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MARCH, 1945

INDUSTRIAL HYGIENE DIGEST

(Vol. 9, No. 3)

Literature Abstracts

- MEDICAL
- ENGINEERING
- LEGAL — decisions and trends

Industrial Health News



INDUSTRIAL HYGIENE FOUNDATION
2400 FIFTH AVENUE
PITTSBURGH (13), PA.

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INDUSTRIAL HYGIENE FOUNDATION

FOUNDATION FACTS

Foundation Facts is a monthly news-letter issued to industrial concerns holding membership in Industrial Hygiene Foundation. The Foundation is a non-profit association of industries for the advancement of healthful working conditions.

Vol. 7 March, 1945 No. 3

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IN REPLY ADDRESS NOVEMBER 1992

More Publications Coming

The Transactions of the Medical and Engineering Sections of the Foundation's last annual meeting of members, and the Transactions of the Management Section, will be published and sent to members early in April. Both bulletins contain an up-to-date list of Members and Subscribers, together with a list of publications. These Transactions reports, presenting much timely data, conclude the series of five publications which comprise the proceedings for the Ninth Annual Meeting.

Dermatitis and "Hidden Costs"

An important but seldom recognized "cost" of dermatitis is the demoralizing effects of an outbreak of skin ailments upon the working population. Like accidents, dermatitis is more dramatic than the usual occupational diseases. Rumors and worries spread swiftly; work suffers and complaints mount. In fact some plants have been threatened with work stoppages over dermatitis.

Management must pay for industrial health, either in the form of prevention, which is economical and hence good business, or in the form of compensation, suits, absenteeism, ill will, labor turnover and unrest. Which? Costs are no less real because they fail to show on the books.

Dr. Lanza Honored; Dr. Hussey to Wayne U.

Col. A.J. Lanza, M.C., who was recently honorably discharged from the Army, has been awarded the Legion of Merit. The award is for his work in the development of the health program of the Army for civilian workers in Army-owned and operated industrial plants. Dr. Lanza, Chairman of the Foundation's Medical Committee has returned to Metropolitan Life Insurance Company where he has been named Associate Medical Director.

Lt. Col. Raymond Hussey, M.C., who was associated with Col. Lanza and was in charge of the Army's Industrial Hygiene Laboratory at Johns Hopkins, recently received his honorable discharge. Dr. Hussey, also a member of the Foundation's Medical Committee, goes to Wayne University in Detroit to organize and direct an Institute for Occupational Health.

Fashion Note

High-heeled shoes contribute to fatigue falls among women workers. Some plants solved this problem by calling together a group of the prettiest and most popular girls and inducing their cooperation in "setting a fashion" for shoes and clothing safe and suitable for the industrial scene.

Dr. Engel and Mr. Barnes Receive Westinghouse Award

The Westinghouse Electric and Manufacturing Company's Order of Merit for employees has just been awarded to Dr. Charles F. Engel and Mr. Edgar C. Barnes for outstanding work in industrial hygiene.

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INDUSTRIAL HYGIENE DIGEST
Literature and News

News Items

320 Post Graduate Work in Industrial Health at Pitt.
The first student to enroll for postgraduate work in the Department of Industrial Hygiene in the School of Medicine, University of Pittsburgh, is Dr. Jorge Vergara of Bogota, Colombia, South America. Dr. Vergara is a graduate of the Universidad Nacional-Facultad de Medicina in Bogota. Following his interneship, he served as assistant physician in Nacional Reformatori and as medical chief, Textile Industry, Csrulla & Cia in Bogota and medical chief, Gold Mine, Pato Consolidated, Antioquia. In 1944 Dr. Vergara won by competition a scholarship for graduate study in the United States, offered foreign students by the United States State Department. Dr. Vergara's course of instruction will include a period of time with the staff of Industrial Hygiene Foundation.

321 Built-in System Stops Degreasing Machine Fires.
Volume parts cleaning with self-contained units that automatically wash and dry machine parts involves fire protection requirements because of the quantity of flammable liquids used. Built-in systems, with carbon dioxide as the extinguishing agent, are now being used in several types of washing machines. The machine rapidly fills with carbon dioxide which quickly extinguishes the enclosed fire. -- Chem. Preview, 8, 11 (Jan., 1945)

322 Half War Workers Need Eye Glasses, Says WPB.
War Production is hard on the eyes as well as on the enemy, the War Production Board says. Nearly half of the nation's war workers need glasses and could do a better job if they got them, the WPB concluded after a survey of 7,500 plants. But plant managers don't do much about it; 92 percent of the plants do not examine the eye condition of workers who have been reported for poor production; 30 percent do not know if the lighting in their shops is up to the American standard code; 63 percent of those who provide prescription glasses do not understand the need for having prescriptions suited to the worker's job. -- The Wall Street Journal, (Jan. 22, 1945)

323 Health Education at Westinghouse Electric and Manufacturing Company.
Two indispensable factors in the maintenance and improvement of health are desirable health habits and authentic health information. It is, in fact, clearly obvious that regardless how great one's fund of information might be, unless this knowledge is translated into practical activity it can contribute little to an individual's well-being. The Medical Department of Westinghouse Elec. and Mfg. Co. will issue a series of health leaflets during 1945 as follows: January...High Blood Pressure; February...How's Your Heart?; March...Something You Can Do About Cancer; April...When Muscles Hurt; May...Good for a Lifetime ---If (Eye Care); June...Rupture (Hernia); July...What's Ahead on the Highway?; August...Skin; September...Oh, My Joints!; October...Appendicitis; November . Keep 'Em Out! (Respiratory Disease); December...How Do You Measure Up?

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324 West Coast Industrial Health Organization Formed.
Announcement was made recently of the formation of an organization on the West Coast "for the health of workers in industry". Rutherford T. Johnstone, M. D. noted for his work and writings on industrial health, heads the organization which is known as The Pacific Industrial Hygiene and Research Foundation, located at 423 Towne Ave., Los Angeles 13, Calif.

325 Dental Health in Industry.
Industrial hazards, according to the National Dental Hygiene Association, include accidents to teeth from tools or machinery; erosion of teeth from holding objects such as nails or glass tubes in the mouth; frequent or long-continued use of substances such as mercury, bismuth, radium, arsenic, phosphorus, benzene, acids, alkalis, and gases, which may permanently damage mouth tissues. -- The Health Advisory Council, Chamber of Commerce of the United States, Washington (Feb.1945)

326 A Guide to Better Nutrition.
A new chart has been compiled by the H. J. Heinz Company which gives a simple plan for meeting the requirements of a well balanced diet, with short, comprehensive discussions of protein, fats and carbohydrates, and with tables showing the chief uses and sources of all the vitamins and minerals needed in the diet.-- H. J. Heinz Co., Pittsburgh, Pa. (Reprints are available from Industrial Hygiene Foundation upon request)

327 Abstracts of 45,000 Alien Patents Available.
James E. Markham, Alien Property Custodian, announces the publication of two sets of abstracts or short descriptions of 45,000 alien owned U. S. patents seized by the United States Government. These patents, developed by our enemies at a cost of millions of dollars and millions of man hours, contain items which may be of value in prosecuting the war and also for post-war use. They cover practically every field of manufacture. An index showing the section or class titles and prices may be obtained free of charge by writing to the Alien Property Custodian, 311 Field Building, Chicago 3, Ill.

328 Editor's Note re Rosie the Riveter, M. D.
It has been called to our attention that the article Rosie, the Riveter, M. D. by Marion J. Dakin (abstract 318, February 1945) appeared originally in Industrial Medicine (June 1944) under the title: "The Psychogenic Factors in the Care of Women".

329 Marking Crayon Causes Dermatitis Outbreak.
Crayon used in marking steel, aluminum and other metals was found to be the cause of a serious outbreak of dermatitis among foundry workers, in a recent investigation made by the Industrial Hygiene Service of the Missouri State Board of Health. The marking pencil was used in applying identification numbers on poured castings with a surface temperature of 800-900° F. When used on cold metal parts the crayons caused no trouble, but in contact with the hot metal chlorinated naphthalene used as a pigment binder was volatilized, causing dermatitis of the arms, face, and neck in workers using it. Air samples collected in the vicinity of the marking operations showed the presence of high concentrations of chlorinated naphthalene. Shutdown of this vital operation was avoided through prompt development of a new crayon containing no toxic material. -- Ind. Hyg. News Letter 5, 9 (Feb.1945)

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Occupational Disease Statistics

330 Occupational Disease Statistics.

	Calif.[2] Dec. 1944	Ind.[2] Feb. 1945	Mich.[2] Feb. 1945	Ohio[1] Jan. 1945	Wis.[2] Jan. 1945	Totals
Carbon Monoxide Poisoning	2		1		2	5
Carbon Tetrachloride poisoning	1				1	2
Chemical Poisoning (not specified)	26		1	4	1	32
Conjunctivitis	289					289
Deafness	3					3
Dermatitis	441	18	85	368	63	975
Heart Disease					1	1
Hernia			4			4
Infections					4	4
Inflammatory Conditions	99		2		3	104
Lead Poisoning	17	2	1	6	1	27
Metal Fume Fever	4				3	7
Miscellaneous			2	142		144
Pneumoconiosis (exclusive of silicosis)			12	4		16
Pulmonary & Bronchial Affections	12					12
Silicosis	2		6	27	1	36
Skin Diseases (other than dermatitis)				17		17
Toluene Poisoning				1		1
Tuberculosis (due to contact)				6		6
Trichloroethylene Poisoning					2	2
Upper Respiratory Affections	4				3	7
Totals	900	20	114	575	85	1694

(1) Occupational Disease Claims filed with the Industrial Commission. There were 96,474 days lost including 10 deaths from silicosis, one from tuberculosis and three from unspecified causes.

(2) Occupational Disease Cases filed with the Health Department.

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UNITED AIRCRAFT NOVEMBER 1992

Legal Developments

331 Determination of Liable Insurer for Disability Due to Lead Poisoning.
Where, after a few months' period of disability owing to the condition of her employment, for which disability the employee did not enforce a compensation claim, an employee returned to her employment under somewhat improved conditions, although still unfavorable, from January 20, 1941 to November 27, 1942, when she became permanently and totally disabled as a result of lead poisoning contracted in the course of her employment, there was sufficient evidence to show that claimant continued to be exposed to the hazard of her employment through the last day of her employment. Therefore, the insurance carrier who was insuring the employer's risk upon the last day of the exposure which rendered the employer liable, such day being November 27, 1942, was liable for compensation. -- Durham Manufacturing Co. v. Hutchins. Indiana Appellate Court. No. 17,310. Decided January 4, 1945; opinion corrected January 9, 1945. (CCH)

332 Liability for Lead Poisoning: Employer v. Commonwealth.
Although there is a provision in the Occupational Disease Compensation Act imposing 50% liability upon the Commonwealth for compensation due in cases where an occupational disease causes disability only after five years or more exposure to the hazard, it is necessary that a claim petition be filed and an award be made thereon before the Commonwealth can be held liable since it does not enter into compensation agreements. Therefore, where the employer and an employee who had become disabled as a result of lead poisoning entered into a compensation agreement and the employer drew up the form of the agreement which only casually mentioned that it would pay compensation in accordance with section 308, thereby misleading the employee into failing to file a claim petition against the Commonwealth until after the statutory period had passed, no liability devolved to the Commonwealth and the employer was liable for the full amount of compensation agreed upon. -- Reichert v. Pennsylvania Railroad Co. Pennsylvania Superior Court. No. 8, March Term, 1944. December 13, 1944. (CCH)

333 Occupational Neurosis as Compensable Occupational Disease.
Where, after about fourteen years' employment as a linotype operator for his employer, the claimant noticed recurrent cramping and spasm of his left hand in the course of his employment, which condition was diagnosed as occupational neurosis and attributed to chronic fatigue of the controlling muscles and to a mental disturbance owing to a long-standing disagreement and unpleasantness between claimant and his foreman, it was error to award compensation since the malady is not one peculiar to the employment of a linotypist or to any occupation but is one to which the general public is exposed at all times, whether in employment or not. -- Star Publishing Co. v. Jackson. Indiana Appellate Court. No. 17,301. December 20, 1944. (CCH)

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334 Construing of Statute Making Commonwealth Liable for Fifty Percent of Award for Occupational Diseases.
The pertinent part of the statute, making the Commonwealth liable for fifty percent of an award for an occupational disease under certain circumstances, states: "When compensation is awarded because of disability or death caused by silicosis, anthraco-silicosis, asbestosis, or any other occupational disease which developed to the point of disablement only after an exposure of five or more years,...." The absence of a comma between "disease" and "which" does not mean that the phrase,

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"which developed to the point of disablement only after an exposure of five or more years," pertains solely to "any other occupational disease" since all Pennsylvania laws are enacted totally devoid of punctuation marks. Punctuation is later inserted by the office of the Secretary of the Commonwealth and is without significance. Because the diseases of silicosis, anthraco-silicosis, and asbestosis were dealt with separately in preceding sections of the Occupational Disease Act, it can be found that they were specifically enumerated in this section of the Act to avoid the interpretation that the term "occupational diseases" otherwise excludes coverage of the enumerated diseases. Therefore the phrase pertains to silicosis and applies to this claim for an award where death resulted from silicosis. -- Kuntz v. Alliance Sand Co. Pennsylvania Superior Court. Nos. 24 and 25, October Term, 1944. January 25, 1945. (CCH)

335 Coronary Occlusion as Result of Exposure to Extreme Weather Conditions. There is evidentiary support for the finding that a decessed plant patrolman suffered a coronary occlusion and subsequent death as a result of his work in traveling through heavy snow and in exposure to cold. -- Matter of Flammer v. Bethlehem Steel Co. New York, Supreme Court, Appellate Division, Third Judicial Dept. No. 272-2. November 22, 1944. (CCH)

336 Occupational Disease to be Treated as Accident. Disablement or death of an employee resulting from an occupational disease shall be treated as the happening of an injury by accident within the meaning of the North Carolina Workmen's Compensation Act and the procedure and practice and compensation and other benefits provided by said Act shall apply in all such cases except as otherwise provided. The word "accident," as used in the Workmen's Compensation Act, shall not be construed to mean a series of events in employment, of a similar or like nature, occurring regularly, continuously or at frequent intervals in the course of such employment, over extended periods of time, whether such events may or may not be attributable to fault of the employer, and disease attributable to such causes shall be compensable only if culminating in an occupational disease mentioned in, and compensable under this Act; Provided, however, no compensation shall be payable for asbestosis and/or silicosis as hereinafter defined if the employee, at the time of entering into the employment of the employer by whom compensation would otherwise be payable, falsely represented himself in writing as not having previously been disabled or laid off because of asbestosis or silicosis. Occupational diseases caused by chemicals shall be deemed to be due to exposure of an employee to the chemicals herein mentioned only when as a part of the employment such employee is exposed to such chemicals in such form and quantity, and used with such frequency as to cause the occupational disease mentioned in connection with such chemicals. The schedule includes 25 specific diseases and conditions. -- General Statutes of North Carolina, 1943, Chapter 97, Sec. 97-52. (CCH)

Book Reviews and Notices

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337 Industrial Medicine. H. Rolleston, A. Moncrieff and D. Munro. Eyre and Spottiswoode, Ltd., London, England, 202 pp. Price 16s (1944)
This book is one of a group, The Practitioner Handbooks. Each of its 18 chapters, written by a different author, presents a phase of industrial medicine. Its purpose is to acquaint the general practitioner with the scope and meaning of industrial medicine so that he may work in close cooperation with his brother practitioner in the factory. Of special interest are the chapters devoted to neuroses, malingering fatigue and boredom, which aim to aid the outside physician

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to understand the psychological factors surrounding the industrial workers. Other chapters cover industrial poisons, dermatoses, injuries, chest diseases, problems of nutrition, of environment and of general welfare.

338 Accident Facts, 1944 Edition. National Safety Council, 20 N. Wacker Drive, Chicago, Illinois, 96 pp. (1944) Price from publisher 50 cents (reduction for 10 copies or more).
This book contains an extensive compilation of statistics about accidents, industrial, traffic, home, school, railroad, aviation, etc. In industrial accidents, the improvement in frequency has continued through 1943. Fatality rates were highest in the mining industry. Falls were the most costly causes of accidents, handling objects the most frequent. Worker deaths in 1943 totaled 42,500, of which 18,000 occurred at work. A table gives the percent of accidents in shipbuilding industry preventable by specified remedies.

Industrial Health Hazards and Their Effects

339 Welding Fumes: Facts and Fancy. M. Ross and Philip Drinker. Nat. Safety News, 51, 14-15, 80 (Feb., 1945)
Few of the fantastic stories about welding hazards have any basis in fact. These stories include "coated lungs", stomach ulcers, tuberculosis, and falling hair. "Coated lungs" are imaginary, and the incidence of ulcers and tuberculosis has been shown to be no higher than in other occupations. However, there are the definite hazards of metal fume fever and the effects of lead, cadmium, nitrous fumes to be considered, and a ventilating program is necessary for protection. Ventilating procedure, especially government shipyards, is described and illustrated in some detail, with emphasis on 3 general principles: (1) keep it simple; (2) make it semipermanent; and (3) standardize designs for all hulls at all stages of construction.

340 Health Hazards Associated with the Welding Process. Report of Cases and Review of Recent Literature. R. W. Quinn. Military Surgeon, 95, 410-419 (Nov., 1944)
The author reviews the literature and describes 6 cases among sailors who welded galvanized surfaces.

341 Welding Fumes in Steel Fabrication. Philip Drinker and R. W. Nelson. Ind. Med., 13, 673-675 (Sept., 1944)
The composition of welding fumes depends upon the composition of welding rod and its coating. The authors report analyses of the wire, coatings and fumes. Iron oxide and silica usually predominate in the fumes, with zinc, calcium, and chromium and other oxides according to the composition of the wire and coating. Nitrogen peroxide is present but there is not enough to be injurious except in confined spaces. Metal fume fever is fairly common where galvanized iron is welded. Symptoms are described. No satisfactory therapy has been reported. The incidenc of pneumonia among welders is not greater than that found among other shipyard workers. Good ventilation is important. Local exhausts should draw 200 cubic feet per minute per welder, within 8 inches of the work, or twice that amount with general ventilation. Satisfactory concentrations are 15 mg. zinc oxide or 30 mg. iron oxide per cubic meter.

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342 Paragonimiasis in Returning War Veterans. Anonymous. J. A. M. A., 127, 461-462 (Feb. 24, 1945)
When patients complain of chronic cough, pain in the chest and bloody sputum, the possibility of paragonimiasis, or endemic hemoptysis, caused by infection with

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the long fluke Paragonimus westermani, should be considered. The symptoms are caused by the presence of the worms or their ova in the various tissues of the body, particularly the lungs and blood vessels, or by secondary infection. Diagnosis is made by finding the ova in the sputum or feces. The chain of infection requires two intermediate hosts, plus the definitive host, man. Ova are passed from man through the snail, then through the crayfish or crab, which in turn is eaten by man. It is possible that this infection may be established in this country. Specific treatment is not yet available.

343 Injuries to Hearing in Industry. W. H. Gardner. Ind. Med., 13, 676-679, (Sept., 1944)
A compilation of audiograms of 296 shipyard workers compared with those of 315 high school students showed a marked hearing loss among the workers, increasing in those who had worked longest in the yards. The higher tones are first affected; later the lower. These relations still hold when the factor of increasing age is eliminated. The hearing of employees who are to work in noisy places should be tested prior to the time of their assignment, thus providing a basis for refuting any false claims for damage by those who had a previous hearing loss. Machinery should be designed to lessen reverberation; sound absorbing material should be used on walls and ceilings of factories, and it should be insisted upon that employees subjected to noise wear protectors for their ears. -- J.I.H.&T.

344 The Investigation of Toxic Hazards. M. W. Goldblatt. Brit. J. Ind. Med., 1, 20-30 (1944)
A review of numerous toxic chemicals commonly used in industry. — C.A.

345 Basic Slag Pneumonia, with Special Reference to Immunization against Pneumococcal Infection. W. Heine and E. Homann. Deutsch Med. Wchnschr, 70, 15-16, 221-223 (Apr.,1944) (German)
Basic slag pneumonia, unlike other dust diseases, affects new as well as old workers and the causal pneumococci belong almost exclusively to types I, II and III. In a large factory in Germany where there had been an increasing incidence of pneumonia with a high death rate, active immunization against pneumococcal infection was begun in 1937, at first by injection, then by oral administration of dragees. Results showed a striking decrease in both incidence and mortality of pneumonia. It was also established that protective substances were present in the serum of immunized persons for 10-12 months after immunization. It is recommended that immunization should be repeated after two years and that it can be successfully carried out by oral administration. -- From Bull. Hyg.

346 Nitrous and Nitric Gas Casualties. D. K. Charleroy. U.S.Naval Med. Bull. 44, 435-437 (Feb., 1945)
A report is presented of 23 cases of gas poisoning caused by nitrous and nitric gases. Nine men were seriously affected and there were two deaths. It was noted that there were no symptoms immediately after exposure, but they developed from 4 to 24 hours later. All cases presented similar prodromal symptoms. The suddenness of the appearance of serious symptoms and complications was a striking feature. — Author's Summary.

347 Manganese Poisoning in Chile. 1-Environmental Factors. 2-Clinical and Medico-legal Aspects. J. Ansola, E. Uiberall and E. Escudero. Rev. Med. de Chile, 72, 222-229 (Mar., 1944) 311-322 (April, 1944)
Most of the 64 cases of manganese poisoning studied come from the San Juan mine in Antofogasta, at 2000 metres. Other mines in the district have fewer cases of poisoning, which may be due to the fact that at the San Juan mine the ore is nearly all pyrolusite (manganese dioxide), whereas at the others it is mainly manganese trioxide. Intoxication occurs much earlier than has been previously recorded

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The earliest occurred after 45 days' employment and the average was 178 days. The authors describe in detail 34 cases, which are divided into two groups: t psychotic and the neurological. Symptoms of both groups are given. The medic legal aspect and the question of compensation are considered. The authors mak no statements about the pathology of the condition for none of those under the observation died. -- Bull. Hyg.

348 Mercury Content of the Human Organism. XXXIII. Effect and Distribution of Mercury. 2. A. Stock. Biochem. Z., 316, 108-122 (1943)
Mercury volatilizes considerably even at room temperature and may be inhaled. Extensive analyses carried out on 63 human cadavers again show that kidney and hypophysis are the 2 organs in which circulating mercury accumulates preferentially. The blood contains on the average 0.36 mg. %, but this increases enormously after the application of mercury ointment and persists for a long time afterwards. The urinary excretion likewise rises greatly. -- C.A.

349 Mercury Poisoning. A. Stock. Berichte Deut. chem. Ges., 75, 1530-1535 (Feb.10, 1943) (German)
This article, the last of a series on chronic mercury poisoning following long exposure to low atmospheric concentrations of mercury vapor, contains a study of the action of mercury on the organism, and a warning to all exposed to mercury, the special danger of which lies in its ready volatility, since poisoning may follow long-continued exposure to air containing as little as 10-20 micrograms of mercury per cubic meter. Symptoms are at first neuropsychic--drowsiness, headache, lassitude, lack of concentration--and later catarrh, salivation, gingivitis, frequent micturition, and diarrhea. Once poisoning has occurred, sensitivity to small dosage (as little as 1 microgram of mercury per cubic meter) is much increased, so that even working in old chemical or physical laboratories may give rise to disturbance. The distribution in the body and the mechanism of excretion of mercury are described in detail. -- Bull.Hyg.

350 Occupational Argyria. J. E. M. Wigley and P. M. Deville. Proc. Roy. Soc. Med., 37, 648-649 (Sept.1944)
This article discusses a case of typical occupational argyria. An apparently healthy man of 61, in the silver trade most of his life, began to develop grey to black pigmentation about 10 years ago, which gradually extended to many parts of the body. It is hoped to investigate this case more fully.

351 Kerosene Intoxication. W. B. Deichmann, K. V. Kitzmiller, S. Witherup and R. Johansmann. Ann. Int. Med., 21, 803-823 (Nov., 1944)
A typical case of fatal kerosene poisoning in a child is reported in detail, together with the gross and microscopic postmortem findings, and the clinical aspects of this type of intoxication are presented. There is evidence that there is vascular injury in the lungs from kerosene carried to the lungs by way of the blood stream, as well as by direct aspiration, and because of this fact every effort should be made to remove the kerosene from the gastrointestinal tract as quickly as possible in treating cases of kerosene poisoning.

352 Uremia Following Inhalation of Carbon Tetrachloride. A. J. Gordon. J. Mt. Sinai Hospital, 10, 792-795 (March-April,1944)
It is well known that carbon tetrachloride causes liver necrosis, but it can also cause a clinical picture dominated by renal damage, with minimal signs or symptoms of liver involvement. A non-fatal case of uremia is reported, which followed occupational exposure to carbon tetrachloride vapor. Laboratory tests showed no deficit in hepatic function; the only evidence of liver damage was tenderness over the right upper quadrant. Vomiting was the most striking sympton. Since it occurred too soon to be a manifestation of the uremia, the vomiting probably contributed to the uremia through pre-renal deviation of fluid. -- J.I.H.&T.

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353 Study of 84 Cases of Delayed Mustard Gas Kerstitis Fitted with Contact Lenses. I. Mann. Brit. J. Ophth., 28, 441 (Sept. 1944)
This article discusses the effect of mustard gas on the eyes in 84 cases, and describes the effect value or inefficiency of contact lenses in these cases.

354 Chloroleukemia as a Result of Benzol Poisoning. H. Rachner. Deutsch. Med. Wchnschr, 70, 15-16, 219-221 (Apr., 1944) (German)
A fatal case of leukemia with the unusual feature of widespread "green tumor" infiltration occurred in a vulcanizer two years after exposure to benzol had ceased. The period between the onset of symptoms of general weakness and lassitude, and the fatal termination was two years. The absence of long-standing blood changes was shown by the results of a blood examination made two years earlier when the white cell count was normal. Although this particular form of chloroleukemia has not previously been described as a result of exposure to benzol, the author believes that benzol poisoning was at least the precipitating exogenous factor in this case. -- From Bull. Hyg.

355 Toxicity of Cresylic Acid-Containing Solvent. A Case Report. M. E. Klinger and J. F Norton. U. S. Naval Med. Bull., 438-439 (Feb. 1945)
This article reports the case of a man whose work involved immersing his hands unprotected in a cresylic acid solution for a large part of his 5 to 6 hour shift. He developed skin lesions on the hands and a facial neuritis of the peripheral type. Emollient ointments applied to the skin lesions, and anti-neurotic vitamin therapy and guided physiotherapy for the neurotic lesions showed satisfactory progress and predicted complete recovery. Persons having occasion to employ solvents of this nature should be required to avail themselves of protective equipment. If any signs of dermatitis appear the person should be removed to other work and close scrutiny maintained over the nervous system to detect signs of early involvement should it occur.

356 Occupational Illnesses in the Cotton Industries. 1. Cotton Fever. W. L. Ritter and M. A. Nussbaum. Miss. Doctor, 22, 96-99 (Sept. 1944)
This paper has been abstracted from a later publication. (See Abstract No. 59, Jan., 1945)

Control Methods

357 Control of Welding Fumes, U.S. Navy Yard, Boston. F.J. Viles, Jr. Ind. Med., 14, 71-75 (Jan., 1945)
This article discusses a series of experiments carried out to determine the amounts of fumes formed during arc welding under varying conditions. Charts and graphs show the amounts of fumes generated during the welding of rods of various sizes and during the use of varying line voltages for the same type of rods; they show also the efficiency of different types of ventilation, general and local. It is strongly advised that each welder have his own personal unit of protection against fumes - a unit which he takes with him wherever he goes.

358 Fluoroscopic Hazards Including Use of Unprotected Radiographic Screens. C.F. Behrens. Naval Med. Bull., 44, 333-340 (Feb., 1945)
Serious dangers incident to fluoroscopy are pointed out and quantitative studies presented. The list of protective measures include: a moderate current, small

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X-ray beam, intermittent exposures and total exposure limit as short as possible; dark adaptation before attempting work, lead-impregnated gloves and apron, and keeping the bare hands out of direct X-ray beams; aluminum filtration; the use of the unprotected screen only in emergency; occasional tests for excessive radiation exposure, with a quarterly blood count; and good ventilation in the fluoroscopic room.

359 Spreading Rubber Cement. Industrial Data Sheet D-RU-1. Nat. Safety News, 51, 31-32, 110-111 (Feb., 1945). Reprints obtainable from National Safety Council. Rubber cements, used extensively in cementing plies of impregnated fabrics, contain 80 to 95% of flammable solvents. Fire and explosion are the most serious hazards, but toxicity of the vapor and skin affections by content are also important. If the vapor concentration is kept below 1,000 p.p.m., the safe limit for inhalation, will also assure a non-flammable condition, but the exhaust system if not properly arranged, may produce a flammable mixture in areas not normally entered by workers. Local exhausts and general ventilation suitable for various types of apreading are specified. Precautions against static and other electrical hazards are given. Humidification of 60 to 70 % when feasible is the best static preventive. Personnel should be grounded, preferably by conductive shoes. The dangerous processes should be conducted in a separate building with fire and explosion protection.

360 Barricades Against Death. A. U. Miller. Nat. Safety News, 51, 18, 19, 70, 72 (Feb., 1945)
The lives of men trapped in mines after explosions have often been saved by the erection of barricades before the noxious gases have reached them. For effective barricades, previous knowledge of the mine is necessary and coolness and forethought are essential in locating and erecting barricades, as they must be established quickly. Eight paragraphs give the most important things entrapped men should do, and reference is made to Miners' Circular No. 42 of the U.S. Bureau of Mines. Some authorities have advocated ready-made refuge chambers, with strong timbers and tight doors, and provided with compressed air and water.

361 Where to Install Exhaust Systems for Soldering Operations. E. C. Barnes. Occ. Hazards, 7, 23-24 (Nov., 1944)
Fumes produced in soldering of electric condensers at Westinghouse are removed by exhaust hoods in front of the operator and near the soldering iron. The distance and height of the hoods are adjustable and all duct work is beneath the tables.

362 The Effect of Temperature, Humidity, and Glycol Vapor on the Viability of Air-Borne Bacteria. K. B. DeOme and the Personnel of U.S.Navy Medical Research Unit No. 1, Berkeley, 4, California. Am. J. Hygiene, 40, 239-250 (Nov., 1944)
1. Apparatus is described with which rapid estimations can be made of the death rate of air-borne organisms in the presence or absence of glycol vapors under rigidly controlled conditions.
2. In the absence of glycol vapor the death rate of S. pullorum dispersed from water into dust-free air streams increases as the temperature is increased from 28 C to 37 C and as the relative humidity increases from 15 per cent to 80 per ce (the range tested).
3. The germicidal power of a given concentration of triethylene glycol vapor decreases as the temperature is increased from 28 C to 37 C and as the relative humidity deviates from approximately 45 per cent. The effects of these factors appears to be cumulative. At relative humidities of 15 per cent and 80 per cent, the extremes tested, triethylene glycol vapor had no appreciable germicidal power.
4. The concentration of propylene glycol required to produce a given reduction of the control death rate is approximately 100 times that of triethylene glycol.

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5. The observed decreases in the number of viable organisms are due to lethal effects and not to the mechanical removal of organisms. -- Authors' summary

363 A Device for Automatically Controlling the Concentration of Glycol Vapors in the Air. T. T. Puck, H. Wise and O. H. Robertson. J. Exp. Med., 80, 377-38 (Nov. 1, 1944)
A device for automatically maintaining any desired concentration of triethylene or propylene glycol vapor in air is described. It can also be used to measure very rapidly the glycol content of room air. This instrument should greatly facilitate tests of the efficacy of glycol vapors in preventing air-borne infections. -- Authors' summary

364 A Study of the Nature and Control of Air-Borne Infection in Army Camps. O.H. Robertson, M. Hamburger, Jr., C. G. Loosli, T.T. Puck, H.M. Lemon, and H. Wise. J.A.M.A., 126, 993-999 (Dec. 16, 1944)
Studies were made on the transmission and control of acute diseases of the respiratory tract in the laboratory and in various army camps. It was found that such diseases may be spread by infectious material in bedding and floor dust. Environments containing hemolytic streptococcus patients and carriers showed that bed-making and dry sweeping result in a large number of streptococci in the air and probably constitute a more important source of aerial contamination than do "droplet nuclei" expelled directly from the infected person. Observations indicated that there was a definite association between the numbers of a given type of hemolytic streptococci present in the air and the incidence of infection with that type. In army barracks where floors and bedding were treated with an oil emulsion, the soldiers showed a lowered incidence of acute respiratory infections as compared with the controls. It was found that the number of hemolytic streptococci in the air of wards housing patients with this type of infection could be largely reduced by employing triethylene glycol vapor in bactericidal concentrations. Maximum reduction in air-borne streptococci was observed when oiling of bedclothes and floors was employed in conjunction with the glycol vapor. --Condensed from Authors' summary

365 Bacterial Content of Air in Army Barracks: Results of a Study with Especial Reference to the Dispersion of Bacteria by the Air Circulation System. H.M. Lemon H. Wise and M. Hamburger, Jr. War Med., 6, 92-101 (Aug., 1944)
The bacterial content of the air in barracks with a forced draft hot-air heating system was determined by means of a Moulton atomizer-sampler connected to a suction pump. The bacterial content of the air varied directly with the number of men in the barracks and rose logarithmically with increasing activity of the men. Recirculation of the air through the heating system provided a significant exchange of bacteria between the two floors, lowering the bacterial count 50 percen the filtration system was shown to be the most important factor in this reduction and the removal of only one filter almost abolished the effect of the filtration process. -- J.I.H.&T.

366 Control and Collection of Industrial Dust I. E.D. Powers. Rock Products, 45, 58-60 (Feb.,1942)
Types of dust collectors may be classified as follows: (1) settling chambers; (2) low-efficiency cyclones; (3) high-efficiency cyclones; (4) cloth filters; (5) water sprays and wet collectors; (6) baffle-type collectors; (7) centrifugals and (8) electrostatic precipitators. Figures show the ineffectiveness of settling chambers for the removal of fine dusts and for attaining high efficiencies. Settling chambers are cheaply installed and operated and may be used as preliminary separators with more efficient equipment. -- Ceram. Absts.

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367 Control and Collection of Industrial Dust II. E.D. Powers. Rock Products, 45, 46-48 (Apr., 1942)
Low-efficiency cyclone collectors are adapted to many dusts, especially those of high specific gravity and dusts finer than 100 mm., although most industrial dusts are too fine to be handled satisfactorily. -- Ceram. Absts.

368 Control and Collection of Industrial Dust III. E.D. Powers. Rock Products, 45, 48-51 (Sept., 1942)
Recent developments in high-efficiency cyclones and the selection of proper type are discussed. (For the final two papers in this series, see our abstracts Nos. 613 and 614, May, 1944.) -- Ceram. Absts.

369 Sandblast Cabinets. Asked & Answered, Nat. Safety News, 51, 44 (Feb. 1945)
A questioner about precautions for protecting workers on sandblast cabinets is referred to the paper by Bloomfield and Greenburg in J. Ind. Hyg., 15, 184 (1933), and recent recommendations of the American Foundrymen's Association and American Standards Association. With good ventilation it is possible to keep the sand in the breathing zone under 1 million particles per cubic foot, which is well below the established safe limit. Air velocity of 500 feet per minute through all openings is recommended. If respirators are used, they must be of approved types. Accurate determinations of the quantity of dust escaping from cabinets can be made by dust counts.

Skin Diseases and Burns

370 Occupational and Related Dermatoses: Abstracts From the Literature, January 1940 to June 1943, Inclusive. Louis Schwartz and N.R. Goldsmith. Public Health Bull. No. 284, U.S. Public Health Service, 179 pp. (1944)
This bulletin is a continuation of the U.S. Public Health Bulletin No. 266 (our abstract #680, Aug., 1941) which contained abstracts from the literature on occupational dermatoses from 1935 through 1939. The present bulletin covers the literature from 1939 through June 1943. It is well indexed and contains valuable material to anyone interested in occupational and industrial dermatoses and is as complete a coverage of the material in the foreign literature as well as our own, as is possible under the present circumstances. -- J.I.H.&T.

371 Overtreatment Dermatitis. L. E. Gaul. J.A.M.A., 127, 439-442 (Feb. 24, 1945)
Often skin lesions are subjected to imprudent topical therapy with the result that the patient acquires a second irritation from the remedies applied. In such cases the past treatment patch test is of value in that: it reveals the presence of an irritant or sensitizer in the remedies already used; it permits prescribing a preparation suitable to that particular lesion; and it helps to decide the occupational or nonoccupational etiology of the dermatitis.

372 Skin Hazards in the Manufacture and Processing of Synthetic Rubber. L. Schwartz. J.A.M.A., 127, 389-391 (Feb. 17, 1945)
There is comparatively little dermatitis occurring in the manufacture of synthetic rubber despite the many irritant chemicals used. This is explained by the fact that the factories making synthetic rubbers are modernly equipped with mechanical safety devices and most of the safety recommendations made in this paper are already carried out. We need to anticipate but little more dermatitis from the manufacture and processing of synthetic rubbers than we have had from natural rubbers, provided future plants are erected with the same careful planning as the present ones and the safety recommendations in this paper are carried out. -- Author's summary.

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373 Treatment of Eczematous Contact Dermatitis with Intravenous Injections of Sodium Thiosulfate. A. Strickler. Arch. Dermat. & Syph., 50, 251-253 (Oct., 1944)
Intravenous injections of aqueous solution of sodium thiosulfate have been employed in treatment of the eczematous contact dermatitis with good immediate results and with some degree of at least partial desensitization, as evidenced by return of some patients to their previous work without suffering a relapse. The way in which this treatment operates is obscure. The suggestion by Anderson that study of the chemical antidotes for the various agents capable of causing a contact dermatitis is both timely and constructive. -- Author's summary.

374 Fungus Allergy and Industrial Dermatitis. S.M. Peck. J. Indiana State Med. Assoc., 37, 304-306 (June, 1944)
A discussion is presented of established clinical and experimental factors associated with a group of organisms grouped under the general heading of cutaneous microbids. Trichophytid, often shortened in the literature to "ids" is the general term applied to the microbids associated with fungus infections. Trichophytids of the hands are not common in industry, and when an eruption of the hands occurs in a worker contact dermatitis rather than a trichophytid should be thought of first. Practical criteria to be followed in the differential diagnosis of contact dermatitis and "ids" are listed.

375 Occurrence of "Morphia Rash" in Manufacture of Morphine Salts from Opium. G.C. Green. Brit. J. Dermat. and Syph., 56, 182 (July-Aug. 1944)
The problem of "morphia rash" from the manufacturing of opium products is discussed. In the plant extreme precautions are taken to avoid loss of materials through leakage and spilling, therefore mechanical handling is avoided and the operatives are subjected to a high degree of exposure to the opium products by contact. At this plant no detailed case records were kept but it had always been the practice to place a man who has developed "rash" on workmen's compensation until recovery, when he was transferred elsewhere in the works where there were no dermatitis hazards. It has been found by trial and error during more than a century that immunity is not acquired; some workers contract the disease soon afte the first contact, others only after 10 to 30 years of work. Risks are best controlled by insistence on personal cleanliness, clean workrooms and adequate ventilation. Rubber gloves were introduced in 1937 and protective cream in 1940 but there is no evidence yet that these precautions have reduced the incidence of rash. The greatly increased incidence of industrial dermatitis since the war started has been placed on the absence of a "built-up" resistance in new employees --J.A.M.A.

376 Contact Dermatitis in a Morphine Factory. S. E. Dore and E.W.P. Thomas. Brit. J. Dermat. and Syph., 56, 177 (July-Aug., 1944)
Nine cases of dermatitis which occurred in a morphine factory are discussed. Cases appeared in different departments of the plant but the eruption in practically all cases began as an irritable erythematous dermatitis of the eyelids and surrounding area and was sometimes accompanied by severe local edema; the regions next effected were the nape of the neck, then hands and arms. In most cases the eruption remained limited to the exposed parts of the body. Its clinical appearance varied in different cases; in some secondary infection occurred. The specific sensitizer has not been determined but there is strong evidence that the irritant is air-borne as a fine spray or dust; in support of this would be the upper respiratory catarrh typical of most of these cases. -- J.A.M.A.

377 Factors Influencing Dermatitis in Coal Miners. R. B. Knowles. Brit. Med. J., 2, 430-432, (Sept. 30, 1944)
Dermatitis in coal miners is due to many causes, some of which come from the conditions of work and others from the constitutional make up of the men. The

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prophylaxis of this dermatitis depends on avoiding the causes and includes these points: adequate ventilation of the pit, with the quantity of dust reduced to a minimum; selection of suitable personnel for work in the pit; and education of the miner in personal cleanliness and the use of proper cleansing agents and protective substances, with special attention to the prevention of fungus infection of the feet. -- From Author's summary.

378 Industrial Medical and Hygiene Problems. E.W. Probst. Ind. Med., 13, 773-775, (Oct., 1944)
Most cases of skin irritation are due to carelessness and lack of personal hygiene and not to allergy. Useful control measures include: minimize the manual contact with chemicals; establish a local exhaust system; instruct workers in personal hygiene and advise the use of cleansing tissue instead of handkerchiefs; issue protective clothing to workers; use a special indicator soap; and use a non-skid wax on the floors. The author advises through plant surveys, inspection, medical supervision, and industrial hygiene and safety programs.

379 The Industrial Dermatitis Problem. A Practical Approach. A. F. Hall. Ind. Med. 14, 88-91, (Feb., 1945)
A practical approach to the problem of industrial dermatitis is outlined. It discusses the nature and types of contact dermatitis, and the value and limitations of the patch test. Expert, exact diagnosis is imperative, since it is highly important to know whether or not each case of dermatitis is of industrial origin, and if it is, toward identifying the exact causative factor. In cooperation with the safety engineer steps should be taken to protect the affected worker and to prevent development of similar trouble in the future by eliminating, so far as possible, exposure to unnecessary hazards. Care should be taken not to employ persons with a history of previous sensitization dermatitis.

380 Liver Necrosis in Burns Treated with Tannic Acid. A. V. Jackson. Med. J. Australia, 2, 352-354, (Sept. 30, 1944)
1. The literature concerning hepatic necrosis in burns treated with tannic acid is reviewed.
2. The livers of eight patients dying from burns were examined. In two, from patients treated with tannic acid and silver nitrate, extensive hepatic necrosis was found. In those from patients whose burns were not treated by tanning, cloudy swelling was the only abnormality. -- Author's summary.

381 "Cellophane" for the Treatment of Burns. J. Farr. Brit. Med. J., 1, 749-750, (June 3, 1944)
As a modification of the 'cleansing, rest, compression' regime of burn treatment, Farr devised the following technique. Sheets of cellophane spread with sulfonamide ointment were applied to the burns after cleansing of the burned area; these are covered with oiled silk, and wool bandaged on to make a firm compression dressing. If pus accumulated the overlying cellophane was cut away and saline compresses used until the cellophane could be reapplied. The paper gives suggestions for the preparation of the medicated sheets of cellophane. -- J.I.H.&T.

Putting the Disabled Veteran Back to Work

382 Veteran Re-employment Program. R. R. Lawson. Summerill Tubing Co., Bridgeport, Pa. (1944) 20 pp.
This manual outlines the plans and methods for bringing ex-servicemen back to Summerill as satisfied civilian workers. It includes a seven point program:

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(1) reception; (2) interview and re-integration; (3) medical examination; (4) placement; (5) organization training; (6) transfers; and (7) follow-up.

383 Reemployment of Veterans. Developing a Company Program. Petroleum Industry War Council, Subcommittee on Manpower. G.H. Dempster, Chairman. 35 pp. (Nov. 1, 1944)
This pamphlet is for the guidance of every employer in developing his policy in the reemployment of veterans, and the material very largely applies to any industry. After a brief statement of the requirements of the Selective Service Act, pages of questions are put to the employer, regarding time limit for reemployment, place of employment, physical examinations, skills acquired in the service, wages, handicapped veterans, seniority, job priorities, and other subjects. An employer will be well prepared indeed who has his answer ready for all the questions, and one who has not given the subject much consideration will be bewildered by the number of pointed questions. Local Board Memorandum No. 190-A, embodying reemployment policies under the Selective Service Act, is given in full, the reemployment provisions as amended.

384 Consolidated Vultee's Experience. A Brief Appraisal of the Consolidated Vultee Program for Job Placement, Physical Examinations, Protective Measures and Routine Procedures. A.C. Dick and C.O. Sappington. Ind. Med., 14, 81-87 (Feb., 1945)
An evaluation is made of all jobs in all departments from the standpoint of the physical and psychological factors. The foreman, with the assistance of a trained analyst, makes these evaluations in his own department. A complete code of all jobs is entered in the interviewer's code book. An honest and complete evaluation of each applicant's physical and emotional condition is made by the plant physician and recorded in the code book. These two records show where the worker should perform at maximum efficiency and minimum risk. Any employee will work more effectively if he is placed on a job which is the most arduous he can safely perform. Proper placement is best administered by the foreman on the belief that he is a better foreman if he administers his own program. This company believes that its foremen-supervision program has contributed largely to the exceptionally good health record of the past two years, with no toxicilogical cases, and a reduced incidence of industrial dermatoses, accidents and minor injuries. Since industry will be held responsible for the successful re-employment of approximately 25 percent of all returning veterans, it would be desirable to standardize industry's methods and approach to this problem, with a job-placement program which is simple, understandable and flexible.

385 Putting the Veteran Back to Work. W.A. Smith. J. Indiana State Med. Assoc., 37, 282-289 (June, 1944)
The General Motors Corporation at Delco-Remy, established a committee to formulate policy and lay down procedures for returned veterans. The committee composed of the Director of Personnel, the Medical Director, the Safety Director, the Employment Manager and a member of the Labor Relations Staff, evolved three basic operating principles. First, help the veteran to make the difficult transition to civilian life, using every possible means of assistance, but without developing in the individual the feeling that he is entitled to any special considerations. Their placement should be on a sound basis and no attempt to "make work" should be considered -- the second principle. The third principle concerns the manner of employment. The veteran is not set apart as a different individual, but reassumes his place in the plant on a normal basis. After the veteran has returned to work a follow-up routine is established to see that he is satisfactorily placed or to advise transfers if he is not suited to the job. The difficulty of obtaining medical histories from the Government is a subject of comment. The plan for training veterans for higher-skilled and better-paid

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jobs is explained. Problems encountered are "misfits", who have never been normal individuals, and interference of pressure groups. The Company feels that the job of putting the veteran back to work is one of great magnitude, but that it can be done.

386 Jobs for G.I. Joe in America's Hotels. Anonymous. Public Relations Committee of the American Hotel Association. 26 pages. (Dec., 1944)
The American Hotel Association presents a practical re-employment program. It informs the hotel man how to place the veteran in the job suited to his abilities, and outlines the essential steps in his training; it describes the typical jobs in hotels of all sizes; it shows how to work with government agencies in the employment of disabled veterans; it provides a guide to the Selective Service Act, shows the functions of the various agencies interested in the veteran, and lists the Veterans Administration Stations throughout the country.

387 When the Veteran Comes Back. How the Industrial Nurse Can Aid His Rehabilitation. L.G. Giberson. Nat. Safety News, 51, 21 (Feb., 1945)
The industrial nurse can be of value to the returning service man by acquainting herself with the conditions of his re-employment and assist him within these limits to meet a situation will/be complicated for him. By being interested in and paying attention to his physical and mental burdens, she can help in his new adjustment. She should know his medical history in the army as many veterans will be physically or mentally disabled who will need thoughtful guidance. Whether well or disabled, each one needs her understanding but not her sympathy or pity.

388 Impaired Hearing in Veteran. Queries and Minor Notes, J.A.M.A., 127, 494 (Feb. 24, 1945)
A patient lost 50 percent of his hearing, following prolonged exposure to gun fire. Various methods of therapy had been tried without success. Suggestions are requested as to therapy and especially psychotherapy in the way of reading matter to assist the patient and his associates in understanding his condition. The answer lists books and articles which may prove helpful; also, it suggests that the proper hearing aid and lip reading instruction are important. The American Red Cross and local societies for the hard of hearing are prepared to give such patients valuable advice.

389 Occupational Adjustment of the Disabled. H.D. Hicker. Calif. & West. Med., 61, 139-141 (Sept., 1944)
The Bureau of Vocational Rehabilitation of the California State Department of Education provides an adjustment service for the purpose of making handicapped persons employable. In addition to the placing of handicapped workers where they will be of least hazard to themselves and to others, and of best advantage to the employer, vocational training, prosthesis, corrective surgery and necessary hospitalization are now available. After a thorough survey of the individual, including medical diagnosis, an employment goal is selected and an individualized program of services to achieve this goal is prepared. It is suggested that closer coordination between industrial medicine and vocational rehabilitation would be mutually advantageous. -- J.I.H.&T.

390 Rehabilitation of Convalescent Industrial Casualties with Physical Medicine. H.D. Storms. Arch. Phys. Therapy, 25, 469 (Aug., 1944)
The methods of physical therapy used at the clinic of the Workmen's Compensation Board in Toronto are described. It is emphasized that therapy should not be stereotyped but should be closely adapted to the occupations for which the patient is fitted. Attention should be paid to muscle strength as well as to freedom of motion in stiff joints.

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Industrial Medical Practice

391 Second Annual Report of the Permanente Foundation Hospital. S.R. Garfield. Permanente Foundation Med. Bull., 3, 31-45 (Jan., 1945)
The completion of the second year of the medical care program in the Oakland-Richmond area reports progress in the following items: voluntary membership; the lowest loss ratio in the state from industrial accidents; doubled bed capacity; improved outpatient and inpatient facilities; increased salaries of medical personnel; a larger educational program including new public health work, more clinical seminars and a Senior Cadet program; increased interest and support by the medical profession in general. Plans for 1945 include still more new hospital facilities, more teaching and training programs, and research. The article states that this will mark the first time that under a cooperative plan developed and operated by the physicians, the average working man will not only have adequate medical care at a cost he can afford, but also through his own support will have a share in the medical program.

392 Obligations of the University in Training Industrial Physicians. W.D. Gatch. J. Indiana State Med. Assoc., 37, 292 (June, 1944)
Industrial medicine is already emerging as a specialty. A competent industrial physician needs the training which we require for every good doctor. He also needs special training in public health and in the special problems which he must meet in dealing with the industrial worker and his family. This special training he should get in a school of public health and as a resident physician with the medical departments of industrial plants. — Author's conclusions.

393 Standard Reports of Industrial Hygiene Activities. V.M. Trasko. Ind. Med., 13, 722, 724, 726 (Sept., 1944)
Standardization of activity reports in industrial hygiene is desirable. Since such reports are required an effort should be directed toward making them as uniform as possible. Thus their usefulness will be improved and they will lend themselves to analyses on a national basis. -- J.I.H.&T.

394 Survey of Workers' Eating Facilities. L.H. Mantell. Domestic Commerce, 32, 10, 24-25 (Nov., 1944)
This article discusses the results of questionnaires devised by the Distribution Division of the Bureau of Foreign and Domestic Commerce. Tables are recorded showing sources of meals, satisfaction with eating arrangements, reasons for dissatisfaction with eating facilities, suggestions for improvement and the need for additional restaurants. In general the survey indicates a moderate need for additional eating facilities and a desire for improvement in the quality of food and service. Naturally such a survey itself cannot determine any action to be taken but the approach made through asking the consumers themselves is one which supplies information that can be secured in no other way. This consumer survey method is being used more and more in solving market research problems and could be applied by plant managers to learn the eating problems of their workers, and by restaurant operators to study the nature of their markets.

395 Salt Tablets in Hot Weather Overrated. C.G. King. Food Field Reporter, 13, 28, 34 (Feb. 5, 1945)
In a broadcast to China and the South Pacific under the auspices of the Office of War Information dealing with the recent progress in nutritional science in the United States, Dr. King said that increased consumption of salt in hot weather is of much less significance than was formerly believed. The earlier

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reports of supposed benefits from extra salt were largely misinterpreted, because the gains that were observed were caused chiefly by the increased water intake which the salt had caused. The practice of giving salt tablets may even cause nausea and vomiting. About 10 grams of salt per day, as supplied in ordinarily seasoned foods, is adequate to meet one's needs for a long period. Several other fields of recent food research were also discussed, including the discovery that the protein intake must be kept relatively low for people in high altitudes, as in aviation or on mountain heights.

396 Muscle Spasm Apparently Due to Lack of Sodium Chloride. A.H. Gregson. Brit. Med. J., 2, 819 (Dec. 23, 1944)
This is a case report of convulsions in a patient who said that he sweated profusely and disliked salt. The convulsions ceased after administration of 2 large doses of salt (2 teaspoons each in 1/3 pint of water), without nausea, and the patient volunteered that "it tasted good." The author considers the evidence not conclusive, but pointing strongly toward insufficient salt as the cause of the convulsions.

397 Should Less Protein Be Eaten During Hot Weather? Anonymous. Nutritional Observatory, 6, 7-8 (Jan., 1945)
The long-believed statement that the specific dynamic action of protein is greater than that of carbohydrates and fats, and that, therefore, we should eat less protein in hot weather, has been disproved by Forbes and Swift (J. Nutrition, 27, 453-468 (1944)). By experiments made upon rats it was found that the specific dynamic effect of individual foods are without significance as constants and therefore there is no scientific means of apportioning energy effects or values among dietary constituents.

398 Industrial Hygiene in Labor-Management Relations. J.J. Bloomfield. Ind. Med. 14, 67-68 (Jan., 1945)
Industrial workers are showing increasing concern in the developments which improve their health and welfare, and unions are recognizing that they must be active in advancing such improvements. Health and safety clauses in union contracts are not new but most of them do not cover enough items to insure adequate health and safety programs. More attention should be paid to the worker whose physical condition compels him to change over to a less arduous and less remunerative job; the second-injury fund is a beginning in this direction. Federal and state provisions for health maintenance are inadequate and not uniform; they need revision so that benefits will be applicable to all workers, including the millions still unorganized.

399 The Prevention of Bacterial Respiratory Diseases at Naval Training Centers with Sulfadiazine. Anonymous. Bull. of Lederle Laboratories, 12, 37-45 (Fall, 1944)
One cannot estimate accurately the saving in dollars, man-days, or life that obtains from chemoprophylaxis. The observations made at these naval training stations indicate that chemoprophylaxis is 85 percent effective in preventing bacterial infections of the respiratory tract under conditions favorable to the dissemination of respiratory pathogens and most unfavorable to newly inducted recruits. In these groups of naval personnel, a saving of a day per man per month can be expected when bacterial respiratory pathogens are active. If the station's recruit complement is 30,000 and all hands receive sulfadiazine prophylaxis, one can anticipate a saving of 30,000 hospital days each month during seasons conducive to respiratory diseases. This is equivalent to freeing a 1,000 bed hospital and all labor and personnel associated with the care of the sick. -- Author's summary.

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400 March Fracture in Industry. J.H. Eddy, Jr. New Orleans Med. and Surg. J., 97, 171-173 (Oct., 1944)
This paper has been abstracted from a later publication. (See our Abst. No. 23, Jan., 1945)

401 Medical Care of the Industrial Worker. R.B. Robson. Can. Med. Assoc. J., 52, 143-147 (Feb., 1945)
The physician in industry must work with the personnel department, the superintendent and the foreman, and also must be a true and sympathetic friend of the workman. He is health officer to the plant, protecting the worker's environment and he should advise on problems of lighting, ventilation, sanitation, et cetera; he should investigate and urge the use of well equipped plant cafeterias he should insist upon medical examinations of employees as often as necessary, which should be made in an attractive office, lacking a plant atmosphere. There should be a staff of graduate nurses large enough to give necessary care. The medical department should have frequent, regular conferences, with the plant management and personnel department.

402 Medical Service in Industry. D. O'Hara. New England J. Med., 230, 685-687 (June 8, 1944)
The author pays especial attention to industrial medical conditions in Massachusetts, but the problems there are the same as in other states. Medical service is well organized in many of the large plants, but is not well developed in the small plants. It has been and can be developed by district-nursing groups in an efficient and economic manner. Private practitioners may well take the lead in this matter. Medical service in industry should be looked on, not as a new specialty in the conventional sense, but as a new application of the general practice of medicine.

403 Medical Supervision in Industry in Peace and War. S.A. Henry. Pub. Health, 57, 121-126 (Aug., 1944)
The way in which medical supervision has been established over industrial workers in Great Britain is discussed. It tells the story of factory legislation from 1802 onward. The first medical inspector of factories was appointed in 1898. Instances are quoted of big concerns and of individual firms appointing their own medical services. The provision of medical supervision, nursing and first aid services and supervision of the welfare of workers in factories occurred in 1940. Recommendations for future policies are set forth. -- From Bull. Hyg.

404 The Physician's Role in Protecting the Worker's Health Through Control of the Industrial Environment. F.M.R. Bulmer and G.R. McCall. Can. Med. Assoc. J., 52, 136-143 (Feb., 1945)
The physician in industry soon learns that more is required of him than simply the treatment of accidents; he must be prepared to answer and act on all questions relating to the workers' health and comfort. He should be concerned with all problems relating to sanitation, ventilation, heating, lighting, resting facilities and control of noise; he must understand the presence in the plant of toxic materials, including irritating dusts and poisonous or irritating gases and vapors; he should encourage workers to report minor troubles and have facilities for caring for minor accidents; he should keep accurate medical records. He must realize that he is part of an organization and that the cooperation and assistance of the management, the offices and the workers are required if satisfactory results are to be obtained.

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405 Industrial Hygiene in 1944. I.R. Tabershaw and M. Bowditch. New England J. Med., 231, 706-710 (Nov. 23, 1944)
This article reviews the development of industrial hygiene and industrial medicine during 1944 and gives a tabulation of the medical progress in these branches. The recent general developments are classified as: rehabilitation; aluminum therapy for silicosis; pneumoconiosis; welding; dermatitis; lead and radium; and miscellaneous conditions. A brief comment is given on preliminary studies of a syndrome affecting workers in an electric light plant which gave pulmonary changes suggestive of "sarcoid" in its general appearance, and which was confirmed by autopsy. -- J.I.H.&T.

406 Industrial Medicine in Action. E.S. Jones. J. Indiana State Med. Assoc., 37, 397-399 (Aug., 1944)
Industrial medicine has advanced considerably during the past ten years both in methods and in the respect of its importance in the industrial plant. In order to promote good rapport between industry, labor, and medical profession in one county in Indiana, a code of ethics for industrial medicine was adopted, and a yearly industrial clinic was established. The success of these has been marked. The responsibilities of the industrial physician in taking proper safety preventions are many, and cooperation between management, personnel department, and plant doctor is important. A working program for postgraduate study in industrial medicine has been prepared. A law has been passed, making it possible to employ the physically handicapped. State industrial committees can give significant aid in preventing epidemics by publishing information on diseases that might become epidemical. -- J.I.H.&T.

407 Preventive Medicine in Industry. J.H. Foulger. J. Indiana State Med. Assoc., 37, 297-304 (June, 1944)
The major function of the industrial physician is prevention, not diagnosis and treatment. To be successful in prevention he must acquire an outlook different from the conventional medical outlook of the diagnostician. He must acquire a fundamental knowledge of physiology and learn procedures to detect physiological changes. (Two methods, measurement and scoring of blood pressure and measurement of the distribution of energy in heart sounds are discussed and results of their application and deductions from these results are shown.) Having detected them he must act upon the warning given, even though no clinical signs of ill health are present. If he does this, the sickness and injury records of his plant will diminish. -- Author's summary.

408 "A Spot on the Lung." Light Use of Term a Dangerous and Unnecessary Escape from Reality. M. Pinner. Ind. Med., 14, 171 (Feb., 1945) From N.T.A. Bull. (Jan., 1945)
"A spot on the lung" is an indefinite term which may mean anything from a scar of a healed tubercular infection to the obscure beginning of a destructive disease. Laymen are learning to realize the confusing ambiguity of the term and to refuse its acceptance just as a consumer protests against ambiguous labels on packaged goods. It is time for the medical and nursing professions to militate against the use of such a confusing and misleading term.

409 New Union Health Plan - Joint Board of Dressmakers. L. Price. Ind. Med., 14, 87-88 (Feb., 1945)
The Joint Board of Dressmakers of the International Ladies' Garment Workers' Union has instituted a new health program for the year 1945. It includes an eyesight conservation plan which will begin by examining the vision of all workers by a rapid screening method, using the telebinocular to select those workers who suffer defective vision or eyestrain. Workers with defects will receive a thorough examination by a competent eye specialist who will prescribe

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glasses, medical treatment or muscle exercises. Well-fitting frames with the best quality lenses suited to the working needs of the dressmakers will be provided without direct cost to the workers. The expense of the program is borne by the employers in the garment industry.

410 HealthyIndustry. The Industrial Medical Service of the Automatic Telephone and Electric Co., Ltd., London - Liverpool. J. Trask. Ind. Med., 14, 133-158 (Feb., 1945)
This publication presents in detail the essential points in maintaining an activ industrial health service. It stresses the need of consistently collecting and systematically recording all data concerned with absences, and pictures, charts and record cards to be used. It urges complete cooperation of the medical, personnel and welfare departments in keeping exact and comprehensive records, as well as in holding regular conferences concerning the workers' welfare.

411 The Value of Cardiograms as an Aid to Early Diagnosis in Suspected Cardiovascular Emergencies. C.F. Yeager. Ind. Med., 13, 607-608 (Aug., 1944)
Cardiographic evidence of coronary occlusions and angina was obtained during the attack of 18 of the cases studied. From the results we are convinced that many lives can be saved or prolonged by taking electrocardiographic tracings immediately on individuals presenting atypical or questionable symptoms of acute coronary disease. We believe that organizations having cardiographic equipment will find it very useful as an aid to earlier and possible immediate diagnosis in certain suspected cardiac emergencies. -- Author's summary.

412 Ascorbic Acid (Vitamin C) and Wound Healing. Anonymous. Nutritional Observatory, 6, 13-15 (Jan., 1945)
Among the factors important in the healing of wounds, Vitamin C has proved to be beneficial. Experiments made on guinea pigs showed that the tensile strength on holding power of healing wounds was low in a deficiency of ascorbic acid. Twenty-eight human beings who died shortly after operation were examined histologically for evidence of wound healing. Results of ascorbic acid in the tissues and of ascorbic acid administered to patients were recorded. Patients with lowest ascorbic acid showed the greatest deficiencyin the formation of new intercellular substance, collagen. Pus formation or general infection was not caused by lack of ascorbic acid but absorption of cat-gut sutures was delayed by lack of the vitamin. By means of self experimentation it was shown that a diet deficient in ascorbic acid for three months produced no interference with normal healing; at six months, a similar wound failed to heal properly.

413 Physical Therapy in Wartime. K.G. Hansson. New Eng. J. Med., 231, 619-620 (Nov. 2, 1944)
During the present war, the Surgeon General has ordered that general and other large hospitals in U.S. be provided with standard physical therapy equipment, under the supervision of specially trained medical officers. Emphasis in therap is placed on whirlpool baths, occupational therapy, exercises and massage. The article discusses: the harmful and abnormal effects of absolute bed rest; new methods of physical therapy; the importance of adequately trained personnel; proper exercises for the patients; and the need for physical therapy in civilian, as well as army life.

414 The Interest of the War Production Board in Industrial Hygiene. J.M. Fewkes. Ind. Med., 13, 714, 716, 718 and 722 (Sept., 1944)
An industrial Health and Safety Section of the Plant and Community Facilities Service has been set up under the Office of Labor Production, War Production Board, working with other authorized national safety and health agencies for the purpose of reducing the manpower loss caused by deaths, injuries, and

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illness. It brings to the attention of these agencies problems of industrial health and safety which interfere with war production; it is endeavoring to encourage more widespread acceptance by labor of its co-responsibility along with management to these fields; and it assists in the establishment of classes on health and safety for labor representatives and helps distribute pertinent literature. -- J.I.H.&T.

Absenteeism, Hours of Labor, Etc.

415 What Management Can Really Do To Reduce Absenteeism. Report No. 144. Geo. S. May Business Foundation, 111 South Dearborn St., Chicago. 27 pp.
This is a comprehensive study of absenteeism, presenting the question from the viewpoints of both management and labor. Ways of figuring absenteeism are discussed showing why percentages of absenteeism reported from different plants vary so widely. Several methods of preventing absences, which have proved helpful, are outlined and still other methods are suggested. Stress is laid on building up employee morale by making all conditions surrounding the workers as attractive as possible; recreation rooms, music during working hours, paid vacations, bonuses, group insurance, and hospital plans have all proved valuable. Well trained and sympathetic foremen have kept workers on the job.

416 Recent Data on Health Hazards in War Industries. W.J. McConnell. Illinois Med. J., 86, 170-172 (Sept., 1944)
Sickness has become the most frequent single cause of industrial absenteeism and is now alarmingly high. Occupational diseases form only a small percentage of the total number of illnesses, and their early recognition and the improved methods of control have greatly diminished their seriousness. Industrial dermatoses are much more numerous but less serious than occupational intoxications from toxic dusts, fumes or vapors. Whenever the management has actively supported a comprehensive health program, the occupational dermatoses and intoxications among workers are few and lost time from these and other illnesses is minimized. -- J.I.H.&T.

417 Absenteeism Versus Ordnance Production - The Physician's Role. R.H. Flinn. Ind. Med., 14, 12-15 (Jan., 1945)
In accordance with government orders, Ordnance facilities are now expanding their production capacity of many types of ammunition. Excessive time lost by absenteeism is one hindrance to production that should be remedied. In Ordnance plants the average worker is absent from work at a rate considerably higher than that for American industry in peace time. The plant physician must impress upon the workers the importance of staying on the job and should consult with the so-called sickness-prone group as to their medical and psychological needs, and attempt corrective action.

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Abnormal Air Pressures

418 Altitude Chamber for Study of Heating and Air Conditioning Problems. W. E. Crowell. Heat, Pip. & Air Cond., 16, 597-602, (Oct., 1944)
The problems involved in high altitude flight have required the use of altitude chambers for their solution. This article is devoted to a description of such a chamber at Curtiss-Wright Research Laboratory in Buffalo, N. Y. A brief discussion of the effect of altitude on man is followed by a description of some of the effects of altitude on equipment. Many of the problems presented have not been completely solved. One of these problems is airplane heating. Some of the equipment now in use is illustrated. The article concludes with a brief discussion of pressurized cabins. -- J.I.H.&T.

419 A Comparative Study of Eight Tests in the Decompression Chamber. R. B. Malmo and J. L. Finan. Am. J. Psychol., 57, 389-405, (July, 1944)
Eight tests were given to 36 men exposed to altitudes of 2,000, 12,000, 15,000, and 18,000 feet, with the following performances: manual steadiness; finger-tapping; memory; feeling-states; and speeded "mental work". Eleven indices of behavior as measured in the eight tests proved to be reliable indicators of anoxia at 18,000 feet. There was a close correspondence between performance-decrement, as measured by objective tests, and estimates of mood and liveliness. -- From Authors' summary.

420 Problems of Fatigue as Illustrated by Experiences in the Decompression Chamber. J. Romano, G.L. Engel, E.B. Ferris, Jr., H.W. Ryder, J.P. Webb and M.A. Blankenhorn. War Med., 6, 102-105, (Aug., 1944)
Civilian subjects exposed to altitudes of 35,000 feet in a decompression chamber showed 3 types of fatigue reactions: (1) muscular fatigue due to unusual use of muscle groups disappeared with training; (2) fatigue due to boredom was seen when subjects had to remain inactive for long periods; (3) fatigue characterized by a feeling of tenseness and anxiety, by sleep disturbances and anxiety dreams, disappeared in most cases with greater familiarity with the test.

421 A Comparison of Altitude and Exercise with Respect to Decompression Sickness. S.F. Cook, O.L. Williams, W.R. Lyons and J.H. Lawrence. War Med., 6, 182-187, (Sept., 1944)
Four groups of healthy young men were given 2 chamber tests each, performing standard exercises at stated intervals at altitudes of 30,000 and 38,000 feet. The criteria used to compare the bends--inducing effect of the four sets of conditions were: percent incidence of symptoms; percent incapacitation; maximum intensity of symptoms; and velocity of development of symptoms. The conclusion was drawn that an increase in altitude from 30,000 to 38,000 feet increases the incidence and severity of decompression sickness considerably more than doubling the muscular work done by means of exercise. -- From Authors' summary.

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Industrial Nursing

422 Nursing Ethics in Industry. C.R. Dempsey. Ind. Nursing, 4, 30-35, (Jan.,1945)
This article presents the viewpoints of industrial nurses in various parts of the United States and England as to the meaning of nursing ethics in industry. Although many opinions are controversial, in general it is agreed that the basic ethics of the nursing profession as outlined in the Florence Nightingale Pledge are just as applicable to nurses in industry as those in any other branch of the profession. Now that the industrial nurse is established as a definite, permanent need, a new code of ethics which applies especially to these nurses should be outlined.

423 Occupational Disease--The Nurse's Role. I.R. Tabershaw. Ind. Nursing, 4, 13-18, (Jan., 1945)
This article stresses points which will make the industrial nurse more efficient. She should have an overall impression of occupational diseases--their scope, potentialities, major signs and symptoms and methods of control, and she should be aware of the potential hazards existing in her plant. She should learn where to get specific aid in problems concerning her patients, from the plant doctor, from the industrial hygiene engineer, and from federal and state hygiene agencies She should consult with those qualified to help the workers under her care. Included in this paper are the causes, symptoms and treatments of several types of occupational dermatitis; the hazards of silicosis; the toxic effects of certain heavy metals and solvents; and the possible bacterial infections from handling animal products.

424 The Industrial Nurse's Responsibility to Other Fields of Nursing. M. Moore. Ind. Med., 14, 165-167 (Feb., 1945)
The industrial nurse has a unique field in which to work, serving a complete cross section of American people. Her work is so varied that she must possess both excellent professional technique and the best personality traits. She must understand her company's policies and cooperate with all other departments. She must help each worker to understand precautions necessary in his own particular job. Suggestions are made that more attention should be given to special education for the industrial nurse in training schools and in universities, and that standards of wages for nurses in industrial work be established.

425 The Training of the Industrial Nurse. A.J. Amor and C. Sykes. Ind. Nursing, 4, 53-63 (Jan., 1945)
The qualifications and training of the industrial nurse in England are discussed in detail. She should have a dignified personality, adaptability and an interest in people; she should show sound clinical judgment, good technical skill, a knowledge of the special hazards in her factory and environmental hygiene, and an ability to get on with both workers and management. Great attention should be paid to acclimatizing the nurse to her industrial environment; the transition from the comparatively simple organization of a hospital where the nurse is the center of the picture to the plant where she is one link in an elaborate system, needs time and study. The major part of her education must take place in the factory itself and those who teach should have full experience of the practical side of industry. The article includes an outline syllabus for the basic training of industrial nurses and the present training courses for industrial nurses of the Royal College of Nursing.

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426 Industrial Nursing. Job Classifications, Definition of Titles, Job Descriptions, Qualifications. Anonymous. Ind. Med., 14, 167-171, (Feb., 1945)
The California Nurses' Association has prepared an outline covering the classification of nurses in industry. Definitions of positions, job descriptions and qualifications for the jobs are listed under the following titles: the graduate registered nurse (1) in charge of medical department; (2) as nurse supervisor; (3) as director of nursing service; (4) as charge or head nurse; and (5) in staff position.

Accident Prevention

427 Notes on an Accident at a Small Sewage-Treatment Plant Resulting in the Deaths of Three Workers. A.D. Brandt. Sewage Works J., 15, 1096-1100, (1943)
In cleaning out a suction ball-valve of the sludge pump, digested sludge flowed onto the floor to a depth of about 16 inches. The gases liberated from the digesting sludge suffocated the operator and two others before the bodies were recovered. Oxygen deficiency was the cause. Gas masks of the usual type were of no avail. Oxygen masks should be provided. -- C.A.

428 An Industrial Physician Looks at the Flammable Solvents. J.H. Biram and H.P. Quadland. Ind. Med., 14, 15-18 (Jan., 1945)
Toxic hazards of organic solvents used by industry have been studied and reported but too little has been done concerning the flammability of organic solvents. Injuries to workers and property loss due to industrial fires and explosions have been great. Causes of many such fires and their losses are tabulated. There should be further development of practices and controls that will prevent these fires.

429 Suggested Standing Orders and Procedures for Industrial First Aiders. D.A. McCoy and S.S. Zulon. Ind. Med., 13, 689-692 (Sept., 1944)
General and specific procedures for qualified first-aiders are listed (differential diagnoses of accidents are omitted.) General measures are that the attendant have a full knowledge of bandaging and aseptic technique, that a simple system of records be provided, and that facilities for emergency transportation be arranged for. Specific instructions are given for the immediate care of hemorrhage, asphyxia, shock, electric shock, the various common causes of poisoning, the various types of lacerations, burns, and fractures and such conditions as heat stroke, heat exhaustion, abdominal pain, heart attack, and epileptic seizures. -- J.I.H.&T.

430 Restoration of Breathing in Emergencies and Maintenance of Respiration in Non-breathing Patients. C.K. Drinker. Okla. State Med. Assoc. J., 37, 285 (July, 1944)
The author states that if artificial respiration is applied at the time at which breathing stops, the chances for recovery are 100 percent, the chances decreasing up to the 12th minute when recovery is still possible but chances slight. Various methods of artificial respiration are described and their value in specific instances are discussed.

431 Artificial Respiration: The Need for a Greatly Increased Rate in Asphyxia. P.R. Tingley. Brit. Med. J., 2, 366-367 (Sept. 16, 1944)
Artificial respiration at the usual rate of 15 times a minute is adequate for situations in which breathing has stopped a short time before but the same rate

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is inadequate where asphyxia has already developed. In accidental asphyxia, circulatory failure may have reached an irreversible stage but, as any hopelessly inadequate circulation cannot be recognized on examination, the only safe rule to adopt in all cases is to employ as fast a rate as may be efficiently possible. The rate suggested varies from 30 to 60 times a minute, depending on the method. -- J.I.H.&T.

432 An Experimental Study of Different Methods of Artificial Respiration. A. Hemingway and E. Neil. Brit. Med. J., 1, 833-836 (June 24, 1944)
The effects of the Schafer prone-pressure method and the Eve rocker method of artificial respiration on the arterial blood-pressure, tidal air, ventilation volume, and cardiac output were studied on dogs rendered apneic by cord-transection or nembutal infusion. Under the conditions established the rocker method gives a greater cardiac output, tidal air, and ventilation volume than the Schafer method. The tidal air varies directly with the angle of rock in the Eve method, and the ventilation volume varies directly with the rate of rock; in practice, the ventilation volume should not exceed that of a normal resting person if acapnia is to be prevented, and, despite the experimental superiorities of the Eve method, whenever immediate resuscitation is necessary the Schafter method should be started to eliminate any lost time. -- J.I.H.&T.

433 What Makes a Good Eye Protection Program? A.G. Bungenstock. Occ. Hazards, 7, 30-34, 49-50 (Nov., 1944)
The safety engineer should survey and chart the places where and what kinds of safety glasses are needed. The author prefers the words "safety glasses" to "goggles" as it is an added plug for safety. The supervisor in each department should then equip his employees with the necessary, authorized protective items, instruct them in their proper use, require the wearing and use of the equipment, and require that it be properly maintained, adjusted and replaced when necessary. The safety engineer and the plant optician must sell safety and give proper instructions. Figures show that money is saved by an adequate eye protection program.

434 Safety with Hydrofluoric Acid Alkylation. A.W. Trusty. Petroleum Refiner, 23, 469-471 (Dec., 1944)
Included in the subjects discussed are properties of anhydrous hydrofluoric acid, first aid treatment for burns, eye injuries and inhalation, and safety practices. Safety measures include instruction of employees, instruction of local physicians, restricted areas for dangerous work, presence of water hose and of a neutralizing medium for acid spillage at convenient locations, and safety showers. Color schemes for distinguishing pipes, containers, etc., and specifications for neutralizing vats are also advocated.

435 Good Practices in the Operation of Acetylene Generators. International Acetylene Association. Industry and Welding, 38, 39, 62-64 (Sept., 1944)
The material presented is based on data supplied by a special committee of the International Acetylene Association and represents the joint views of that group, as well as the Safety Section of the U.S. Maritime Commission. The recommendations are specifically directed to the shipbuilding industry, but are applicable wherever acetylene generators are used. Mixtures of acetylene and air are explosive within wide limits of composition (2.5 to 80% acetylene), therefore one precaution is that all air must be removed as quickly as possible when the carbide and water begin to react. Calcium carbide in reacting with a small amount of water, as on the damp bottom of a tank becomes incandescent; hence elaborate precautions in washing out tanks after use are necessary so that all carbide is removed. Since those two and other possible conditions

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make acetylene generation dangerous, only skilled operators should work at the process, and no others should be allowed in the vicinity. These facts are at the basis of numerous precautions against introduction of carbide into an insufficient amount of water, sources of fire and presence of air. The installation, operation, size of carbide, rate of operation must conform to underwriters' and manufacturers' specifications, and operators beginning a shift should be fully informed of the stage of the process.

Laboratory Toxicological Studies

436 Experimental Asbestosis: Pathognomonic Value of Asbestos Bodies. M. Giroux. Laval Med., 8, 239-250 (1943)
Experiments with animals indicate that asbestos bodies form only after intense tissue reaction and with an appreciable deposit of iron furnished by hemoglobin. The presence of asbestos bodies in the sputum or in fluid obtained by pulmonary puncture indicates pulmonary asbestosis but not the degree of pulmonary sclerosis since the degree of fibrosis may vary. -- C.A.

437 Experimental Silicosis Produced with the Ash from Human Silicotic Lungs. S.R. Haythorn and F.A. Taylor. Am. J. Path., 21, 123-145 (Jan., 1945)
Experimental silicotic lesions were produced in animals with injections of suspensions of ash recovered chemically from the lungs of 4 cases of human silicosis. Injections of pure silica dust as controls gave rise to the usual lesions, including nodules of the lungs, spleen, lymph nodes, peritoneum and blood vessel walls, and in one case cirrhosis of the liver. The lung extracts were made from the whole lungs and care was used to prevent overheating and overacidifying so that the silica was recovered in the same condition, as nearly as possible, as it existed in the lungs. Their effects appeared to depend upon the amount of silica present, although in one series of experiments the presence of a relatively large amount of silicates appeared to have a modifying action. Silica extracted in this way had not lost its toxic activity during its sojourn in body tissues. When the free silica content was high, the same effects were produced as in the controls. It was noted that the silica phagocytes collect in the lungs, independently of their place of origin, confirming the work of Ungar and Wilson.

Editor's Note: Reprints are available upon request. Dr. S.R. Haythorn is Medical Consultant to Industrial Hygiene Foundation.

438 Isopropyl Alcohol: Rate of Disappearance From the Blood Stream of Dogs After Intravenous and Oral Administration. A.J. Lehman, H. Schwerma and E. Rikards. J. Pharm. and Exp. Therap., 82, 196-201 (Oct., 1944)
Isopropyl alcohol in blood and body fluids may be estimated iodometrically. Its disappearance from the blood stream of dogs after intravenous administration of a single dose does not proceed at a constant rate but at a rate dependent upon the functional efficiency of all excretory organs. It is rapidly absorbed from the gastrointestinal tract and distribution to the tissues can occur within 30 minutes to one or two hours. The narcotic action of isopropyl alcohol is about twice that of ethyl alcohol. -- From authors' summary.

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439 Lead-Detoxication. E. Hesse and G. Meissner. Arch. f. Exper. Path. u. Pharm., 202, 609-616 (Dec. 31, 1943)
Animals were given lethal doses of lead and the lead content of the ash of the radius, ulna and liver estimated with a view to finding the best detoxicating agent. Substances tested as "antidotes" were: glyconorm, sodium 8-oxyquinoline -5-sulphonic acid, sodium inosite hexaphosphoric acid (phytin sodium), and a combination of the latter two. Further investigations were made on the "anti-lead" factor present in the liver, and on the effect of lead-detoxicating agents on tolerance to lead administration by individuals suffering from malignant tumors. It is concluded that there is no favorable effect of lead on the progress of tumors but there is increased tolerance to lead when given with certain agents; also, that phytin or phytin and the oxyquinoline compound can be used as prophylactic agents in lead poisoning in an oral dosage of 0.25 gm. of each per day. -- Bull. Hyg.

440 Cardiac Changes from Carbon Monoxide Poisoning. W.E. Ehrich, S. Bellet and F.H. Lewey. Am. J. Med. Sci., 208, 511-523 (Oct., 1944)
Acute carbon monoxide poisoning was induced in some dogs by inhalation of the gas and in others by the intravenous introduction of erythrocytes saturated with carbon monoxide; chronic poisoning was effected by exposure to 0.01 volume percent carbon monoxide for 5-3/4 hours daily over a period of 11 weeks. As a control, chronic anoxia was produced in other animals by exposure to an atmosphere containing only 10 volume percent oxygen. It was observed that the electrocardiographic and morphologic changes of the heart in carbon monoxide poisoning differed little from those observed in anoxia due to other causes. -- From authors' summary.

441 Ocular Pathology Due to Organic Compounds. M.H. Pike. J. Mich. State Med. Soc., 43, 581 (July, 1944)
Cataracts were produced in rabbits by oral administration of naphthalene. The progressive pathologic lens changes have been recorded by means of color photography. Although repeated exposure of rabbits to very high concentrations (4.6 to 4.8 mg.) of paradichlorobenzene vapor produced definite intoxication, leading to tremors and toxic eye-ground changes, no lens changes were observed. Prolonged oral administration of definitely toxic quantities of the drug to rabbits did not produce any lens changes whatever. Together with the evidence gained from experimental work on animals, the experience of the author and his colleagues leads them to believe that cataracts are not produced by paradichlorobenzene, upon either oral ingestion or inhalation of its vapors, in either man or rabbit. -- Am. J. Ophthal.

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12 outlets

11 X 14

3

2000 lbs in opening

5400 cfm

1200 cfm

1 on floor below

2 on duct

$\frac{1}{4} \times \frac{3}{4} \quad \frac{3}{16} \quad \frac{36}{16}$

2

2 x 2

2

1800

1200

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