) 1950.

The peculiar conditions regarding the dispersion of smelter smoke at Trail, B. C., Canada, are outlined, and the development of the various sulfur recovery processes employed is traced, with mention of the technical and economic considerations involved. The Trail smelter is located in a mountainous area where topographical and meteorological conditions are unfavorable for adequate dispersion of the sulfur dioxide contained in metallurgical waste gases. Expansion of the smelter output in the middle 1920's resulted in some atmospheric pollution, and proximity to the United States border lent international complications. Many of the developments were based on integration of new plants with existing ones and utilization of by-product materials from established operations. The availability of ammonia made possible its employment as an absorbent for sulfur dioxide. The acidification process for releasing sulfur dioxide from the absorbing solution was practical because a supply of sulfuric acid was at hand and the company was already producing and marketing ammonium sulfate. By-product oxygen made possible